

2009 Residential Energy Use Survey Report

Low Income Cut-Off (LICO) Sector

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EXECUTIVE SUMMARY

Purpose

The objective of this summary is to present a detailed demographic analysis of Manitoba Hydro customers who may be defined as lower income according to Statistics Canada's Low Income Cut-Off criteria. Better definition of the size and characteristics of this market sector will assist Manitoba Hydro in the design and development of its current and future customer service offerings.

Background

Manitoba Hydro's 2009 Residential Energy Use Survey was mailed to 19,422 selected customers in November 2009. The customers were randomly selected from 439,096 customers in Manitoba Hydro's residential basic class, which is comprised of all residential customers except seasonal customers and those in diesel communities. A response rate of 24.9% was realized. The primary purpose of the survey was to gather current information on residential demographic, dwelling, appliance and energy usage characteristics. This information is utilized to create a residential sector database, which is subsequently used to assist in developing Manitoba Hydro's Load Forecast and Power Smart programs. This report provides details on a component of the survey related to the lower income market sector.

Lower income customers were classified using Statistics Canada's Low Income Cut-Off (LICO) definitions. For the purposes of this report, the low income market sector is classified into two groups: the LICO Standard (LICO-100) classification and a LICO-125 group. The LICO-100 group uses the standard Statistics Canada definition to identify the income threshold. The LICO-125 group uses the same definition as outlined by Statistics Canada except the income thresholds are increased by 25%. The following tables outline the income threshold levels used for both low income categories presented in this report.

2008 LICO-100	Community Population			
	Rural Community	Less than 30,000	30,000 to 99,999	500,000 and Over
1 Person	\$15,262	\$17,364	\$18,976	\$22,171
2 Persons	\$19,000	\$21,615	\$23,623	\$27,601
3 Persons	\$23,358	\$26,573	\$29,041	\$33,933
4 Persons	\$28,361	\$32,264	\$35,261	\$41,198
5 Persons	\$32,165	\$36,594	\$39,992	\$46,727
6 Persons	\$36,278	\$41,272	\$45,105	\$52,699
7 or more Persons	\$40,390	\$45,950	\$50,218	\$58,673

2008 LICO-125	Community Populations			
	Rural Community	Less than 30,000	30,000 to 99,999	500,000 and Over
1 Person	\$19,077	\$21,704	\$23,733	\$27,714
2 Persons	\$23,750	\$27,019	\$29,527	\$34,501
3 Persons	\$23,358	\$33,216	\$36,300	\$42,415
4 Persons	\$29,197	\$40,330	\$44,075	\$51,496
5 Persons	\$35,450	\$45,742	\$49,989	\$58,407
6 Persons	\$40,205	\$51,588	\$56,380	\$65,872
7 or more Persons	\$50,487	\$57,437	\$62,771	\$73,340

Key Findings

Demographic Characteristics

- The Manitoba Hydro residential basic population estimated to meet LICO-100 is 74,938 (17.1%); the LICO-125 population is estimated to be 105,784 (24.1%). Expanding the income definition of LICO by 25% increases the Manitoba Hydro LICO customer base by 30,846 customers, or 41.1%.
- LICO customers are about 2.5 times more likely to be one person households compared to NON-LICO households. 48.9% of LICO-100 customers (36,612 households) are one person households compared to 18.3% of NON-LICO-100 customers. 41.0% of LICO-125 customers (43,361 households) are one person households compared to 18.0% of NON-LICO-125 customers. Expanding the criteria to LICO-125 introduces 6,749 more single-person households to the lower income category.
- The LICO population has a higher proportion of individuals 65 years or older compared to the NON-LICO population. 36.0% of the LICO-100 population (26,956 people) is 65 years or older compared to 16.5% of the NON-LICO-100 population. 36.8% of the LICO-125 population (38,916 people) is 65 years or older compared to 14.4% of the NON-LICO-125 population. Expanding the criteria to LICO-125 introduces an additional 11,960 more senior individuals into the lower income population.
- Almost half the LICO occupied dwellings have an individual 65 years or older residing in them: 49.8% of LICO-100 dwellings (37,295 dwellings) have a senior resident compared to 26.7% of the NON-LICO-100 dwellings. 49.7% of LICO-125 dwellings (52,601 dwellings) have a senior resident compared to 24.5% of the NON-LICO-125 dwellings. Expanding the criteria to LICO-125 introduces 15,306 additional dwellings with senior occupants.

- LICO annual household income is one third that of NON-LICO annual household income. The average LICO-100 income is \$20,318 compared to the average NON-LICO-100 income of \$73,514. 56.8% of LICO-100 customers have incomes under \$20,000. The average LICO-125 income is \$23,597 compared to the average NON-LICO-125 income of \$77,002. 39.5% of LICO-100 customers have household incomes between \$20,000 and \$39,999 compared to 52.6% of LICO-125 customers.
- LICO households tend to be less educated. 55.2% of LICO-100 household heads have attained high school or less compared to 27.3% of the NON-LICO-100 heads. 53.3% of LICO-125 household heads have attained high school or less compared to 25.3% of the NON-LICO-125 heads. The LICO-125 criterion introduces higher educated household heads, which is correlated to a higher income group.
- A greater proportion of LICO customers are from the Winnipeg Central area (former Winnipeg Hydro). 27.9% of LICO-100 customers reside in Central Winnipeg compared to 15.1% of NON-LICO-100 customers. 23.8% of LICO-125 customers reside in Central Winnipeg compared to 15.3% of NON-LICO-125 customers. Expanding the criteria to LICO-125 introduces more customers from outside of the Winnipeg inner city area.

Dwelling Characteristics

- LICO customers are more likely to reside in apartment suites. 24.3% of LICO-100 customers reside in apartment suites compared to 10.4% of NON-LICO-100 customers. 22.5% of LICO-125 customers reside in apartment suites compared to 9.6% of NON-LICO-125 customers.
- LICO customers are 2.5 times more likely to rent their dwellings compared to NON-LICO customers. 27.5% of LICO-100 customers rent their dwellings compared to 10.9% of NON-LICO-100 customers. 25.5% of LICO-125 customers rent their dwellings compared to 10.0% of NON-LICO-125 customers.
- LICO customers live in older dwellings. The average LICO-100 occupied dwelling is 56 years old compared to the average NON-LICO-100 occupied dwelling of 45 years. The average LICO-125 occupied dwelling is 54 years old compared to the average NON-LICO-125 occupied dwelling of 45 years.
- LICO customers live in smaller dwellings (25% smaller square footage). The average LICO-100 occupied dwelling is 1,074 square feet compared to the average NON-LICO-100 occupied dwelling of 1,343 square feet. The average LICO-125 occupied dwelling is 1,086 square feet compared to the average NON-LICO-125 occupied dwelling of 1,364.

- 14.5% of the LICO-125 group rates their insulation as fair; 9.9% rate their insulation as poor. This represents 19,993 dwelling units. In terms of single detached dwellings, this is estimated to be 15,197 dwellings. There are an estimated 18,751 dwellings with 30% or less basement insulation of which 14,893 are single detached. Increasing the LICO income criteria by 25% introduces 5,008 housing units with a fair to poor insulation rating into the lower income group, of which 3,602 are single detached. The LICO (100-125) definition introduces 4,024 dwellings with 30% or less basement insulation, of which 3,280 are single detached.

Space Heating Characteristics

- LICO customers consume less electricity than NON-LICO customers. This correlates with the findings that LICO customers tend to be single person households, seniors, apartment dwellers, residing in smaller dwellings.
- The average LICO-100 non-electric heat customer consumes 6,782 kilowatt hours (kW.h) annually compared to the average NON-LICO-100 customer consuming 10,803 kW.h annually. The average LICO-125 non-electric heat customer consumes 7,250 kilowatt hours (kW.h) annually compared to the average NON-LICO-125 non-electric customer consuming 11,035 kW.h annually.
- The average LICO-100 electric heat customer consumes 20,466 kilowatt hours (kW.h) annually compared to the average NON-LICO-100 electric heat customer consuming 26,906 kW.h annually. The average LICO-125 electric heat customer consumes 21,116 kilowatt hours (kW.h) annually compared to the average NON-LICO-125 electric customer consuming 27,267 kW.h annually.
- More LICO natural gas customers use a standard efficient furnace compared to NON-LICO natural gas customers. 42.0% of LICO-100 and 42.3% of LICO-125 natural customers use a standard efficient furnace compared to 29.4% of NON-LICO-100 and 28.2% of NON-LICO-125 natural gas customers. There are 15,510 standard efficient furnaces remaining in LICO-100 households. There are 22,536 standard efficient furnaces remaining in LICO-125 households. Expanding the criteria to LICO-125 introduces 7,026 more standard efficient natural gas forced air furnaces into the lower income group.

Energy Burden

- Overall, Manitoba Hydro residential basic customers who are homeowners have an energy burden of 4.3% compared to an energy burden of 2.8% for renters. For the LICO-100 group, homeowners have an average energy burden of 9.2% and renters have an average energy burden of 4.7%. For the LICO-125 group, homeowners have an average energy burden of 8.3% and renters have an average energy burden of 4.2%. LICO-100 and LICO-125 apartment renters have the lowest energy burden at 2.4% and 2.2% respectively.

- The average energy burden of 9.9% is experienced by LICO-100 single detached, homeowners. LICO-125 single detached, homeowners have an average energy burden of 8.9%.
- The highest average energy burden of 11.1% is experienced by LICO-100 single person households residing in natural gas heated dwellings. This is followed by LICO-125 single person households residing in natural gas dwellings with an average energy burden of 10.2%.

Water Tanks and Refrigeration

- Although the proportion of private use electric water tanks (approximately 41%) and private use natural gas water tanks (approximately 38%) is similar between the two LICO classifications, expanding the criteria to LICO-125 introduces 12,361 more electric water tanks and 13,100 more natural gas water tanks into the lower income category.
- LICO customers are more likely to have a primary use refrigerator that is over 20 years old. 18.2% of LICO-100 customers use a primary refrigerator that is over 20 years old compared to 11.4% of NON-LICO-100 customers. 17.2% of LICO-125 customers use a primary refrigerator that is over 20 years old compared to 11.0% of NON-LICO-125 customers. Expanding the criteria to LICO-125 introduces 4,582 more primary refrigerators that are over 20 years old into the lower income households.

Services and Program Participation

- LICO customers are less likely to have home internet service. There are 46.7% of LICO-100 customers with home internet compared to 78.4% of NON-LICO-100 customers. 50.4% of LICO-125 customers have home internet service compared to 80.1% of NON-LICO-125 customers. The LICO-125 criterion introduces 18,293 more internet households into the lower income classification.
- LICO customers prefer to pay their pay their monthly Hydro bills in-person. 30.8% of LICO-100 customers pay in-person compared to 16.0% of NON-LICO-100 customers. 31.0% of LICO-125 customers pay in-person compared to 16.2% of NON-LICO-125 customers. The LICO-125 criterion introduces 9,684 more customers paying in-person into the lower income classification.
- 25.2% of LICO-100 customers have participated in residential programs offered by Manitoba Hydro versus 37.4% of NON-LICO-100 customers. 25.6% of LICO-125 customers have participated, compared to 61.5% of NON-LICO-125 customers. Expanding the criteria to LICO-125 introduces 8,132 more residential program participants.

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1.0 Introduction

The Market Forecast Department regularly conducts a large scale mail-out survey to determine the most current energy use characteristics of Manitoba Hydro residential customers. In November 2009, the Residential Energy Use Survey was mailed to approximately 19,000 residential customers. The 20-page survey collected detailed information from residential customers on their dwellings characteristics, end use appliance saturations, energy use behavior, residential program participation rates, as well as some demographic information as it relates to energy use.

The main objective of collecting survey data is to incorporate the findings into the annual Manitoba Hydro Load Forecast. The information collected is also used to design Power Smart Programs. For this particular report, demographic and energy use characteristics are provided for the lower income residential market sector.

2.0 Survey Methodology

Main survey design objectives and procedures taken to implement the 2009 Residential Energy Use Survey are presented in the following sections.

2.1 Sample Design Objectives

The main objective of the sample design was to ensure a sufficient number of completed surveys were returned for analysis of key categories such as dwelling types, fuel area location, and heating fuel source.

2.2 Sample Selection

As of September 23, 2009, there were a total of 439,096 premises under the residential basic customer rate class. A total of 19,422 residential accounts were randomly selected from this group, using a random number generating process. Survey packages were mailed in November 2009 and included the 20-page questionnaire booklet and a stamped self-addressed return envelope. A French version of the survey was made available upon request. Five customers requested the French version. No incentive was given to complete the survey and no attempt was made to contact non-respondents.

2.3 Survey Returns

In total 19,256 residential customers were reached and 4,738 surveys were returned. This included 166 surveys returned to Manitoba Hydro as a result of customers having moved or passed away. A survey response rate of 24.9% was achieved. The overall survey results are accurate within 1.5%, 19 times out of 20.

2.4 Weightings

Each response was assigned a weighting factor. The weighting variables are part of every residential customer record. Weights are calculated using the ratio between the population cells and the number of returned records in that case. Survey responses were weighted back to the population base of 439,096. Weighting criteria used was as follows.

- Dwelling Type:
1. Single Detached
 2. Duplex Multiplex
 3. Mobile Home
 4. Town/Rowhouse
 5. Apartment Suite

Heat Capability: 1. All-Electric
 2. Standard (Non-Electric Heat)

Fuel Area: 1. Winnipeg
 2. South Natural Gas Available
 3. South No Natural Gas Available
 4. North

2.5 Survey Results

The survey results provide up-to-date profiles of Manitoba Hydro’s residential basic customers. All results show the (%) responding for any given variable and the corresponding estimated number (N) of Manitoba Hydro customers that finding represents. All results in this report are summarized in table form and are cross-tabulated by the following five major groupings.

1. LICO STANDARD - Also referred to as LICO-100. The low income cut-off point is a standard measure developed by Statistics Canada to identify the income threshold below which a household will likely devote a larger share of its income on the necessities of life more so than the average household. LICO is the point where 20 percentage points are exceeded more than average on food, shelter, and clothing. The threshold varies with people per household as well as community size. Responses from the survey were used to establish whether a customer fit the LICO criteria. The variables used were survey responses to people per household and annual household income. Community size was determined from the town as linked to by the account number and the billing data. There were 740 survey respondents that fit the LICO-100 criteria. The LICO-100 survey results are accurate within 3.6% percentage points, 19 times out of 20. The following Statistics Canada chart (catalogue # 75F0002M) was used to determine survey LICO-100.

2008 LICO-100	Community Population			
	Rural Community	Less than 30,000	30,000 to 99,999	500,000 and Over
1 Person	\$15,262	\$17,364	\$18,976	\$22,171
2 Persons	\$19,000	\$21,615	\$23,623	\$27,601
3 Persons	\$23,358	\$26,573	\$29,041	\$33,933
4 Persons	\$28,361	\$32,264	\$35,261	\$41,198
5 Persons	\$32,165	\$36,594	\$39,992	\$46,727
6 Persons	\$36,278	\$41,272	\$45,105	\$52,699
7 or more Persons	\$40,390	\$45,950	\$50,218	\$58,673

2. 125% of LICO - Also referred to as LICO-125. LICO-125 is calculated using the same definitions as outlined by Statistics Canada except the income thresholds are increased by 25%. There were 1063 survey respondents that fit the LICO-125 criteria. The LICO-125 survey results are accurate within 3.0% percentage points, 19 times out of 20. The following chart was used to determine survey LICO-125.

2008 LICO-125	Community Population			
	Rural Community	Less than 30,000	30,000 to 99,999	500,000 and Over
1 Person	\$19,077	\$21,704	\$23,733	\$27,714
2 Persons	\$23,750	\$27,019	\$29,527	\$34,501
3 Persons	\$23,358	\$33,216	\$36,300	\$42,415
4 Persons	\$29,197	\$40,330	\$44,075	\$51,496
5 Persons	\$35,450	\$45,742	\$49,989	\$58,407
6 Persons	\$40,205	\$51,588	\$56,380	\$65,872
7 or more Persons	\$50,487	\$57,437	\$62,771	\$73,340

3. LICO-125 Difference - Also referred to as LICO (100-125). LICO (100-125) is the difference in the number of households qualifying under LICO-125 minus the number of households defined under LICO-100. It is the income threshold group that is increased by 25%.

4. Manitoba Hydro Electric Residential Basic Customers- This refers to the rate class of Manitoba Hydro residential accounts. It was from this rate class that the survey sample was drawn. All residential customers are included except for seasonal (cottage) and diesel community customers. These customers have their own rate classifications. At the time of the survey, there were 439,096 residential basic customers.

5. Manitoba Hydro Natural Gas Customers - These are all Manitoba Hydro natural gas customers that are affiliated with a Manitoba Hydro Residential Basic account. These customers total 241,106. It should be noted that there are 32,495 customers that indicate they use natural gas for heat but they do not receive a natural gas bill from Manitoba Hydro. Almost all these customers reside in multi-family dwellings, such as apartment suites (94.5%), where natural gas heat is provided from a central or shared source. The cost of heating is usually incorporated into rent or into a monthly common service fee. These 32,495 customers are not included in the 241,106 natural gas customer count but they are included in the 439,096 electric residential basic total.

Select survey variables were analyzed specifically for this report in order to provide demographic and energy use profiles of LICO versus NON-LICO customers for both electric and natural gas customers. The variables extracted for this report are:

- | | |
|---------------------------------------|--|
| 1. Demographic: | People per Household
Population Age
Household Income
Highest Education Level Attained |
| 2. Dwellings | Location
Type
Ownership
Year Built
Square Footage
Insulation Rating
Basement Insulation Levels
Annual Kilowatt Hours
Annual Natural Gas Cubic Meters |
| 3. Space Heat | Heating Fuel Type
Energy Use
Heating System
Heating System Age |
| 4. Water Tanks and Refrigeration | Hot Water Tank Fuel
Hot Water Tank Age
Primary Refrigerator Age
Secondary Refrigerator Age
Primary Freezer Age
Secondary Freezer Age |
| 5. Services and Program Participation | Home Internet Access
Bill Payment Method
MYBILL Awareness and Interest
Manitoba Hydro Website Visits
Energy Matters Readership
Power Smart Program Insert Readership
Residential Program Participation
Lower Income Program Participation |

3.0 Demographic Characteristics

3.1 Demographic Characteristics: Total Residential Basic

Table 3.1 shows the demographic profile of the total residential basic electric customers within the Manitoba Hydro provincial service territory for LICO-100, LICO-125, and LICO (100-125) classifications.

Overall, there are a total of 439,096 Manitoba Hydro residential basic customers. Out of the Manitoba Hydro residential basic customer total, 74,938 customers or 17.1% are estimated to meet the LICO-100 criteria, and 105,784 customers or 24.1% are estimated to meet the LICO-125 criteria. The difference between the two LICO classifications is 30,846 customers or 7.0% of the total residential basic population. Expanding the income definition of LICO by 25% increases the Manitoba Hydro lower income customer base by 41.1%.

LICO customers are more likely than NON-LICO customers to be single person households. In the LICO-100 group, 48.9% are single person households compared to 18.3% of NON-LICO-100 households. In the LICO-125 group, 41.0% are single person households compared to 18.0% of NON-LICO-125 households. Increasing the income threshold by 25% introduces more two person households into the LICO-125 category. Two person households comprise 51.4% of the LICO (100-125) group compared to 28.3% in the LICO-100 class.

Residents of LICO households tend to be older. Overall, 19.8% of the total Manitoba Hydro residential basic customer base is 65 years of age or older. This compares to 36.0% of the LICO-100 population base and 36.8% of the LICO-125 base. The proportion of the population in the LICO (100-125) group that is 65 years or older is a little higher at 38.8%. Almost half of all LICO households have an occupant 65 years or older. Dwellings with senior occupants are twice as likely to occur in the defined LICO groups compared to the defined NON-LICO groups.

The average annual household income for a LICO-100 household is \$20,318 compared to \$73,514 for a NON-LICO-100 household. The average annual household income for a LICO-125 household is \$23,597 compared to \$77,002 for a NON-LICO-125 household. LICO households earn about one third the amount of income earned by NON-LICO households. The average income of the LICO (100-125) group is \$31,565 or 55.4% higher than the average for the LICO-100 class.

The highest level of education attained per household is related to income. LICO households tend to be less educated than NON-LICO households. Just over 55% of LICO-100 households have attained high school or less compared to 27.3% NON-LICO-100 households while 53.3% of LICO-125 households have attained high school or less compared to 25.3% NON-LICO-125 households. LICO (100-125) introduces more people with a trades or community college background to the lower income category.

Table 3.1 % Weighted Frequency and Population Estimates

Demographic Characteristics across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
People Per Household	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
One	23.6%	103,413	48.9%	36,612	18.3%	66,801	41.0%	43,361	18.0%	60,052	21.9%	6,749
Two	45.5%	199,771	28.3%	21,183	49.0%	178,588	35.0%	37,041	48.8%	162,730	51.4%	15,858
Three	12.2%	53,540	8.3%	6,227	13.0%	47,313	9.9%	10,489	12.9%	43,051	13.8%	4,262
Four	12.4%	54,580	8.0%	5,969	13.3%	48,611	7.5%	7,979	14.0%	46,601	6.5%	2,010
Five Or More	6.3%	27,792	6.6%	4,947	6.3%	22,845	6.5%	6,914	6.3%	20,878	6.4%	1,967
Average PPH		2.4		2.0		2.4		2.1		2.4		2.3
Population Age												
18 and Under	18.6%	81,640	19.9%	14,895	18.3%	66,745	19.4%	20,519	18.3%	61,121	18.2%	5,624
19 to 24	6.3%	27,598	7.0%	5,282	6.1%	22,316	5.9%	6,223	6.4%	21,375	3.1%	941
25 to 34	9.4%	41,204	10.0%	7,512	9.3%	33,692	9.4%	9,926	9.4%	31,278	7.8%	2,414
35 to 44	10.6%	46,762	7.0%	5,254	11.4%	41,508	7.8%	8,206	11.6%	38,556	9.6%	2,952
45 to 54	17.4%	76,212	8.7%	6,488	19.1%	69,724	8.7%	9,243	20.1%	66,969	8.9%	2,755
55 to 64	17.9%	78,666	11.4%	8,551	19.3%	70,115	12.1%	12,751	19.8%	65,915	13.6%	4,200
65 and Over	19.8%	87,014	36.0%	26,956	16.5%	60,058	36.8%	38,916	14.4%	48,098	38.8%	11,960
% with 65+ Year Occupants	30.6%	134,384	49.8%	37,295	26.7%	97,089	49.7%	52,601	24.5%	81,783	49.6%	15,306
Average Age		49.7		54.7		48.7		54.7		48.2		54.8
Household Income												
Under \$20,000	9.7%	42,582	56.8%	42,582	0.0%	0	40.3%	42,582	0.0%	0	0.0%	0
\$20,000 to \$39,999	25.0%	109,866	39.5%	29,609	22.0%	80,257	52.6%	55,625	16.3%	54,241	84.3%	26,017
\$40,000 to \$59,999	20.9%	91,615	3.7%	2,747	24.4%	88,868	7.0%	7,396	25.3%	84,219	15.1%	4,648
\$60,000 to \$79,999	18.1%	79,383	0.0%	0	21.8%	79,383	0.2%	181	23.8%	79,202	0.6%	181
\$80,000 to \$99,999	9.8%	43,127	0.0%	0	11.8%	43,127	0.0%	0	12.9%	43,127	0.0%	0
\$100,000 and Over	16.5%	72,523	0.0%	0	19.9%	72,523	0.0%	0	21.8%	72,523	0.0%	0
Average Household Income		\$64,136		\$20,318		\$73,514		\$23,597		\$77,002		\$31,565
Education												
Incomplete High School	4.1%	18,180	14.5%	10,887	2.0%	7,293	13.0%	13,803	1.3%	4,377	9.5%	2,916
High School	27.9%	122,622	40.7%	30,474	25.3%	92,148	40.3%	42,593	24.0%	80,029	39.3%	12,119
Trades/College	34.0%	149,200	28.6%	21,405	35.1%	127,795	31.3%	33,092	34.8%	116,108	37.9%	11,687
University	34.0%	149,094	16.2%	12,172	37.6%	136,922	15.4%	16,296	39.8%	132,798	13.4%	4,124

3.2 Demographic Characteristics: Natural Gas Customers

Table 3.2 shows the demographic profile of the total natural gas customers within the Manitoba Hydro provincial service territory for LICO-100, LICO-125, and LICO (100-125) classifications.

Overall, there are a total of 241,106 Manitoba Hydro natural gas customers. Out of the Manitoba Hydro natural gas customer total, 36,919 customers or 15.3% are estimated to be LICO-100, and 53,312 customers or 22.1% are estimated to be LICO-125. The difference between the two LICO classifications is 16,393 customers or 6.8% of residential natural gas population. Expanding the income definition of LICO by 25% increases the Manitoba Hydro natural gas lower income customer base by 44.4%.

LICO natural gas customers are more likely than NON-LICO natural gas customers to be single person households. In the LICO-100 group, 42.1% are single person households compared to 15.2% of NON-LICO-100 households. In the LICO-125 group, 35.7% are single person households compared to 14.7% of NON-LICO-125 households. Increasing the income threshold by 25% introduces more two person households into the LICO-125 category. Two person households comprise 46.3% of the LICO (100-125) group compared to 30.3% in the LICO-100 class.

LICO households tend to be older. Overall, 18.4% of the total Manitoba Hydro natural gas customer base is 65 years or older. This compares to 37.6% of the LICO-100 population base and 37.3% of the LICO-125 base. The proportion of the population in the LICO (100-125) group, 65 years or older, is a little lower at 36.6%. About 55% of all LICO households have an occupant that is 65 years or older. Dwellings with senior occupants are more than twice as likely to occur in the defined LICO groups compared to the defined NON-LICO groups.

The average annual household income for a LICO-100 household is \$22,303 compared to \$80,527 for a NON-LICO-100 household. The average annual household income for a LICO-125 household is \$26,150 compared to \$84,518 for a NON-LICO-125 household. LICO households earn less than one third the amounts earned by NON-LICO households. The average income of the LICO (100-125) group is \$34,814, or 56.1% higher than the average for the LICO-100 class. Natural gas customers earn, on average, more than the total Manitoba residential basic customers. This difference arises because most natural gas customers live in Winnipeg, which is a higher earning centre compared to smaller urban and rural locations.

The highest level of education attained per household is related to income. LICO households tend to be less educated than NON-LICO households. Just over 52% of LICO-100 households have attained high school or less compared to 23.2% NON-LICO-100 households, while 50.1% of LICO-125 households have attained high school or less compared to 21.3% NON-LICO-125 households. LICO (100-125) introduces more people with a trades or community college background.

Table 3.2 % Weighted Frequency and Population Estimates

Demographic Characteristics across LICO versus NON-LICO Manitoba Hydro Residential Natural Gas Customers

	Manitoba Hydro Residential Natural Gas Customers											
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	241,106	15.3%	36,919	84.7%	204,187	22.1%	53,312	77.9%	187,794	6.8%	16,393
People Per Household	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
One	19.3%	46,596	42.1%	15,555	15.2%	31,041	35.7%	19,047	14.7%	27,549	21.3%	3,492
Two	43.5%	104,978	30.3%	11,172	45.9%	93,806	35.2%	18,761	45.9%	86,217	46.3%	7,589
Three	14.6%	35,095	8.4%	3,098	15.7%	31,997	11.0%	5,888	15.6%	29,207	17.0%	2,790
Four	15.3%	36,992	11.4%	4,226	16.0%	32,766	10.0%	5,315	16.9%	31,677	6.6%	1,089
Five Or More	7.2%	17,445	7.8%	2,868	7.1%	14,577	8.1%	4,301	7.0%	13,144	8.7%	1,433
Average PPH		2.5		2.2		2.6		2.2		2.6		2.4
Population Age												
18 and Under	19.4%	46,749	20.5%	7,550	19.2%	39,199	20.4%	10,855	19.1%	35,894	20.2%	3,305
19 to 24	7.0%	16,805	5.5%	2,031	7.2%	14,774	4.8%	2,543	7.6%	14,262	3.1%	512
25 to 34	9.4%	22,587	10.1%	3,724	9.2%	18,863	9.7%	5,172	9.3%	17,415	8.8%	1,448
35 to 44	11.3%	27,152	7.4%	2,740	12.0%	24,412	8.4%	4,459	12.1%	22,693	10.5%	1,719
45 to 54	17.5%	42,080	8.2%	3,016	19.1%	39,064	7.8%	4,179	20.2%	37,901	7.1%	1,163
55 to 64	17.2%	41,428	10.7%	3,967	18.3%	37,461	11.7%	6,211	18.8%	35,217	13.7%	2,244
65 and Over	18.4%	44,305	37.6%	13,891	14.9%	30,414	37.3%	19,893	13.0%	24,412	36.6%	6,002
% with 65+ Year Occupants	30.1%	72,645	55.6%	20,519	25.5%	52,126	54.3%	28,944	23.3%	43,701	51.4%	8,425
Average Age		48.8		55.7		47.6		55.4		47.1		54.6
Household Income												
Under \$20,000	6.9%	16,747	45.4%	16,747	0.0%	0	31.4%	16,747	0.0%	0	0.0%	0
\$20,000 to \$39,999	21.0%	50,527	48.3%	17,839	16.0%	32,688	56.6%	30,194	10.8%	20,333	75.4%	12,355
\$40,000 to \$59,999	20.6%	49,564	6.3%	2,333	23.1%	47,231	11.6%	6,190	23.1%	43,374	23.5%	3,857
\$60,000 to \$79,999	19.0%	45,816	0.0%	0	22.4%	45,816	0.3%	181	24.3%	45,635	1.1%	181
\$80,000 to \$99,999	11.2%	27,071	0.0%	0	13.3%	27,071	0.0%	0	14.4%	27,071	0.0%	0
\$100,000 and Over	21.3%	51,381	0.0%	0	25.2%	51,381	0.0%	0	27.4%	51,381	0.0%	0
Average Household Income		\$71,612		\$22,303		\$80,527		\$26,150		\$84,518		\$34,814
Education												
Incomplete High School	2.4%	5,728	10.9%	4,022	0.8%	1,706	9.6%	5,096	0.3%	632	6.6%	1,074
High School	25.3%	60,937	41.4%	15,272	22.4%	45,665	40.5%	21,578	21.0%	39,359	38.5%	6,306
Trades/College	33.6%	80,988	36.5%	13,488	33.1%	67,500	36.6%	19,524	32.7%	61,464	36.8%	6,036
University	38.8%	93,453	11.2%	4,137	43.7%	89,316	13.3%	7,114	46.0%	86,339	18.2%	2,977

3.3 Average Annual Household Income by People Per Household

Table 3.3 compares the average annual household income by people per household between LICO and NON-LICO groups. Space heating fuel is also introduced into the analysis.

On average, NON-LICO households earn over three times the income of LICO households. For the LICO-100 group, the average annual household income is \$20,318 and for the NON-LICO-100 group, the average annual household income is \$73,514. For the LICO-125 group, the average annual household income increases to \$23,597 and for the NON-LICO-125 group, the average annual household income is \$77,002.

Across all LICO classifications, annual household income increases as people per household increases. Across all LICO classifications, annual household income is higher for non-electric heat customers compared with electric heat customers. Non-electric heat includes those customers utilizing natural gas, propane, wood, coal or oil fuels for heat.

Natural gas customers earn, on average, more than the total Manitoba residential basic customers. This difference arises because most natural gas customers live in Winnipeg, which is a higher earning centre compared to smaller urban and rural locations.

For the LICO-100 group, the lowest average household income of \$15,548 is associated by LICO-100 single person households residing in electrically heated dwellings. The highest average household income of \$107,267 is associated with NON-LICO-100 four person households residing in natural gas heated dwellings.

For the LICO-125 group, the lowest average household income of \$16,764 is experienced by LICO-125 single person households residing in electrically heated dwellings. The highest average household income of \$109,229 is associated with NON-LICO-125 four person households residing in natural gas heated dwellings.

**Table 3.3 Weighted Average Annual Household Income by Space Heat Fuel
by People Per Household across LICO versus NON-LICO Total Manitoba Hydro Residential Customers**

Total Manitoba Hydro Residential Basic Customers						
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
<u>Overall Average Income</u>						
Overall	\$64,136	\$20,318	\$73,514	\$23,597	\$77,002	\$31,565
One Person	\$38,061	\$16,016	\$50,143	\$17,565	\$52,860	\$25,967
Two Person	\$63,184	\$20,791	\$68,213	\$23,795	\$72,150	\$27,809
Three Person	\$77,365	\$24,306	\$84,348	\$30,454	\$88,794	\$39,437
Four Person	\$93,648	\$32,850	\$101,114	\$35,522	\$103,600	\$43,461
Five or More	\$84,568	\$29,988	\$96,387	\$36,206	\$100,585	\$51,842
<u>Average Annual Income Non-Electric Heat*</u>						
Overall	\$67,606	\$21,316	\$77,473	\$24,967	\$81,671	\$30,526
One Person	\$39,872	\$16,291	\$52,235	\$18,009	\$55,480	\$26,147
Two Person	\$65,850	\$21,549	\$71,995	\$24,856	\$76,080	\$30,027
Three Person	\$80,352	\$25,422	\$88,169	\$31,978	\$93,098	\$41,705
Four Person	\$97,792	\$34,711	\$106,147	\$37,593	\$108,907	\$46,258
Five or More	\$90,689	\$32,427	\$101,698	\$39,877	\$106,597	\$54,782
<u>Average Annual Income Natural Gas Billed Heat**</u>						
Overall	\$71,612	\$22,303	\$80,827	\$26,150	\$84,518	\$34,814
One Person	\$41,275	\$16,181	\$53,850	\$18,030	\$57,347	\$26,265
Two Person	\$68,100	\$22,225	\$73,563	\$25,465	\$77,377	\$30,235
Three Person	\$84,055	\$26,011	\$89,674	\$33,459	\$94,254	\$41,728
Four Person	\$99,063	\$35,458	\$107,267	\$38,466	\$109,229	\$50,150
Five or More	\$90,539	\$32,428	\$101,971	\$39,877	\$107,118	\$54,782
<u>Average Annual Income Electric Heat</u>						
Overall	\$57,590	\$18,264	\$65,145	\$20,780	\$68,429	\$26,894
One Person	\$34,731	\$15,548	\$46,122	\$16,764	\$47,979	\$25,504
Two Person	\$58,766	\$18,875	\$62,230	\$21,624	\$65,931	\$24,308
Three Person	\$69,512	\$20,437	\$74,635	\$25,318	\$78,097	\$32,088
Four Person	\$83,625	\$27,065	\$89,288	\$29,167	\$91,249	\$35,183
Five or More	\$73,282	\$26,624	\$85,909	\$30,163	\$89,042	\$43,945

* Includes natural gas and other non-electric heat customers (Standard Heat)

** Includes only natural gas customers.

4.0 Dwelling Characteristics

4.1 Dwelling Characteristics: Total Residential Basic

Table 4.1 shows the dwelling characteristics of total residential basic customers within the Manitoba Hydro provincial service territory for both LICO and NON-LICO classifications.

Overall, 54.8% of customers reside in Winnipeg. In comparison, 63.3% of LICO-100 and 60.8% of LICO-125 customers reside in Winnipeg. LICO (100-125) introduces fewer customers from Central Winnipeg (13.7%) when compared to LICO-100 Central Winnipeg customers at 27.9%.

The majority of total customers (77.7%) reside in single detached dwellings and the majority of total customers (86.3%) own their dwelling. In comparison, 64.2% of LICO-100 and 65.0% of LICO-125 customers reside in single detached dwellings and 72.5% of LICO-100 and 74.5% of LICO-125 customers are homeowners. About 90% of NON-LICO customers are homeowners. LICO customers are over twice as likely to live in apartment suites compared to NON-LICO customers.

LICO customers, on average, live in smaller and older dwellings. A LICO-100 dwelling is 56 years old and 1,074 square feet. A NON-LICO-100 dwelling is 45 years old and 1,343 square feet. A LICO-125 dwelling is, on average, 54 years old and 1,086 square feet. The income increase of 25% introduces newer housing into the LICO definition. A LICO (100-125) dwelling is, on average, 48 years old and 1,115 square feet.

**Table 4.1 Weighted % Frequency and Population Estimates
Dwelling Characteristics across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers**

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Location												
Winnipeg - Central	17.3%	76,057	27.9%	20,896	15.1%	55,161	23.8%	25,130	15.3%	50,927	13.7%	4,234
Winnipeg - Suburban	37.5%	164,728	35.4%	26,501	38.0%	138,227	37.0%	39,164	37.7%	125,564	41.1%	12,663
South - Gas Available	27.5%	120,847	22.2%	16,668	28.6%	104,179	24.6%	26,068	28.4%	94,779	30.5%	9,400
South - Not Gas Available	12.9%	56,612	11.3%	8,444	13.2%	48,168	11.2%	11,836	13.4%	44,776	11.0%	3,392
North	4.7%	20,852	3.2%	2,429	5.1%	18,423	3.4%	3,585	5.2%	17,267	3.7%	1,156
Dwelling Type												
Single Detached	77.7%	341,265	64.2%	48,108	80.5%	293,157	65.0%	68,744	81.8%	272,521	66.9%	20,636
Duplex/Triplex	4.3%	18,970	5.3%	4,003	4.1%	14,967	6.6%	6,986	3.6%	11,984	9.7%	2,983
Mobile Home	2.0%	8,597	2.5%	1,842	1.9%	6,755	2.7%	2,879	1.7%	5,718	3.4%	1,037
Town/Rowhouse	3.3%	14,347	3.7%	2,765	3.2%	11,582	3.2%	3,389	3.3%	10,958	2.0%	624
Apartment Suite	12.7%	55,927	24.3%	18,220	10.4%	37,707	22.5%	23,786	9.6%	32,141	18.0%	5,566
Dwelling Ownership												
Own/Buying	86.3%	378,898	72.5%	54,327	89.1%	324,571	74.5%	78,856	90.0%	300,042	79.5%	24,529
Rent/Lease	13.7%	60,198	27.5%	20,611	10.9%	39,587	25.5%	26,928	10.0%	33,270	20.5%	6,317
Year Built												
2000 to 2009	8.2%	36,062	4.5%	3,409	9.0%	32,653	4.8%	5,067	9.3%	30,995	5.4%	1,658
1990 to 1999	7.7%	33,807	5.7%	4,286	8.1%	29,521	6.0%	6,397	8.2%	27,410	6.8%	2,111
1980 to 1989	13.5%	59,268	8.5%	6,367	14.5%	52,901	8.5%	9,027	15.1%	50,241	8.6%	2,660
1970 to 1979	18.3%	80,522	16.7%	12,500	18.7%	68,022	18.2%	19,265	18.4%	61,257	21.9%	6,765
1960 to 1969	14.6%	64,196	13.7%	10,267	14.8%	53,929	14.8%	15,661	14.6%	48,535	17.5%	5,394
1950 to 1959	13.6%	59,788	16.2%	12,117	13.1%	47,671	16.2%	17,139	12.8%	42,649	16.3%	5,022
Pre 1950	24.0%	105,453	34.7%	25,992	21.8%	79,461	31.4%	33,228	21.7%	72,225	23.5%	7,236
Average Year Built		1963		1954		1965		1956		1965		1962
Average Age (Years)		47		56		45		54		45		48
Size (Square Feet)												
900 or Less	22.3%	97,918	37.4%	28,027	19.2%	69,892	36.0%	38,082	18.0%	59,836	32.6%	10,055
901 to 1,100	23.2%	101,870	26.7%	20,008	22.5%	81,862	26.6%	28,139	22.1%	73,732	26.4%	8,130
1,101 to 1,300	18.7%	82,111	18.8%	14,088	18.7%	68,023	18.1%	19,147	18.9%	62,964	16.4%	5,059
1,301 to 1,500	10.0%	43,910	6.7%	5,021	10.7%	38,889	8.3%	8,780	10.5%	35,130	12.2%	3,759
1,501 to 1,800	10.9%	47,861	4.2%	3,147	12.3%	44,714	4.6%	4,866	12.9%	42,995	5.6%	1,719
Over 1,800	14.9%	65,425	6.2%	4,646	16.7%	60,779	6.4%	6,770	17.6%	58,655	6.9%	2,124
Average Square Feet		1,298		1,074		1,343		1,086		1,364		1,115

4.2 Dwelling Characteristics: Natural Gas Customers

Table 4.2 shows the dwelling characteristics of natural gas customers within the Manitoba Hydro provincial service territory for both LICO and NON-LICO classifications.

Overall, 76.3% of natural gas customers reside in Winnipeg. In comparison, 82.0% of LICO-100 and 80.1% of LICO-125 natural gas customers reside in Winnipeg. LICO (100-125) introduces fewer customers from Central Winnipeg with 14.2% residing in Central Winnipeg, compares to 31.1% of LICO-100 natural gas customers.

The majority of natural gas customers (88.7%) reside in single detached dwellings and the majority of these customers (95.3%) own their dwelling. In comparison, 82.8% of LICO-100 and 82.4% of LICO-125 natural gas customers reside in single detached dwellings and 88.3% of LICO-100 and 90.3% of LICO-125 natural gas customers are homeowners. Only 3.1% of LICO-125 natural gas customers live in apartment suites and only 9.7% rent their dwellings.

LICO natural gas customers, on average, live in smaller and older dwellings. A LICO-100 natural gas dwelling is 60 years old and 1,100 square feet. A NON-LICO-100 dwelling is 46 years old and 1,353 square feet. A LICO-125 dwelling is, on average, 56 years old and 1,108 square feet. The income increase of 25% introduces newer housing into the LICO category. A LICO (100-125) natural gas dwelling is, on average, 49 years old and 1,127 square feet.

**Table 4.2 Weighted % Frequency and Population Estimates
Dwelling Characteristics across LICO versus NON-LICO Manitoba Hydro Residential Natural Gas Customers**

	Manitoba Hydro Natural Gas Residential Customers											
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	241,106	15.3%	36,919	84.7%	204,187	22.1%	53,312	77.9%	187,794	6.8%	16,393
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Location												
Winnipeg - Central	19.5%	46,921	31.1%	11,479	17.4%	35,442	25.9%	13,804	17.6%	33,117	14.2%	2,325
Winnipeg - Suburban	56.8%	136,981	50.9%	18,793	57.9%	118,188	54.2%	28,881	57.6%	108,100	61.5%	10,088
South - Gas Available	23.7%	57,204	18.0%	6,647	24.8%	50,557	19.9%	10,627	24.8%	46,577	24.3%	3,980
South - Not Gas Available	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
North	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Dwelling Type												
Single Detached	88.7%	213,917	82.8%	30,579	89.8%	183,338	82.4%	43,938	90.5%	169,979	81.5%	13,359
Duplex/Triplex	6.1%	14,640	8.2%	3,033	5.7%	11,607	9.6%	5,120	5.1%	9,520	12.7%	2,087
Mobile Home	0.3%	839	0.8%	305	0.3%	534	0.6%	305	0.3%	534	0.0%	0
Town/Rowhouse	3.0%	7,331	5.3%	1,958	2.6%	5,373	4.3%	2,271	2.7%	5,060	1.9%	313
Apartment Suite	1.8%	4,379	2.8%	1,044	1.6%	3,335	3.1%	1,678	1.4%	2,701	3.9%	634
Dwelling Ownership												
Own/Buying	95.3%	229,763	88.3%	32,594	96.6%	197,169	90.3%	48,141	96.7%	181,622	94.8%	15,547
Rent/Lease	4.7%	11,343	11.7%	4,325	3.4%	7,018	9.7%	5,171	3.3%	6,172	5.2%	846
Year Built												
2000 to 2009	7.2%	17,337	2.1%	787	8.1%	16,550	1.8%	968	8.7%	16,369	1.1%	181
1990 to 1999	8.5%	20,424	5.3%	1,957	9.0%	18,467	5.3%	2,841	9.4%	17,583	5.4%	884
1980 to 1989	12.8%	30,875	5.1%	1,867	14.2%	29,008	6.4%	3,391	14.6%	27,484	9.3%	1,524
1970 to 1979	16.2%	39,109	14.5%	5,340	16.5%	33,769	16.9%	9,034	16.0%	30,075	22.5%	3,694
1960 to 1969	14.7%	35,521	14.7%	5,421	14.7%	30,100	16.5%	8,800	14.2%	26,721	20.6%	3,379
1950 to 1959	15.7%	37,792	20.1%	7,432	14.9%	30,360	19.6%	10,428	14.6%	27,364	18.3%	2,996
Pre 1950	24.9%	60,047	38.2%	14,115	22.5%	45,932	33.5%	17,850	22.5%	42,197	22.8%	3,735
Average Year Built		1962		1950		1964		1954		1964		1961
Average Age (Years)		48		60		46		56		46		49
Size (Square Feet)												
900 or Less	16.7%	40,265	26.1%	9,636	15.0%	30,629	25.2%	13,435	14.3%	26,830	23.2%	3,799
901 to 1,100	25.1%	60,518	33.7%	12,442	23.5%	48,076	33.0%	17,593	22.9%	42,925	31.4%	5,151
1,101 to 1,300	20.4%	49,186	21.9%	8,085	20.1%	41,100	21.4%	11,409	20.1%	37,777	20.3%	3,324
1,301 to 1,500	10.8%	26,039	9.2%	3,397	11.1%	22,643	10.8%	5,758	10.8%	20,282	14.4%	2,361
1,501 to 1,800	11.8%	28,451	4.4%	1,624	13.1%	26,826	4.7%	2,506	13.8%	25,945	5.4%	881
Over 1,800	15.2%	36,648	4.7%	1,735	17.1%	34,913	4.9%	2,612	18.1%	34,036	5.4%	877
Average Square Feet		1,315		1,100		1,353		1,108		1,373		1,127

4.3 Insulation Ratings and Basement Insulation Levels

Table 4.3 shows how customers rate the overall insulation levels of their dwellings. This analysis excludes apartment suites.

Of the residential basic sector, excluding apartment suites, 11.9% of customers rate their overall dwelling insulation as fair and 6.7% rate their insulation as poor. These two ratings represent 71,380 dwellings. The number of single detached dwellings rated as either fair or poor, in terms of overall insulation, is estimated to be 59,247. There are an estimated 57,713 dwellings with 30% or less basement insulation, of which 50,359 are single detached. Note the estimates of dwellings with low basement insulation levels and overall dwelling ratings of fair or poor do not equal since some customers may have given a higher overall insulation rating despite the low basement insulation levels and vice versa.

Of the LICO-100 group, 15.3% rate their insulation as fair and 11.1% rate their insulation as poor. These two ratings represent 14,985 dwellings. The number of single detached dwellings rated as either fair or poor, in terms of overall insulation, is estimated to be 11,595. There are an estimated 14,727 dwellings with 30% or less basement insulation, of which 11,613 are single detached.

Of the LICO-125 group, 14.5% rate their insulation as fair and 9.9% rate their insulation as poor. These two ratings represent 19,993 dwellings. The number of single detached dwellings rated as either fair or poor, in terms of overall insulation, is estimated to be 15,197. There are an estimated 18,751 dwellings with 30% or less basement insulation, of which 14,893 are single detached.

The income increase of 25% introduces 5,008 housing units with a fair to poor insulation rating into the LICO definition, of which 3,602 are single-detached. The LICO (100-125) definition introduces 4,024 units with 30% or less basement insulation, of which 3,280 are single detached.

Table 4.3 % Frequency and Population Estimates of Insulation Ratings and Basement Insulation Levels across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers - EXCLUDING APARTMENT SUITES

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	383,169	14.8%	56,719	85.2%	326,450	21.4%	81,998	78.6%	301,171	6.6%	25,279
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Overall Insulation Rating												
Excellent	11.2%	43,005	8.4%	4,754	11.7%	38,251	7.8%	6,378	12.2%	36,627	6.4%	1,624
Very Good	28.3%	108,392	22.3%	12,628	29.3%	95,764	24.6%	20,131	29.3%	88,261	29.7%	7,503
Average	41.9%	160,391	42.9%	24,352	41.7%	136,039	43.3%	35,496	41.5%	124,895	44.1%	11,144
Fair	11.9%	45,768	15.3%	8,663	11.4%	37,105	14.5%	11,854	11.3%	33,914	12.6%	3,191
Poor	6.7%	25,612	11.1%	6,322	5.9%	19,290	9.9%	8,139	5.8%	17,473	7.2%	1,817
Single Detached Rating	N=	341,265	N=	48,108	N=	293,157	N=	68,744	N=	272,521	N=	20,636
Excellent	11.5%	39,361	8.8%	4,249	12.0%	35,112	8.2%	5,607	12.4%	33,754	6.6%	1,358
Very Good	29.4%	100,221	24.0%	11,554	30.2%	88,667	26.0%	17,884	30.2%	82,337	30.7%	6,330
Average	41.6%	142,117	43.0%	20,710	41.4%	121,407	43.7%	30,056	41.1%	112,061	45.3%	9,346
Fair	11.4%	38,957	13.9%	6,709	11.0%	32,248	13.3%	9,126	10.9%	29,831	11.7%	2,417
Poor	5.9%	20,290	10.2%	4,886	5.3%	15,404	8.8%	6,071	5.2%	14,219	5.7%	1,185
% Basement Insulated												
30% or less	15.1%	57,713	26.0%	14,727	13.2%	42,986	22.9%	18,751	12.9%	38,962	15.9%	4,024
Single Detached % Basement Insulated												
30% or less	14.8%	50,359	24.1%	11,613	13.2%	38,746	21.7%	14,893	13.0%	35,466	15.9%	3,280

4.4 Dwelling Ownership by Dwelling Type

Table 4.4 shows the population estimates of dwelling ownership by dwelling type for total residential basic and natural gas LICO-100 and LICO-125 customers.

An estimated 54,328 total LICO-100 customers own their dwelling. Of those, 44,200 reside in single detached homes. An estimated 32,594 natural gas LICO-100 customers own their dwelling. Of those, 28,179 reside in single detached homes.

An estimated 20,610 total LICO-100 customers rent. Of those, 14,015 reside in apartment suites. An estimated 4,325 natural gas LICO-100 customers rent. Of those, 226 reside in apartment suites.

An estimated 78,856 total LICO-125 customers own their dwelling. Of those, 64,024 reside in single detached homes. An estimated 48,141 natural gas LICO-125 customers own their dwelling. Of those, 41,101 reside in single detached homes.

An estimated 26,928 total LICO-125 customers rent. Of those, 18,630 reside in apartment suites. An estimated 5,171 natural gas LICO-125 customers rent. Of those, 430 reside in apartment suites.

The 25% income increase from the LICO definition increases homeowners by 24,528 customers. Of those, 19,824 reside in single detached homes. An estimated 15,547 natural gas LICO (100-125) customers own their dwelling. Of those, 12,922 reside in single detached homes.

The 25% income increase from the LICO definition increases renters by 6,318 customers. Of those, 4,615 reside in apartment suites. An estimated 846 natural gas LICO (100-125) customers rent their dwelling. Of those, 437 reside in single detached homes.

Table 4.4 Weighted Population Estimates of Residential Dwelling Ownership by Dwelling Type across LICO versus NON-LICO Classifications for Total Manitoba Hydro Electric and Natural Gas Customers

Total Manitoba Hydro Residential Basic Customers			
OVERALL - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	329,639	11,626	341,265
Multiplex	14,243	4,727	18,970
Rowhouse	10,020	4,327	14,347
Mobile Home	8,232	355	8,587
Apartment Suite	16,764	39,163	55,927
TOTAL	378,898	60,198	439,096

Manitoba Hydro Natural Gas Residential Customers			
OVERALL - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	208,268	5,649	213,917
Multiplex	11,695	2,945	14,640
Rowhouse	6,056	1,275	7,331
Mobile Home	839	0	839
Apartment Suite	2,905	1,474	4,379
TOTAL	229,763	11,343	241,106

LICO-100 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	44,200	3,908	48,108
Multiplex	2,809	1,194	4,003
Rowhouse	1,327	1,438	2,765
Mobile Home	1,787	55	1,842
Apartment Suite	4,205	14,015	18,220
TOTAL	54,328	20,610	74,938

LICO-100 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	28,179	2,400	30,579
Multiplex	2,197	836	3,033
Rowhouse	1,095	863	1,958
Mobile Home	305	0	305
Apartment Suite	818	226	1,044
TOTAL	32,594	4,325	36,919

NON LICO-100 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	285,439	7,717	293,156
Multiplex	11,435	3,532	14,967
Rowhouse	8,693	2,888	11,581
Mobile Home	6,446	299	6,745
Apartment Suite	12,558	25,149	37,707
TOTAL	324,571	39,585	364,156

NON LICO-100 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	180,089	3,249	183,338
Multiplex	9,498	2,109	11,607
Rowhouse	4,960	412	5,372
Mobile Home	534	0	534
Apartment Suite	2,088	1,248	3,336
TOTAL	197,169	7,018	204,187

LICO-125 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	64,024	4,720	68,744
Multiplex	5,164	1,822	6,986
Rowhouse	1,735	1,654	3,389
Mobile Home	2,777	102	2,879
Apartment Suite	5,156	18,630	23,786
TOTAL	78,856	26,928	105,784

LICO-125 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	41,101	2,837	43,938
Multiplex	4,179	941	5,120
Rowhouse	1,308	963	2,271
Mobile Home	305	0	305
Apartment Suite	1,248	430	1,678
TOTAL	48,141	5,171	53,312

NON LICO-125 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	265,615	6,905	272,520
Multiplex	9,080	2,905	11,985
Rowhouse	8,285	2,673	10,958
Mobile Home	5,456	252	5,708
Apartment Suite	11,606	20,535	32,141
TOTAL	300,042	33,270	333,312

NON LICO-125 - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	167,168	2,811	169,979
Multiplex	7,516	2,004	9,520
Rowhouse	4,747	313	5,060
Mobile Home	534	0	534
Apartment Suite	1,657	1,044	2,701
TOTAL	181,622	6,172	187,794

LICO (100-125) - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	19,824	812	20,636
Multiplex	2,355	628	2,983
Rowhouse	408	216	624
Mobile Home	990	47	1,037
Apartment Suite	951	4,615	5,566
TOTAL	24,528	6,318	30,846

LICO (100-125) - POPULATION			
DWELLING TYPE	OWN	RENT	TOTAL
Single Detached	12,922	437	13,359
Multiplex	1,982	105	2,087
Rowhouse	213	100	313
Mobile Home	0	0	0
Apartment Suite	430	204	634
TOTAL	15,547	846	16,393

4.5 Average Annual Household Income by Dwelling Type

Table 4.5 compares the average annual household income by dwelling type between LICO and NON-LICO groups. Space heating fuel is also introduced into the analysis.

On average, NON-LICO households earn over three times the income of LICO households. The average annual household income of the LICO-100 group is \$20,318. In the NON-LICO-100 group, the average annual household income is \$73,514. For the LICO-125 group, the average annual household income increases to \$23,597 and in the NON-LICO-125 group, the average annual household income is \$77,002.

Across all NON-LICO classifications, annual household income is highest in single detached dwellings and lowest for apartment suite customers. Across the LICO classifications, household income is highest in duplex/triplexes and town/rowhouses but income tends to be more evenly distributed among housing types with the exception of apartment suites.

For the LICO-100 group, the lowest average household income of \$16,469 is associated by LICO-100 natural gas apartment suite customers. The highest average household income of \$24,701 is associated by LICO-100 natural gas duplex/triplex customers.

For the LICO-125 group, the lowest average household income of \$16,949 is associated by LICO-125 natural gas mobile home customers. The highest average household income of \$30,134 is associated by LICO-125 natural gas duplex/triplex customers.

**Table 4.5 Weighted Average Annual Household Income
by Dwelling Type across LICO versus NON-LICO Total Manitoba Hydro Residential Customers**

	Total Manitoba Hydro Residential Basic Customers					
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
Overall Average Income						
Overall	\$64,136	\$20,318	\$73,514	\$23,597	\$77,002	\$31,565
Single Detached	\$68,639	\$20,784	\$76,492	\$24,081	\$79,879	\$31,768
Duplex/Triplex	\$56,972	\$23,992	\$65,792	\$28,812	\$73,386	\$35,281
Mobile Home	\$44,621	\$18,035	\$51,882	\$22,447	\$55,805	\$30,286
Town/Rowhouse	\$58,272	\$21,142	\$67,137	\$23,176	\$69,125	\$32,198
Apartment Suite	\$43,594	\$18,385	\$55,774	\$20,867	\$60,413	\$28,990
Average Annual Income Non-Electric Heat*						
Overall	\$67,606	\$21,316	\$77,473	\$24,967	\$81,671	\$33,865
Single Detached	\$72,487	\$22,106	\$80,966	\$25,859	\$84,697	\$34,378
Duplex/Triplex	\$58,678	\$23,963	\$68,121	\$29,246	\$74,809	\$37,305
Mobile Home	\$44,203	\$16,949	\$58,489	\$16,949	\$58,489	---
Town/Rowhouse	\$60,614	\$20,440	\$73,100	\$22,362	\$74,987	\$35,106
Apartment Suite	\$43,677	\$18,658	\$56,337	\$21,258	\$61,425	\$29,512
Average Annual Income Natural Gas Billed Heat**						
Overall	\$71,612	\$22,303	\$80,827	\$26,150	\$84,518	\$34,814
Single Detached	\$73,565	\$22,419	\$82,096	\$26,165	\$85,817	\$34,739
Duplex/Triplex	\$58,984	\$24,701	\$67,942	\$30,134	\$74,499	\$38,029
Mobile Home	\$45,427	\$16,949	\$61,676	\$16,949	\$61,676	---
Town/Rowhouse	\$56,303	\$20,716	\$69,276	\$22,685	\$71,393	\$35,016
Apartment Suite	\$49,073	\$16,469	\$59,275	\$19,968	\$67,164	\$25,719
Average Annual Income Electric Heat						
Overall	\$57,590	\$18,264	\$65,145	\$20,780	\$68,429	\$26,894
Single Detached	\$61,258	\$18,078	\$68,000	\$20,352	\$70,840	\$25,962
Duplex/Triplex	\$40,810	\$24,310	\$44,538	\$25,919	\$55,876	\$26,850
Mobile Home	\$44,668	\$18,251	\$51,259	\$23,098	\$55,501	\$30,286
Town/Rowhouse	\$54,685	\$23,183	\$59,179	\$25,069	\$61,171	\$29,363
Apartment Suite	\$43,445	\$17,850	\$54,803	\$20,080	\$58,731	\$27,862

* Includes natural gas and other non-electric heat customers (Standard Heat)

** Includes only natural gas customers.

5.0 Space Heating Characteristics

5.1 Annual Energy Use by Space Heating Fuel

Table 5.1 compares the average annual energy use range by dwelling type between LICO and NON-LICO groups. Space heating fuel is also introduced into the analysis.

Overall, 43.9% of all residential basic customers use 10,000 kW.h or less per year. A greater proportion of LICO households fall into this range. LICO-100 customers in the 10,000 kW.h or less range represent 63.8% compared to 39.7% of NON-LICO-100 households. LICO-125 customers in the 10,000 kW.h or less range represent 61.2% compared to 38.4% of NON-LICO-125 households. Comparing across all space heating fuel categories, LICO customers use less than their NON-LICO counterparts. This is mainly due to the tendency of LICO customers to reside in apartment suites or other multi-family dwellings compared to NON-LICO customers.

For non-electric heat customers, LICO-100 customers in the 5,000 kW.h or less range represent 39.2% compared to 16.8% of NON-LICO-100 households. LICO-125 customers in the 5,000 kW.h or less range represent 35.6% compared to 15.8% of NON-LICO-125 households.

For electric heat customers, LICO-100 customers in the over 25,000 kW.h range represent 31.6% compared to 52.6% of NON-LICO-100 households. LICO-125 customers in the over 25,000 kW.h range represent 33.3% compared to 54.0% of NON-LICO-125 households.

For natural gas users, LICO and NON-LICO customers demonstrate similar per cent distributions by cubic meter ranges. Overall, the majority of gas consumption (45.3%) falls in the 2,001 to 3,000 cubic meter range. LICO-100 customers in the 2,001 to 3,000 cubic meter range represent 44.2% compared to 45.5% of NON-LICO-100 households. LICO-125 customers in the 2,001 to 3,000 cubic meter range represent 45.7% compared to 45.2% of NON-LICO-125 households.

**Table 5.1 Weighted % Frequency and Population Estimates
Annual Energy Use by Space Heat Fuel across LICO Versus NON-LICO Total Manitoba Hydro Residential Customers**

		Total Manitoba Hydro Residential Basic Customers											
		OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)		100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
		%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Annual kWh													
Overall													
5,000 or less		15.0%	65,774	29.3%	21,925	12.0%	43,849	26.6%	28,141	11.3%	37,633	20.2%	6,216
5,001 to 10,000		28.9%	126,717	34.5%	25,828	27.7%	100,889	34.6%	36,552	27.1%	90,165	34.8%	10,724
10,001 to 15,000		18.4%	80,707	12.1%	9,090	19.7%	71,617	12.6%	13,369	20.2%	67,338	13.9%	4,279
15,001 to 20,000		10.7%	46,847	7.4%	5,574	11.3%	41,273	7.8%	8,262	11.6%	38,585	8.7%	2,688
20,001 to 25,000		7.7%	33,732	6.0%	4,497	8.0%	29,235	6.8%	7,180	8.0%	26,552	8.7%	2,683
Over 25,000		19.4%	85,319	10.7%	8,024	21.2%	77,295	11.6%	12,280	21.9%	73,039	13.8%	4,256
Annual kWh													
Non-Electric Heat*		N= 286,999		N= 50,428		N= 236,301		N= 71,187		N= 215,812		N= 20,759	
5,000 or less		20.8%	59,560	39.2%	19,782	16.8%	39,778	35.6%	25,369	15.8%	34,191	26.9%	5,587
5,001 to 10,000		39.4%	113,210	42.6%	21,463	38.8%	91,747	43.7%	31,100	38.0%	82,110	46.4%	9,637
10,001 to 15,000		23.5%	67,312	13.1%	6,600	25.7%	60,712	14.0%	9,982	26.6%	57,330	16.3%	3,382
15,001 to 20,000		9.6%	27,676	3.7%	1,843	10.9%	25,833	4.7%	3,346	11.3%	24,330	7.2%	1,503
20,001 to 25,000		3.1%	8,882	0.9%	464	3.6%	8,418	0.9%	615	3.8%	8,267	0.7%	151
Over 25,000		3.6%	10,359	0.5%	276	4.3%	10,083	1.1%	776	4.4%	9,583	2.4%	500
Annual kWh													
Electric Heat		N= 152,097		N= 24,510		N= 127,857		N= 34,597		N= 117,500		N= 10,087	
5,000 or less		4.1%	6,214	8.7%	2,143	3.2%	4,071	8.0%	2,772	2.9%	3,442	6.2%	629
5,001 to 10,000		8.9%	13,507	17.8%	4,365	7.2%	9,142	15.8%	5,452	6.9%	8,055	10.8%	1,087
10,001 to 15,000		8.8%	13,395	10.2%	2,490	8.5%	10,905	9.8%	3,387	8.5%	10,008	8.9%	897
15,001 to 20,000		12.6%	19,171	15.2%	3,731	12.1%	15,440	14.2%	4,916	12.1%	14,255	11.7%	1,185
20,001 to 25,000		16.3%	24,850	16.5%	4,033	16.3%	20,817	19.0%	6,565	15.6%	18,285	25.1%	2,532
Over 25,000		49.3%	74,960	31.6%	7,748	52.6%	67,212	33.3%	11,504	54.0%	63,456	37.2%	3,756
Annual m³													
Natural Gas		N= 241,106		N= 36,919		N= 204,187		N= 53,312		N= 187,794		N= 16,393	
1,000 or less		2.7%	6,570	3.6%	1,328	2.6%	5,242	3.7%	1,963	2.5%	4,607	3.9%	635
1,001 to 2,000		24.5%	59,119	25.6%	9,452	24.3%	49,667	25.1%	13,355	24.4%	45,764	23.8%	3,903
2,001 to 3,000		45.3%	109,248	44.2%	16,334	45.5%	92,914	45.7%	24,342	45.2%	84,906	48.9%	8,008
3,001 to 4,000		19.2%	46,300	19.9%	7,337	19.1%	38,963	19.8%	10,563	19.0%	35,737	19.7%	3,226
Over 4,000		8.2%	19,869	6.7%	2,468	8.5%	17,401	5.8%	3,089	8.9%	16,780	3.8%	621

* Includes natural gas and other non-electric heat customers (Standard Heat)

5.2 Space Heating Fuel by Dwelling Type

Table 5.2 compares space heating fuel saturation by dwelling type between LICO and NON-LICO groups.

Overall, 34.6% of Manitoba Hydro residential customers heat with electricity, 54.9% heat with natural gas and are directly billed for gas use by Manitoba Hydro, 7.4% heat with natural gas but are not directly billed for gas use by Manitoba Hydro, and 3.1% heat with other fuels such as propane, wood, oil, coal or solar. The only appreciable difference of space heat fuel across LICO groups is that LICO-100 (15.0%) and LICO-125 (13.9%) have greater proportions of customers in the natural gas no bill category compared to NON-LICO-100 (5.8%) and NON-LICO-125 (5.3%) customers.

LICO-100 is 32.7% all-electric and NON-LICO-100 is 35.0% all-electric. One quarter of LICO-100 electric heat customers are apartment dwellers compared to 10.8% of NON-LICO-100 electric heat customers. LICO-125 is 32.7% all-electric and NON-LICO-125 is 35.3% all-electric. Almost 23% of LICO-125 electric heat customers are apartment dwellers compared to 11.8% of NON-LICO-125 electric heat customers.

LICO-100 is 49.3% natural gas billed heat and NON-LICO-100 is 56.1% natural gas billed heat. Across all income classes, the greater majority of natural gas billed customers occupy single detached dwellings. Almost 83% of LICO-100 natural gas billed heat customers live in single detached dwellings compared to 89.8% of NON-LICO-100 natural gas billed customers. LICO-125 is 50.4% natural gas billed heat and NON-LICO-125 is 56.3% natural gas billed. There are 82.4% of LICO-125 natural gas billed customers residing in single detached dwellings compared to 90.5% of NON-LICO-125 natural gas billed heat customers.

It should be noted that there are 32,495 customers (Natural Gas - No Bill) that indicate they use natural gas for heat but they do not receive a natural gas bill from Manitoba Hydro. Almost all these customers reside in multi-family dwellings, such as apartment suites (94.5%), where natural gas heat is provided from a central or shared source. The cost of heating is usually incorporated into rent or into a monthly common service fee. These 32,495 customers are not included in the 241,106 natural gas customer count but they are included in the 439,096 total residential basic total.

The 13,398 customers classed as “other” include those that use sources other than electricity or natural gas for heat. These sources included propane, wood, oil, coal or solar.

Table 5.2 Weighted % Frequency and Population Estimates

Space Heating Fuel by Dwelling Type across LICO versus NON-LICO Manitoba Hydro Residential Customers

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Heating Fuel												
Electric	34.6%	152,097	32.7%	24,510	35.0%	127,587	32.7%	34,597	35.3%	117,500	32.7%	10,087
Single Detached	76.9%	116,945	64.4%	15,793	79.3%	101,152	64.2%	22,194	86.1%	101,152	63.5%	6,401
Duplex/Triplex	1.2%	1,812	1.4%	334	1.2%	1,478	2.6%	911	1.3%	1,478	5.7%	577
Mobile Home	5.1%	7,701	6.3%	1,538	4.8%	6,164	7.4%	2,574	5.2%	6,164	10.3%	1,036
Town/Rowhouse	3.7%	5,668	2.9%	707	3.9%	4,960	2.9%	1,018	4.2%	4,960	3.1%	311
Apartment Suite	13.1%	19,971	25.0%	6,138	10.8%	13,833	22.8%	7,899	11.8%	13,833	17.5%	1,761
Natural Gas - Billed*	54.9%	241,106	49.3%	36,919	56.1%	204,187	50.4%	53,312	56.3%	187,794	53.1%	16,393
Single Detached	88.7%	213,917	82.8%	30,579	89.8%	183,338	82.4%	43,938	90.5%	169,979	81.5%	13,359
Duplex/Triplex	6.1%	14,640	8.2%	3,033	5.7%	11,607	9.6%	5,120	5.1%	9,520	12.7%	2,087
Mobile Home	0.3%	839	5.3%	1,958	0.3%	534	4.3%	2,271	0.3%	534	1.9%	313
Town/Rowhouse	3.0%	7,331	0.8%	305	2.6%	5,372	0.6%	305	2.7%	5,060	0.0%	0
Apartment Suite	1.8%	4,379	2.8%	1,044	1.6%	3,336	3.1%	1,678	1.4%	2,701	3.9%	634
Natural Gas - No Bill**	7.4%	32,495	15.0%	11,252	5.8%	21,243	13.9%	14,722	5.3%	17,774	11.2%	3,470
Single Detached	0.5%	170	0.0%	0	0.8%	170	0.6%	85	0.5%	85	2.4%	85
Duplex/Triplex	4.9%	1,601	1.9%	214	6.5%	1,388	2.9%	428	6.6%	1,174	6.2%	214
Mobile Home	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Town/Rowhouse	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Apartment Suite	94.5%	30,724	98.1%	11,038	92.7%	19,685	96.5%	14,209	92.9%	16,515	91.4%	3,171
Other	3.1%	13,398	3.0%	2,257	3.1%	11,141	3.0%	3,154	3.1%	10,244	2.9%	897
Single Detached	76.4%	10,233	76.9%	1,736	76.3%	8,497	80.1%	2,527	75.2%	7,705	88.2%	791
Duplex/Triplex	6.8%	917	18.7%	422	4.4%	494	16.7%	527	3.8%	389	11.7%	105
Mobile Home	0.4%	47	0.0%	0	0.4%	47	0.0%	0	0.5%	47	0.0%	0
Town/Rowhouse	10.1%	1,348	4.4%	99	11.2%	1,249	3.1%	99	12.2%	1,249	0.0%	0
Apartment Suite	6.4%	853	0.0%	0	7.7%	853	0.0%	0	8.3%	853	0.0%	0

* Includes only natural gas customers billed directly by Manitoba Hydro for their natural gas use.

** Includes natural gas users who are not billed directly by Manitoba Hydro for their natural gas use.

5.3 Average Annual Energy Use by People Per Household

Table 5.3 compares the average annual energy use by people per household between LICO and NON-LICO groups. Space heating fuel is also introduced into the analysis.

In general, LICO households use about 30% less electric energy (kW.h) on an annual basis compared to NON-LICO households. Across all LICO classifications, annual energy use increases as people per household increases. Across all LICO classifications, annual kW.h use is higher for households using electricity for space heat compared to households using non-electric fuels for space heat. LICO households use about 4% less cubic meters of natural gas, on an annual basis, than do NON-LICO households. Across all LICO classifications, annual natural gas use steadily increases as people per household increases.

On average, the LICO-100 customers consume 11,258 kW.h annually and the NON-LICO-100 group consumes 16,445 kW.h. The average annual consumption of the LICO-125 group increases to 11,785 kW.h. In the NON-LICO-125 group, the average annual consumption is 16,757 kW.h.

In the LICO-100 group, the lowest average consumption of 5,170 kW.h is by LICO-100 single person households residing in non-electrically (standard) heated dwellings. The highest average consumption of 29,645 kW.h is in LICO-100 households with 5 or more persons residing in electrically heated dwellings.

In the LICO-125 group, the lowest average consumption of 5,120 kW.h is by LICO-125 single person households residing in non-electrically (standard) heated dwellings. The highest average consumption of 29,347 kW.h is in LICO-125 households with 5 or more persons residing in electrically heated dwellings.

**Table 5.3 Weighted Average Annual Energy Use by Space Heat Fuel
by People Per Household across LICO versus NON-LICO Total Manitoba Hydro Residential Customers**

	Total Manitoba Hydro Residential Basic Customers					
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
<u>Overall Average kW.h</u>						
Overall	15,559	11,258	16,445	11,785	16,757	13,066
One Person	10,126	9,676	10,372	9,281	10,736	7,136
Two Person	15,984	11,340	16,535	12,818	16,705	14,793
Three Person	16,709	11,307	17,420	12,116	17,828	13,297
Four Person	19,592	13,928	20,287	14,478	20,467	16,109
Five or More	22,591	19,328	23,297	18,346	23,996	15,876
<u>Average Annual kW.h Non-Electric Heat*</u>						
Overall	10,096	6,782	10,803	7,250	11,035	8,779
One Person	5,690	5,170	5,963	5,120	6,097	4,881
Two Person	9,813	7,273	10,165	7,869	10,298	8,799
Three Person	11,863	7,467	12,489	8,230	12,821	9,362
Four Person	14,099	9,406	14,720	10,098	14,837	12,176
Five or More	16,049	11,847	16,844	11,662	17,424	11,293
<u>Average Annual kW.h Electric Heat</u>						
Overall	25,868	20,466	26,906	21,116	27,267	22,697
One Person	18,277	17,321	18,844	16,786	19,376	12,939
Two Person	26,214	21,618	26,613	22,951	26,843	24,253
Three Person	29,451	24,613	29,956	25,215	30,273	26,051
Four Person	32,876	27,980	33,366	27,919	33,569	27,745
Five or More	34,670	29,645	36,030	29,347	36,615	28,187
<u>Average Annual Cubic Meters Natural Gas</u>						
Overall	2,615	2,514	2,633	2,499	2,648	2,465
One Person	2,409	2,439	2,393	2,356	2,445	1,985
Two Person	2,591	2,485	2,605	2,499	2,612	2,518
Three Person	2,660	2,646	2,661	2,598	2,672	2,546
Four Person	2,746	2,576	2,769	2,613	2,769	2,755
Five or More	2,937	2,804	2,963	2,860	2,962	2,972

* Includes natural gas and other non-electric heating fuel customers (Standard Heat).

5.4 Average Annual Energy Use by Dwelling Type

Table 5.4 compares the average annual energy use by dwelling type between LICO and NON-LICO groups. Space heating fuel is also introduced into the analysis.

Across all LICO classifications and dwellings types, annual kW.h use is higher for dwellings using electricity for space heat compared to households using non-electric fuels for space heat. Average annual energy use is highest in single detached homes and lowest in apartment suites. This observation holds true across all LICO classifications.

In the LICO-100 group, the lowest average consumption of 3,746 kW.h is by LICO-100 apartment suite customers residing in non-electrically (standard) heated dwellings. The highest average consumption of 25,359 kW.h is by LICO-100 customers residing in electrically heated single detached dwellings.

In the LICO-125 group, the lowest average consumption of 4,653 kW.h is by LICO-125 apartment suite customers residing in non-electrically (standard) heated dwellings. The highest average consumption of 25,816 kW.h is by LICO-100 customers residing in electrically heated single detached dwellings.

**Table 5.4 Weighted Average Annual Energy Use
by Space Heat Fuel by Dwelling Type across LICO versus NON-LICO Manitoba Hydro Residential Customers**

Total Manitoba Hydro Residential Basic Customers						
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
<u>Average Annual kW.h</u>						
<u>Total Overall</u>						
Overall	15,559	11,258	16,445	11,785	16,757	13,066
Single Detached	17,438	13,617	18,065	14,069	18,287	15,123
Duplex/Triplex	9,786	8,268	10,192	9,295	10,072	10,672
Mobile Home	23,602	20,088	24,562	21,736	24,543	24,666
Town/Rowhouse	11,138	9,350	11,565	9,305	11,705	9,102
Apartment Suite	5,956	5,083	6,378	5,065	6,616	5,005
<u>Average Annual kW.h</u>						
<u>Non-Electric Heat*</u>						
Overall	10,096	6,782	10,803	7,250	11,035	8,387
Single Detached	11,247	7,878	11,813	8,159	11,707	9,808
Duplex/Triplex	8,617	7,132	9,021	7,224	9,682	8,106
Mobile Home	12,083	9,202	13,593	9,202	13,944	----
Town/Rowhouse	7,333	6,425	7,615	6,310	7,855	6,275
Apartment Suite	4,244	3,746	4,496	4,653	5,699	3,421
<u>Average Annual kW.h</u>						
<u>Electric Heat</u>						
Overall	25,868	20,466	26,906	21,116	27,267	22,697
Single Detached	29,313	25,359	29,931	25,816	30,132	26,944
Duplex/Triplex	20,855	20,750	20,879	21,139	20,569	21,364
Mobile Home	24,927	22,245	25,596	23,220	25,784	24,666
Town/Rowhouse	16,965	17,858	16,838	16,054	17,165	11,946
Apartment Suite	9,039	7,715	9,626	7,874	9,800	8,430
<u>Average Annual</u>						
<u>Cubic Meters Natural Gas</u>						
Overall	2,615	2,514	2,633	2,499	2,648	2,465
Single Detached	2,700	2,640	2,710	2,621	2,720	2,578
Duplex/Triplex	2,289	2,291	2,289	2,314	2,276	2,348
Mobile Home	2,301	1,944	1,874	1,944	2,505	----
Town/Rowhouse	1,902	1,977	2,504	1,996	1,859	2,115
Apartment Suite	814	672	859	657	912	633

* Includes natural gas and other non-electric heating fuel customers (Standard Heat).

5.5 Space Heating Systems: Total Residential Basic

Table 5.5 shows the space heating systems of residential basic electric customers within the Manitoba Hydro provincial service territory for all LICO and NON-LICO classifications.

In terms of total space heating systems, 21.0% of LICO-100 and 21.7% of LICO-125 natural gas customers use standard efficiency natural gas furnaces compared to 16.6% of NON-LICO-100 and 16.0% of NON-LICO-125 customers.

LICO customers tend to have older space heating systems. Space heating systems that are older than 25 years are in 39.9% or 29,911 of LICO-100 occupied dwellings compared to 24.5% or 89,057 of NON-LICO-100 occupied dwellings. Space heating systems that are older than 25 years are in 38.2% or 40,458 of LICO-125 occupied dwellings compared to 23.6% or 78,510 of NON-LICO-125 occupied dwellings. The 25% income increase from the LICO definition increases the number of older heating systems by 10,547. This analysis has not filtered out apartment dwellers.

**Table 5.5 Weighted % Frequency and Population Estimates
Space Heating System Characteristics across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers**

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Space Heating System*												
Hi-Efficiency Gas	19.2%	84,172	14.2%	10,637	20.2%	73,535	14.8%	15,607	20.6%	68,565	16.1%	4,970
Mid-Efficiency Gas	16.6%	72,858	13.6%	10,204	17.2%	62,654	13.7%	14,449	17.5%	58,409	13.8%	4,245
Standard-Efficiency Gas	17.3%	76,155	21.0%	15,715	16.6%	60,440	21.7%	22,967	16.0%	53,188	23.5%	7,252
Boilers	6.3%	27,783	7.1%	5,344	6.2%	22,439	7.1%	7,534	6.1%	20,249	7.1%	2,190
Electric Furnace	16.9%	74,401	10.7%	8,030	18.2%	66,371	12.0%	12,664	18.5%	61,737	15.0%	4,634
Electric Baseboard	14.0%	61,459	20.4%	15,266	12.7%	46,193	19.1%	20,192	12.4%	41,267	16.0%	4,926
Heat Pump	1.3%	5,899	0.1%	78	1.6%	5,821	0.2%	233	1.7%	5,666	0.5%	155
Other	8.3%	36,369	12.9%	9,665	7.3%	26,704	11.5%	12,138	7.3%	24,231	8.0%	2,473
% Older Than 25 Years	27.1%	118,968	39.9%	29,911	24.5%	89,057	38.2%	40,458	23.6%	78,510	34.2%	10,547
Heating System Avg. Age												
Hi-Efficiency Gas		6.0		7.5		5.7		7.6		5.6		8.0
Mid-Efficiency Gas		11.2		10.7		11.3		10.8		11.3		10.9
Standard-Efficiency Gas		28.8		34.0		27.5		32.3		27.3		28.7
Boilers		33.9		56.3		28.5		49.9		27.9		34.5
Electric Furnace		17.8		17.5		17.8		18.5		17.6		20.3
Electric Baseboard		25.9		30.1		24.5		29.3		24.2		26.9
Heat Pump		6.6		5.0		6.6		4.0		6.7		3.5
Other		34.6		42.0		31.9		38.7		32.5		26.0

* Includes Electric Heat, Natural Gas Billed, Natural Gas No Bill, and Other Heat Customers

5.6 Space Heating Systems: Natural Gas Customers

Table 5.6 shows the space heating systems of natural gas customers within the Manitoba Hydro provincial service territory for all LICO and NON-LICO classifications.

In terms of total space heating systems, 42% of LICO-100 and 42.3% of LICO-125 natural gas customers use standard efficiency natural gas furnaces compared to 29.4% of NON-LICO-100 and 28.2% of NON-LICO-125 customers.

LICO customers tend to have older space heating systems. Natural gas space heating systems that are older than 25 years are in 28.0% or 10,332 of natural gas LICO-100 occupied dwellings compared to 15.7% or 32,123 of NON-LICO-100 occupied dwellings. Natural gas space heating systems that are older than 25 years are in 26.3% or 14,003 of LICO-125 occupied dwellings compared to 15.2% or 28,452 of NON-LICO-125 occupied dwellings. The 25% income increase from the LICO definition increases older natural gas heating systems by 3,671.

**Table 5.6 Weighted % Frequency and Population Estimates
Space Heating System Characteristics across LICO versus NON-LICO Manitoba Hydro Residential Natural Gas Customers**

Manitoba Hydro Natural Gas Residential Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	241,106	15.3%	36,919	84.7%	204,187	22.1%	53,312	77.9%	187,794	6.8%	16,393
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
<u>Space Heating System*</u>												
Hi-Efficiency Gas	34.8%	83,833	28.1%	10,383	36.0%	73,450	28.8%	15,354	36.5%	68,479	30.3%	4,971
Mid-Efficiency Gas	29.8%	71,799	26.5%	9,786	30.4%	62,013	26.3%	14,031	30.8%	57,768	25.9%	4,245
Standard-Efficiency Gas	31.3%	75,520	42.0%	15,510	29.4%	60,010	42.3%	22,536	28.2%	52,984	42.9%	7,026
Boilers	4.1%	9,954	3.4%	1,240	4.3%	8,714	2.6%	1,391	4.6%	8,563	0.9%	151
Electric Furnace	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Electric Baseboard	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Heat Pump	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<u>% Older Than 25 Years</u>	17.6%	42,455	28.0%	10,332	15.7%	32,123	26.3%	14,003	15.2%	28,452	22.4%	3,671
<u>Heating System Avg. Age</u>												
Hi-Efficiency Gas		6.2		7.6		5.7		8.1		5.7		8.0
Mid-Efficiency Gas		11.2		10.9		11.3		10.9		11.3		10.9
Standard-Efficiency Gas		29.1		34.2		27.3		32.6		27.7		28.1
Boilers		25.6		35.2		25.0		32.5		24.5		27.7
Electric Furnace		n/a		n/a		n/a		n/a		n/a		n/a
Electric Baseboard		n/a		n/a		n/a		n/a		n/a		n/a
Heat Pump		n/a		n/a		n/a		n/a		n/a		n/a
Other		n/a		n/a		n/a		n/a		n/a		n/a

* Includes only Natural Gas Billed Customers

5.7 Space Heating Systems by Dwelling Type

Table 5.7 shows the population estimates of space heating systems by dwelling type for total residential basic, natural gas, LICO-100 and LICO-125 customers.

There are differences between the estimated numbers of natural gas furnaces in the total Manitoba Hydro residential basic population versus the numbers in the Manitoba Hydro natural gas residential population. For example, there are an estimated 76,155 Manitoba Hydro residential basic customers who heat their home with a natural gas standard efficiency furnace. There are, however, an estimated 75,520 Manitoba Hydro natural gas customers who heat their home with a natural gas standard efficiency furnace. The reason for the discrepancy is the natural gas-no bill customer. As previously noted in Section 5.2, there are 32,495 customers (Natural Gas - No Bill) that indicate they use natural gas for heat but they do not receive a natural gas bill from Manitoba Hydro. Almost all these customers reside in multi-family dwellings, such as apartment suites (94.5%), where natural gas heat is provided from a central or shared source. The cost of heating is usually incorporated into rent or into a monthly common service fee. These 32,495 customers are not included in the 241,106 natural gas customer count but they are included in the 439,096 total residential basic total. For this reason, it is best to use the numbers for natural gas customers who receive a bill to estimate the number of natural gas heating systems. This avoids any multiple counts.

In total, an estimated 75,520 residential natural gas customers use standard efficient gas furnaces, 71,799 use mid-efficient gas furnaces, and 83,833 use high-efficiency gas furnaces.

An estimated 15,510 LICO-100 natural gas customers use standard efficient gas furnaces, 9,785 use mid-efficient furnaces, and 10,384 use high-efficiency gas furnaces.

An estimated 22,536 LICO-125 natural gas customers use standard efficient gas furnaces, 14,031 use mid-efficient furnaces, and 15,354 use high-efficiency gas furnaces.

The 25% income increase into the LICO definition increases standard efficient furnaces by 7,026, mid-efficient furnaces by 4,246 high-efficiency gas furnaces by 4,970.

**Table 5.7 Weighted Population Estimates of Space Heating Systems (All Fuels)
by Dwelling Type across LICO versus NON-LICO Total Manitoba Hydro Residential Electric and Natural Gas Customers**

Total Manitoba Hydro Residential Basic Customers								
OVERALL - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	76,810	64,161	63,395	62,733	38,364	14,852	5,761	15,189
Multiplex	4,289	3,974	6,913	1,077	735	1,042	0	940
Rowhouse	2,281	2,323	2,727	806	4,862	114	0	1,234
Mobile Home	129	291	419	6,424	1,025	58	139	102
Apartment Suite	662	2,109	2,701	3,360	16,474	11,717	0	18,904
TOTAL	84,171	72,858	76,155	74,400	61,460	27,783	5,900	36,369

Manitoba Hydro Natural Gas Residential Customers				
OVERALL - POPULATION				
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	BOILERS
Single Detached	76,725	64,161	63,395	9,635
Multiplex	4,289	3,119	6,913	319
Rowhouse	2,281	2,323	2,727	0
Mobile Home	129	291	419	0
Apartment Suite	409	1,905	2,066	0
TOTAL	83,833	71,799	75,520	9,954

LICO-100 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	8,957	8,580	11,802	6,339	8,298	1,888	79	2,165
Multiplex	734	939	1,574	80	253	0	0	422
Rowhouse	441	228	1,289	116	592	0	0	99
Mobile Home	48	47	210	1,204	276	58	0	0
Apartment Suite	457	409	840	291	5,847	3,398	0	6,978
TOTAL	10,637	10,203	15,715	8,030	15,266	5,344	79	9,664

NONLICO-100 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	67,853	55,581	51,593	56,394	30,066	12,964	5,682	13,024
Multiplex	3,555	3,035	5,339	997	482	1,042	0	518
Rowhouse	1,840	2,095	1,438	690	4,270	114	0	1,135
Mobile Home	81	244	209	5,220	749	0	139	102
Apartment Suite	205	1,700	1,861	3,069	10,627	8,319	0	11,926
TOTAL	73,534	62,655	60,440	66,370	46,194	22,439	5,821	26,705

LICO-100 - POPULATION				
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	BOILERS
Single Detached	8,957	8,580	11,802	1,240
Multiplex	734	725	1,574	0
Rowhouse	441	228	1,289	0
Mobile Home	48	47	210	0
Apartment Suite	204	205	635	0
TOTAL	10,384	9,785	15,510	1,240

NONLICO-100 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	67,768	55,581	51,593	8,395				
Multiplex	3,555	2,394	5,339	319				
Rowhouse	1,840	2,095	1,438	0				
Mobile Home	81	244	209	0				
Apartment Suite	205	1,700	1,431	0				
TOTAL	73,449	62,014	60,010	8,714				

LICO-125 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	13,303	12,193	17,051	9,520	11,046	2,195	233	3,204
Multiplex	1,357	1,043	2,933	577	334	214	0	527
Rowhouse	441	327	1,503	116	903	0	0	99
Mobile Home	48	47	210	2,015	446	58	0	55
Apartment Suite	458	839	1,270	436	7,462	5,068	0	8,253
TOTAL	15,607	14,449	22,967	12,664	20,191	7,535	233	12,138

NONLICO-125 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	63,507	51,968	46,344	53,213	27,318	12,657	5,528	11,985
Multiplex	2,932	2,931	3,980	500	401	828	0	413
Rowhouse	1,840	1,996	1,224	690	3,959	114	0	1,135
Mobile Home	81	244	209	4,409	579	0	139	47
Apartment Suite	204	1,270	1,431	2,924	9,012	6,649	0	10,651
TOTAL	68,564	58,409	53,188	61,736	41,269	20,248	5,667	24,231

LICO-125 - POPULATION				
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	BOILERS
Single Detached	13,303	12,193	17,051	1,391
Multiplex	1,358	829	2,933	0
Rowhouse	441	327	1,503	0
Mobile Home	48	47	210	0
Apartment Suite	204	635	839	0
TOTAL	15,354	14,031	22,536	1,391

NONLICO-125 - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	63,422	51,968	46,344	8,244				
Multiplex	2,931	2,290	3,980	319				
Rowhouse	1,840	1,996	1,224	0				
Mobile Home	81	244	209	0				
Apartment Suite	205	1,270	1,227	0				
TOTAL	68,479	57,768	52,984	8,563				

LICO (100-125) - POPULATION								
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	ELEC -CFA	BASEBOARD	BOILERS	HEAT PUMP	OTHER
Single Detached	4,346	3,613	5,249	3,181	2,748	307	154	1,039
Multiplex	623	104	1,359	497	81	214	0	105
Rowhouse	0	99	214	0	311	0	0	0
Mobile Home	0	0	0	811	170	0	0	55
Apartment Suite	1	430	430	145	1,615	1,670	0	1,275
TOTAL	4,970	4,246	7,252	4,634	4,925	2,191	154	2,474

LICO (100-125) - POPULATION				
DWELLING TYPE	GAS-HI	GAS-MID	GAS-STD	BOILERS
Single Detached	4,346	3,613	5,249	151
Multiplex	624	104	1,359	0
Rowhouse	0	99	214	0
Mobile Home	0	0	0	0
Apartment Suite	0	430	204	0
TOTAL	4,970	4,246	7,026	151

6.0 Energy Burden

6.1 Energy Burden Range by Space Heat Fuel

Table 6.1 shows the energy burden ranges of residential basic and natural gas customers within the Manitoba Hydro provincial service territory for both LICO and NON-LICO classifications.

Energy burden is defined as the per cent of energy costs, all applicable taxes included, over the total annual household income. Overall, 47.5% of Manitoba Hydro residential basic customers spend 3.0% or less of their total household income on energy costs. In the LICO-100 group, 18.7% spend 3.0% or less compared to 53.4% of the NON-LICO-100 group. 64.6% of the LICO-100 group spends over 6.0% percent on energy costs compared to 10.1% of the NON-LICO-100 group. In the LICO-125 group, 19.3% spend 3.0% or less compared to 56.4% of the NON-LICO-125 group. 58.1% of the LICO-125 group spends over 6.0% on energy costs compared to 7.1% of the NON-LICO-125 group.

Analyzing by space heating fuel, natural gas billed LICO customers have a higher energy burden compared to electric heat LICO customers. This is due to vast majority of natural gas customers residing in single detached homes, which have higher energy use, as opposed to the all-electric LICO customer group which has a higher proportion residing in apartment suites. For the natural gas billed LICO-100 group, 1.1% spends 3.0% or less on energy costs compared to 50.3% of the natural gas NON-LICO-100 group. 84.4% of the natural gas LICO-100 group spends over 6.0% on energy costs compared to 8.6% of the natural gas NON-LICO-100 group. For the natural gas LICO-125 group, 1.7% spend 3.0% or less compared to 54.4% of the NON-LICO-125 group. 72.3% of the natural gas LICO-125 group spends over 6.0% on energy costs compared to 5.2% of the natural gas NON-LICO-125 group.

In the electric heat LICO-100 group, 13.4% spend 3.0% or less compared on energy costs compared to 49.3% of the electric heat NON-LICO-100 group. 65.7% of the electric heat LICO-100 group spends over 6.0% on energy costs compared to 14.3% of the electric heat NON-LICO-100 group. In the electric heat LICO-125 group, 15.9% spend 3.0% or less compared to 51.7% of the electric heat NON-LICO-125 group. 62.1% of the electric heat LICO-125 group spends over 6.0% percent on energy costs compared to 10.9% of the electric heat NON-LICO-125 group.

**Table 6.1 % Frequency and Population Estimates
Energy Burden Range by Space Heating Fuel across LICO versus NON-LICO Total Manitoba Hydro Residential Customers**

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Overall												
3.00% or Less	47.5%	208,458	18.7%	13,979	53.4%	194,479	19.3%	20,380	56.4%	188,078	20.8%	6,401
3.01% to 6.00%	33.2%	145,742	16.7%	12,505	36.6%	133,237	22.6%	23,861	36.6%	121,881	36.8%	11,356
6.01% to 9.00%	10.7%	47,178	25.0%	18,766	7.8%	28,412	27.9%	29,563	5.3%	17,615	35.0%	10,797
9.01% to 12.00%	4.8%	21,139	20.6%	15,440	1.6%	5,699	16.0%	16,930	1.3%	4,209	4.8%	1,490
12.01% to 15.00%	2.4%	10,634	12.4%	9,313	0.4%	1,321	9.1%	9,635	0.3%	999	1.0%	322
Over 15.00%	1.4%	5,945	6.6%	4,935	0.3%	1,010	5.1%	5,415	0.2%	530	1.6%	480
Non-Electric Heat*	N=	286,999	N=	50,428	N=	236,571	N=	71,187	N=	215,812	N=	20,759
3.00% or Less	49.6%	142,237	21.2%	10,706	55.6%	131,531	20.9%	14,871	59.0%	127,366	20.1%	4,165
3.01% to 6.00%	32.8%	94,131	14.6%	7,370	36.7%	86,761	22.8%	16,242	36.1%	77,889	42.7%	8,872
6.01% to 9.00%	10.1%	28,950	26.1%	13,154	6.7%	15,796	28.2%	20,089	4.1%	8,861	33.4%	6,935
9.01% to 12.00%	4.3%	12,337	20.6%	10,385	0.8%	1,952	15.5%	11,002	0.6%	1,335	3.0%	617
12.01% to 15.00%	2.1%	6,156	11.5%	5,795	0.2%	361	8.3%	5,880	0.1%	276	0.4%	85
Over 15.00%	1.1%	3,188	6.0%	3,018	0.1%	170	4.4%	3,103	0.0%	85	0.4%	85
Natural Gas Billed**	N=	241,106	N=	36,919	N=	204,187	N=	53,312	N=	187,794	N=	16,393
3.00% or Less	42.7%	103,065	1.1%	395	50.3%	102,670	1.7%	884	54.4%	102,181	3.0%	489
3.01% to 6.00%	37.1%	89,475	14.5%	5,371	41.2%	84,104	26.0%	13,845	40.3%	75,630	51.7%	8,474
6.01% to 9.00%	11.3%	27,177	32.9%	12,163	7.4%	15,014	35.4%	18,890	4.4%	8,287	41.0%	6,727
9.01% to 12.00%	5.0%	12,129	27.6%	10,177	1.0%	1,952	20.2%	10,795	0.7%	1,335	3.8%	618
12.01% to 15.00%	2.5%	6,071	15.7%	5,795	0.1%	276	10.9%	5,795	0.1%	276	0.0%	0
Over 15.00%	1.3%	3,189	8.2%	3,018	0.1%	171	5.8%	3,103	0.0%	85	0.5%	85
Electric Heat	N=	152,097	N=	24,510	N=	127,587	N=	34,597	N=	117,500	N=	10,087
3.00% or Less	43.5%	66,221	13.4%	3,273	49.3%	62,948	15.9%	5,509	51.7%	60,712	22.2%	2,236
3.01% to 6.00%	33.9%	51,612	21.0%	5,135	36.4%	46,477	22.0%	7,619	37.4%	43,993	24.6%	2,484
6.01% to 9.00%	12.0%	18,228	22.9%	5,612	9.9%	12,616	27.4%	9,474	7.5%	8,754	38.3%	3,862
9.01% to 12.00%	5.8%	8,802	20.6%	5,055	2.9%	3,747	17.1%	5,927	2.4%	2,874	8.6%	872
12.01% to 15.00%	2.9%	4,478	14.4%	3,518	0.8%	960	10.9%	3,756	0.6%	723	2.4%	238
Over 15.00%	1.8%	2,756	7.8%	1,917	0.7%	839	6.7%	2,311	0.4%	444	3.9%	394

* Includes natural gas and other non-electric heat customers (Standard Heat)

** Includes only natural gas customers.

6.2 Average Energy Burden by People Per Household

Table 6.2 shows the per cent energy burden by people per household of total residential basic and natural gas customers within the Manitoba Hydro provincial service territory for both LICO and NON-LICO categories.

In general, across all LICO categories and space heating fuels, as people per household increases, energy burden decreases. The exception appears in the five or more people per household category where per cent income burden takes an increase.

The highest average energy burden of 11.1% is experienced by LICO-100 single person households residing in natural gas heated dwellings, followed by LICO-125 single person households residing in natural gas dwellings with an average energy burden of 10.2%.

Electric heat, single person household LICO-100 and LICO-125 customers have average energy burdens of 8.2% and 7.7% respectively.

Natural gas billed LICO customers have a higher overall energy burden compared to electric heat LICO customers due to the greater majority of natural gas customers residing in single detached homes, which have higher energy use as opposed to all-electric customers residing in apartment suites.

**Table 6.2 Weighted Average % Energy Burden by Space Heat Fuel
by People Per Household across LICO versus NON-LICO Total Manitoba Hydro Residential Customers**

	Total Manitoba Hydro Residential Basic Customers					
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
<u>% Energy Burden</u>						
Overall	4.1%	8.0%	3.3%	7.2%	3.1%	5.5%
One Person	5.1%	8.3%	3.3%	7.7%	3.2%	4.4%
Two Person	4.0%	8.0%	3.5%	7.3%	3.3%	6.5%
Three Person	3.5%	6.7%	3.1%	6.0%	2.9%	4.9%
Four Person	3.2%	6.8%	2.8%	6.2%	2.7%	4.5%
Five or More	4.1%	8.6%	3.2%	7.4%	3.0%	4.4%
<u>Non-Electric Heat*</u>						
Overall	3.9%	7.7%	3.1%	6.9%	2.9%	5.1%
One Person	4.9%	8.3%	3.1%	7.6%	2.9%	4.5%
Two Person	3.8%	7.5%	3.3%	6.8%	3.1%	5.8%
Three Person	3.4%	6.2%	3.0%	5.6%	2.8%	4.6%
Four Person	3.1%	6.3%	2.7%	5.8%	2.6%	4.2%
Five or More	3.9%	8.6%	3.0%	7.2%	2.8%	4.4%
<u>Natural Gas Billed**</u>						
Overall	4.3%	9.6%	3.4%	8.4%	3.2%	5.9%
One Person	6.4%	11.1%	4.0%	10.2%	3.8%	5.9%
Two Person	4.2%	9.1%	3.6%	8.1%	3.4%	6.6%
Three Person	3.6%	8.6%	3.1%	7.0%	2.9%	5.1%
Four Person	3.1%	6.4%	2.6%	6.1%	2.6%	4.7%
Five or More	3.9%	8.6%	3.0%	7.2%	2.9%	4.4%
<u>Electric Heat</u>						
Overall	4.5%	8.5%	3.7%	7.9%	3.5%	6.2%
One Person	5.4%	8.2%	3.8%	7.7%	3.8%	3.9%
Two Person	4.3%	9.3%	3.9%	8.3%	3.5%	7.2%
Three Person	3.9%	8.5%	3.4%	7.4%	3.2%	5.9%
Four Person	3.5%	8.1%	3.1%	7.5%	3.0%	5.6%
Five or More	4.6%	8.6%	3.5%	7.8%	3.4%	4.5%

* Includes natural gas and other non-electric heat customers (Standard Heat)

** Includes only natural gas customers.

6.3 Average Energy Burden by Dwelling Type

Table 6.3 shows the per cent energy burden by owner occupancy and dwelling type for the total residential basic and natural gas customers within the Manitoba Hydro provincial service territory for both LICO and NON-LICO categories.

In general, across all income categories and space heating fuels, homeowners have a greater energy burden than renters and single detached and mobile home dwellings have the higher energy burden compared to all forms of multi-family dwellings.

Analyzing by homeownership, Manitoba Hydro residential basic customers who are homeowners have an energy burden of 4.3% compared to an energy burden of 2.8% for renters. In the LICO-100 group, homeowners have an average energy burden of 9.2% and renters have an average energy burden of 4.7%. In the LICO-125 group, homeowners have an average energy burden of 8.3% and renters have an average energy burden of 4.2%. Analyzing by homeownership and dwelling type, LICO-100 and LICO-125 apartment renters have the lowest energy burden at 2.4% and 2.2% respectively. The highest average energy burden of 10.8% is experienced by LICO-100 single detached, renters followed by LICO-125 single detached renters, with an average energy burden of 10.0%.

Analyzing by space heating fuel, natural gas billed LICO customers, overall, have a higher energy burden compared to electric heat LICO customers due to the greater majority of natural gas customers residing in single detached homes, which have higher energy use, as opposed to the electrically heated customer group which has a higher proportion residing in apartment suites. However, when dwelling type is introduced into the analysis, LICO-100 customers residing in electrically heated, single detached homes have a higher energy burden of 10.6% compared to LICO-100 customers residing in gas heated single detached homes with an energy burden of 9.9%. LICO-125 customers residing in electrically heated, single detached homes have a higher energy burden of 9.7% compared to LICO-125 customers residing in gas heated single detached homes with an energy burden of 8.8%.

Table 6.3 Weighted Average % Energy Burden by Ownership and Space Heat Fuel by Dwelling Type across LICO Versus NON-LICO Total Manitoba Hydro Residential Basic Customers

	Total Manitoba Hydro Residential Basic Customers					
	OVERALL	LICO-100	NON-LICO-100	LICO-125	NON-LICO-125	LICO (100-125)
%Energy Burden						
Overall	4.1%	8.0%	3.3%	7.2%	3.1%	5.5%
Single Detached	4.5%	9.9%	3.6%	8.9%	3.4%	6.6%
Duplex/Multiplex	4.0%	7.3%	3.1%	6.3%	2.7%	5.0%
Mobile Home	5.3%	9.5%	4.2%	8.2%	3.9%	5.8%
Town/Rowhouse	3.5%	8.0%	2.5%	7.2%	2.4%	4.0%
Aparment Suite	1.7%	2.8%	1.2%	2.5%	1.1%	1.7%
Owner Occupancy						
Overall	4.3%	9.2%	3.5%	8.3%	3.3%	6.3%
Single Detached	4.5%	9.9%	3.6%	8.9%	3.4%	6.6%
Duplex/Multiplex	3.9%	6.7%	3.2%	6.1%	2.6%	5.4%
Mobile Home	5.3%	9.5%	4.2%	8.3%	3.8%	6.0%
Town/Rowhouse	3.4%	8.6%	2.6%	7.5%	2.5%	4.0%
Aparment Suite	1.9%	3.9%	1.3%	3.6%	1.2%	2.6%
Renter Occupancy						
Overall	2.8%	4.7%	1.9%	4.2%	1.8%	2.4%
Single Detached	6.0%	10.8%	3.6%	10.0%	3.4%	5.8%
Duplex/Multiplex	4.4%	8.7%	2.9%	6.9%	2.8%	3.4%
Mobile Home	4.6%	7.0%	4.2%	4.2%	4.8%	---
Town/Rowhouse	3.8%	7.3%	2.0%	6.9%	1.9%	3.9%
Aparment Suite	1.6%	2.4%	1.1%	2.2%	1.0%	1.5%
Non-Electric Heat*						
Overall	3.9%	9.6%	3.4%	6.9%	2.9%	5.1%
Single Detached	4.3%	9.6%	3.4%	8.6%	3.2%	6.2%
Duplex/Multiplex	4.0%	7.4%	3.0%	6.3%	2.6%	4.8%
Mobile Home	6.6%	10.9%	4.3%	10.9%	4.3%	---
Town/Rowhouse	4.0%	8.5%	2.7%	8.0%	2.5%	4.9%
Aparment Suite	1.4%	2.4%	1.0%	2.1%	1.0%	1.4%
Natural Gas Billed**						
Overall	4.3%	9.6%	3.4%	8.4%	3.2%	5.9%
Single Detached	4.3%	9.9%	3.4%	8.8%	3.2%	6.2%
Duplex/Multiplex	4.3%	8.2%	3.3%	6.9%	2.9%	5.0%
Mobile Home	6.7%	10.9%	4.3%	10.9%	4.3%	---
Town/Rowhouse	4.6%	8.7%	3.1%	8.2%	3.0%	4.9%
Aparment Suite	3.0%	6.1%	2.1%	5.0%	1.8%	3.3%
Electric Heat						
Overall	4.5%	8.5%	3.7%	7.9%	3.5%	6.2%
Single Detached	4.9%	10.6%	4.0%	9.7%	3.8%	7.6%
Duplex/Multiplex	4.6%	6.2%	4.2%	6.0%	3.1%	5.9%
Mobile Home	5.2%	9.2%	4.2%	7.8%	3.8%	5.8%
Town/Rowhouse	2.7%	6.4%	2.2%	5.4%	2.2%	3.0%
Aparment Suite	2.1%	3.6%	1.5%	3.3%	1.4%	2.3%

* Includes natural gas and other non-electric heat customers (Standard Heat)

** Includes only natural gas customers.

7.0 Water Tanks and Refrigeration

7.1 Water Tanks and Refrigeration: Total Residential Basic

Table 7.1 shows the water tank and refrigeration characteristics of residential basic customers within the Manitoba Hydro provincial service territory for both LICO-100 and LICO-125 classifications.

Overall, 47.9% of Manitoba Hydro residential customers have their hot water needs supplied by a private (for use by only that specific residence) electric tank and 40.7% are supplied by a private natural gas tank. The LICO groups are more likely to use a shared hot water source, approximately 20%, compared to NON-LICO customers at approximately 9%. This finding is consistent with the higher incidence of LICO customers residing in multi-family dwellings.

The only distinct observation between LICO and NON-LICO groups, in terms of refrigeration, is that LICO (18%) customers are more likely to have an older primary use refrigerator compared to NON-LICO (11%) customers. Older is defined as over 20 years of age. In the LICO-100 group, there are an estimated total of 20,652 older refrigerators and 18,660 older freezers in use. In the LICO-125 group, there are an estimated total of 29,981 older refrigerators and 29,616 older freezers in use. The LICO-125 criterion increases older refrigerators by 9,329 units and older freezers by 10,956 units.

**Table 7.1 Weighted % Frequency and Population Estimates
Water Tank & Refrigerator Characteristics across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers**

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	7.0%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Hot Water Tank												
Private Electric	47.9%	210,424	41.1%	30,833	49.3%	179,591	40.8%	43,194	50.2%	167,230	40.1%	12,362
Private Natural Gas	40.7%	178,821	38.1%	28,536	41.3%	150,285	39.4%	41,636	41.2%	137,185	42.5%	13,100
Private Other	0.1%	359	0.1%	103	0.1%	256	0.1%	103	0.1%	256	0.0%	0
Shared	11.3%	49,492	20.6%	15,466	9.3%	34,026	19.7%	20,850	8.6%	28,642	17.5%	5,384
Water Tank Avg. Age												
Private Electric		6.6		7.6		6.4		7.2		6.4		6.1
Private Natural Gas		6.8		7.6		6.7		7.4		6.7		6.9
Private Other		4.3		5.0		4.0		5.0		4.0		5.0
Shared		10.0		10.3		9.8		12.4		6.7		15.2
Primary Fridge Ages												
% Over 20 Years	12.5%	54,973	18.2%	13,638	11.4%	41,335	17.2%	18,220	11.0%	36,753	14.9%	4,582
Primary Fridge Avg. Age		10.1		11.9		9.6		11.6		9.5		10.8
Second Fridge Ages												
% Over 20 Years	14.1%	61,842	9.4%	7,014	15.1%	54,828	11.1%	11,761	15.0%	50,081	15.4%	4,747
Second Fridge Avg. Age		15.7		16.6		15.4		16.7		15.3		17.0
Primary Freezer Ages												
% Over 20 Years	23.6%	103,576	21.4%	16,070	24.0%	87,506	22.9%	24,206	23.8%	79,370	26.4%	8,136
Primary Freezer Avg. Age		14.6		14.7		14.6		15.0		14.5		15.5
Second Freezer Ages												
% Over 20 Years	5.5%	23,988	3.5%	2,590	5.9%	21,398	5.1%	5,410	5.6%	18,578	9.1%	2,820
Second Freezer Avg. Age		16.0		14.4		16.2		16.1		16.0		18.9

7.2 Water Tanks and Refrigeration: Natural Gas Customers

Table 7.2 shows the water tank and refrigeration characteristics of natural gas customers within the Manitoba Hydro provincial service territory for both LICO-100 and LICO-125 classifications.

Overall, 73.6% of Manitoba Hydro natural gas customers have their hot water needs supplied by a private (for use by only that specific residence) natural gas tank and 24.5% are supplied by a private electric tank. There are far less LICO natural gas customers using a shared hot water source (approximately 4.0%) compared to the total Manitoba Hydro residential basic customer base (approximately 20%). This finding is consistent given the much higher incidence of LICO natural gas customers residing in single detached dwellings.

The only distinct observation between LICO and NON-LICO, in terms of refrigeration, is that over one-quarter of LICO natural gas customers are more likely to have an older primary use refrigerator compared to just fewer than 10% of NON-LICO natural gas customers. Older is defined as being over 20 years of age. In the LICO-100 natural gas group, there are an estimated total of 14,217 older refrigerators and 9,756 older freezers in use. In the LICO-125 natural gas group, there are an estimated total of 20,385 older refrigerators and 16,019 older freezers in use. The LICO-125 criterion increases older refrigerators by 6,168 units and older freezers by 6,233 units.

**Table 7.2 Weighted % Frequency and Population Estimates
Water Tank & Refrigerator Characteristics across LICO versus NON-LICO Manitoba Hydro Residential Natural Gas Customers**

Manitoba Hydro Natural Gas Residential Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	241,106	15.3%	36,919	84.7%	204,187	22.1%	53,312	77.9%	187,794	6.8%	16,393
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
Hot Water Tank												
Private Electric	24.5%	59,182	20.5%	7,575	25.3%	51,607	19.2%	10,229	26.1%	48,953	16.2%	2,654
Private Natural Gas	73.6%	177,517	75.5%	27,874	73.3%	149,643	76.8%	40,974	72.7%	136,543	79.9%	13,100
Private Other		----		----		----		----		----		----
Shared	1.8%	4,407	4.0%	1,470	1.4%	2,937	4.0%	2,109	1.2%	2,298	3.9%	639
Water Tank Avg. Age												
Private Electric		5.3		7.3		5.1		6.6		5.1		4.8
Private Natural Gas		6.8		7.6		6.7		7.4		6.7		6.9
Private Other		----		----		----		----		----		----
Shared		6.1		8.0		4.8		8.0		4.8		8.0
Primary Fridge Ages												
% Over 20 Years	12.6%	30,319	27.7%	10,217	9.8%	20,102	25.3%	13,472	9.0%	16,847	19.9%	3,255
Primary Fridge Avg. Age		9.7		11.4		9.4		11.1		9.3		10.3
Second Fridge Ages												
% Over 20 Years	14.1%	34,035	10.8%	4,000	14.7%	30,035	13.0%	6,913	14.4%	27,122	17.8%	2,913
Second Fridge Avg. Age		15.0		15.7		14.9		16.0		14.7		16.8
Primary Freezer Ages												
% Over 20 Years	25.2%	60,800	23.1%	8,526	25.6%	52,274	25.0%	13,322	25.3%	47,478	29.3%	4,796
Primary Freezer Avg. Age		15.0		15.1		15.0		15.5		14.9		16.4
Second Freezer Ages												
% Over 20 Years	3.9%	9,287	3.4%	1,260	3.9%	8,027	5.1%	2,697	3.5%	6,590	8.8%	1,437
Second Freezer Avg. Age		16.3		14.0		16.8		16.4		16.3		21.1

8.0 Services and Program Participation

8.1 Services and Programs: Total Residential Basic

Table 8.1 shows how the various services and programs offered by Manitoba Hydro are utilized by residential basic customers for both LICO-100 and LICO-125 classifications.

Home internet access for LICO-100 customers (46.7%) is lower compared to NON-LICO-100 customers (78.4%). Home internet access increases for the LICO-125 group to 50.4% due to the introduction of 18,293 customers which represents 59.3% of LICO (100-125) with home internet access.

LICO-100 (30.8%) and LICO-125 (31.0%) customers are more likely to pay their monthly utility bills in person compared to NON-LICO-100 (16.0%) and NON-LICO-125 (16.2%) customers. Consistent with the home internet access finding, fewer LICO-100 (18.3%) and LICO-125 (19.8%) use online banking to pay Hydro bills compared to 36.0% of NON-LICO-100 and 37.1% of NON-LICO-125 customers.

There are 2.7% of LICO-100 and 3.6% of LICO-125 customers who are interested in receiving Hydro bills via email (MYBILL) compared to 8.8% of NON-LICO-100 and 9.1% of NON-LICO-125.

Approximately 29% of LICO-100 customers read all forms of Hydro inserts on a regular basis compared to about 22% of NON-LICO-100 customers. Just over 15% of LICO-100 customers indicated they decided to participate in a residential program because of reading an insert. Similar results are observed for LICO-125. Approximately 28% of LICO-125 customers more likely read all forms of Hydro inserts on a regular basis compared to about 22% of NON-LICO-125 customers. Fewer than 15% of LICO-125 customers indicated they decided to participate in a residential program because of reading an insert.

Approximately 25% of LICO-100 and LICO-125 customers have participated in one or more Residential Programs offered by Manitoba Hydro compared to approximately 38% of NON-LICO customers. 3.1% of LICO-100 and 2.5% of LICO-125 customers have applied to Manitoba Hydro to participate in the Lower Income Energy Program.

**Table 8.1 Weighted % Frequency and Population Estimates
Services and Program Participation across LICO versus NON-LICO Total Manitoba Hydro Residential Basic Customers**

Total Manitoba Hydro Residential Basic Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	439,096	17.1%	74,938	82.9%	364,158	24.1%	105,784	75.9%	333,312	24.1%	30,846
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
<u>Home Internet Access</u>	73.0%	320,343	46.7%	34,985	78.4%	285,358	50.4%	53,278	80.1%	232,080	59.3%	18,293
<u>Bill Payment Method</u>												
MH District Office	7.8%	34,408	10.9%	8,185	7.2%	26,223	11.7%	12,356	6.6%	22,052	13.5%	4,171
Designated Agency	12.0%	52,506	19.9%	14,884	8.8%	32,109	19.3%	20,397	9.6%	32,109	17.9%	5,513
Mail	7.5%	32,845	8.1%	6,097	7.3%	26,748	7.3%	7,775	7.5%	25,070	5.4%	1,678
Online Banking	32.9%	144,662	18.3%	13,693	36.0%	130,969	19.8%	20,963	37.1%	123,699	23.6%	7,270
PAPP	28.6%	125,566	28.3%	21,212	28.7%	104,354	28.6%	30,226	28.6%	95,340	29.2%	9,014
Telepay	11.2%	49,109	14.5%	10,867	10.5%	38,242	13.3%	14,067	10.5%	35,042	10.4%	3,200
<u>MYBILL Awareness</u>	62.6%	274,944	55.1%	41,269	64.2%	233,675	55.8%	59,033	64.8%	215,911	57.6%	17,764
<u>MYBILL Interest</u>	7.8%	34,175	2.7%	2,012	8.8%	32,163	3.6%	3,803	9.1%	30,372	5.8%	1,791
<u>2009 MH Website Visitors</u>	23.1%	101,562	12.1%	9,073	25.4%	92,489	12.5%	13,189	26.5%	88,373	13.3%	4,116
<u>Energy Matters Readership</u>												
Regularly	22.8%	100,025	30.9%	23,125	21.1%	76,900	29.1%	30,757	20.8%	69,268	24.7%	7,632
Occasionally	57.8%	253,684	49.0%	36,745	59.6%	216,939	52.2%	55,173	59.6%	198,511	59.7%	18,428
Never	19.4%	85,387	20.1%	15,068	19.3%	70,319	18.8%	19,854	19.7%	65,533	15.5%	4,786
<u>Power Smart Insert Readership</u>												
Regularly	23.1%	101,232	29.2%	21,914	21.8%	79,318	27.5%	29,138	21.6%	72,094	23.4%	7,224
Occasionally	60.9%	267,351	51.8%	38,847	62.7%	228,504	54.8%	57,922	62.8%	209,429	61.8%	19,075
Never	16.0%	70,463	18.9%	14,178	15.5%	56,285	17.7%	18,724	15.5%	51,739	14.7%	4,546
<u>Power Smart Insert Participation</u>	19.5%	85,717	15.2%	11,358	20.4%	74,359	14.6%	15,408	21.1%	70,309	13.1%	4,050
<u>Residential Program Participation</u>												
None	64.6%	283,847	74.8%	56,040	62.6%	227,807	74.4%	78,754	61.5%	205,093	73.6%	22,714
One	19.4%	85,305	13.6%	10,211	20.6%	75,094	14.1%	14,866	21.1%	70,439	15.1%	4,655
Two	9.5%	41,819	7.6%	5,697	9.9%	36,122	7.2%	7,666	10.2%	34,153	6.4%	1,969
Three or More	6.4%	28,125	4.0%	2,990	6.9%	25,135	4.3%	4,498	7.1%	23,627	4.9%	1,508
<u>Lower Income Energy Program</u>	0.7%	3,060	3.1%	2,308	0.2%	752	2.5%	2,623	0.1%	437	1.0%	315

8.2 Services and Programs: Natural Gas Customers

Table 8.2 shows how the various services and programs offered by Manitoba Hydro are utilized by natural gas customers for both LICO-100 and LICO-125 classifications.

Home internet access for LICO-100 customers (53.8%) is lower compared to NON-LICO-100 customers (84.6%). Home internet access increases for the LICO-125 group to 57.6% due to the introduction of 10,822 customers which represents 66.0% of LICO (100-125) with home internet access. Natural gas customers have a higher saturation of home internet access compared to the total Manitoba Hydro residential basic population due to most natural gas customers living in Winnipeg, which has better internet access compared to smaller urban and rural locations.

LICO-100 (28.0%) and LICO-125 (26.5%) natural gas customers are more likely to pay their monthly utility bills in person compared to NON-LICO-100 (13.7%) and NON-LICO-125 (12.9%) customers. Consistent with the home internet access finding, fewer LICO-100 (19.5%) and LICO-125 (22.0%) use online banking to pay energy bills compared to 39.1% of NON-LICO-100 and 40.1% of NON-LICO-125 customers.

There are 2.8% of LICO-100 and 4.2% of LICO-125 natural gas customers who are interested in receiving Hydro bills via email (MYBILL) compared to 8.9% of NON-LICO-100 and 9.0% of NON-LICO-125.

Over one-third of LICO-100 natural gas customers read all forms of Hydro inserts on a regular basis compared to about 22% of NON-LICO-100 customers. Just over 21% of LICO-100 natural gas customers indicated they decided to participate in a residential program because of reading an insert. Similar results are observed for LICO-125. Almost one third of LICO-125 natural gas customers read all forms of Hydro inserts on a regular basis compared to about 22% of NON-LICO-125 customers. Just over 20% of LICO-125 customers indicated they decided to participate in a residential program because of reading an insert.

Approximately 36% LICO-100 and LICO-125 natural gas customers have participated in one or more Residential Programs offered by Manitoba Hydro compared to approximately 45% of NON-LICO natural gas customers. 3.9% of LICO-100 and 3.2% of LICO-125 natural gas customers have applied to Manitoba Hydro to participate in the Lower Income Energy Program.

**Table 8.2 Weighted % Frequency and Population Estimates
Services and Program Participation across LICO versus NON-LICO Manitoba Hydro Residential Natural Gas Customers**

Manitoba Hydro Natural Gas Residential Customers												
	OVERALL		LICO-100		NON-LICO-100		LICO-125		NON-LICO-125		LICO (100-125)	
Population (N)	100.0%	241,106	15.3%	36,919	84.7%	204,187	22.1%	53,312	77.9%	187,794	6.8%	16,393
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
<u>Home Internet Access</u>	79.9%	192,637	53.8%	19,867	84.6%	172,770	57.6%	30,689	86.2%	161,948	66.0%	10,822
<u>Bill Payment Method</u>												
MH District Office	5.0%	12,125	8.6%	3,182	4.4%	8,943	8.4%	4,471	4.1%	7,654	7.9%	1,289
Designated Agency	10.9%	26,233	19.4%	7,172	9.3%	19,061	18.1%	9,640	8.8%	16,593	15.1%	2,468
Mail	6.0%	14,352	4.9%	1,794	6.2%	12,558	4.5%	2,382	6.4%	11,970	3.6%	588
Online Banking	36.1%	87,121	19.5%	7,215	39.1%	79,906	22.0%	11,736	40.1%	75,385	27.6%	4,521
PAPP	29.9%	72,207	31.6%	11,657	29.7%	60,550	31.5%	16,785	29.5%	55,422	31.3%	5,128
Telepay	12.1%	29,068	16.0%	5,899	11.3%	23,169	15.6%	8,298	11.1%	20,770	14.6%	2,399
<u>MYBILL Awareness</u>	65.2%	157,246	57.0%	21,027	66.7%	136,219	57.7%	30,741	67.4%	126,505	59.3%	9,714
<u>MYBILL Interest</u>	8.0%	19,215	2.8%	1,034	8.9%	18,181	4.2%	2,221	9.0%	16,994	7.2%	1,187
<u>2009 MH Website Visitors</u>	27.6%	66,638	13.4%	4,944	30.2%	61,694	14.4%	7,696	31.4%	58,942	16.8%	2,752
<u>Energy Matters Readership</u>												
Regularly	23.4%	56,317	35.2%	12,978	21.2%	43,339	32.9%	17,529	20.7%	38,788	27.8%	4,551
Occasionally	57.9%	139,702	49.0%	18,094	59.6%	121,608	51.9%	27,679	59.7%	112,023	58.5%	9,585
Never	18.7%	45,087	15.8%	5,847	19.2%	39,240	15.2%	8,104	19.7%	36,983	13.8%	2,257
<u>Power Smart Insert Readership</u>												
Regularly	24.0%	57,849	33.4%	12,335	22.3%	45,514	30.5%	16,260	22.1%	41,589	23.9%	3,925
Occasionally	61.6%	148,486	51.0%	18,841	63.5%	129,645	54.4%	29,021	63.6%	119,465	62.1%	10,180
Never	14.4%	34,771	15.6%	5,743	14.2%	29,028	15.1%	8,031	14.2%	26,740	14.0%	2,288
<u>Power Smart Insert Participation</u>	23.6%	56,915	21.1%	7,774	24.1%	49,141	20.4%	10,867	24.5%	46,048	18.9%	3,093
<u>Residential Program Participation</u>												
None	56.7%	136,599	63.0%	23,270	55.5%	113,329	64.2%	34,218	54.5%	102,381	66.8%	10,948
One	21.7%	52,403	17.8%	6,583	22.4%	45,820	17.8%	9,493	22.8%	42,910	17.8%	2,910
Two	12.7%	30,696	12.6%	4,667	12.7%	26,029	11.1%	5,915	13.2%	24,781	7.6%	1,248
Three or More	8.9%	21,408	6.5%	2,399	9.3%	19,009	6.9%	3,686	9.4%	17,722	7.9%	1,287
<u>Lower Income Energy Program</u>	0.9%	2,148	3.9%	1,454	0.3%	694	3.2%	1,711	0.2%	437	1.6%	257

9.0 APPENDIX

9.1 Questionnaire Booklet

2009 Residential Energy Use Survey

Dear Customer:

You have been randomly selected to participate in the Manitoba Hydro, Residential Energy Use Survey. Your response may represent up to two hundred other similar households in the province, so it is very important that each selected customer complete and return their questionnaire. Please invest your time so that we can better serve you and effectively plan for the future. All responses will be treated in the strictest confidence.



Please answer the survey for the address shown BELOW. Return the completed questionnaire within the next TWO WEEKS, in the postage paid envelope provided.

123 MAIN AVE
WINNIPEG MB
412345602



*Manitoba Hydro is a licensee of the Trademark and Official Mark.

All responses will be treated in the strictest confidence.
Personal information requested in this form is collected for the purposes of administration of this program pursuant to section 36(1)(b) of The Freedom of Information and Protection of Privacy Act of Manitoba. For inquiries concerning the collection of personal information contained in this form or if you have any questions concerning this survey please contact:

**RESIDENTIAL ENERGY USE SURVEY
MARKET FORECAST DEPARTMENT**
Manitoba Hydro
P.O. Box 815, Station Main
Winnipeg, Manitoba R3C 2P4

204.360.4629
204.360.3447
(Weekdays 8:00 a.m. to 3:00 p.m.)

Outside Winnipeg, call collect.

A postage paid envelope is provided for your convenience.
Please return the completed questionnaire within the next **two weeks**.

THANK YOU FOR YOUR TIME AND COOPERATION

Section 1

Your Residence

Please answer all the questions by marking an “x” in the box(es) beside the appropriate answer OR print your answer in the space provided. If you are unsure of a particular answer, mark the “Do not know” box.

1 What best describes your residence ?

- ¹ Single Family House (Detached) ⁶ Mobile Home/Trailer
 ² Side by Side (Two Attached Units) ⁷ Rowhouse/Townhouse (Exterior Entrance)
 ³ Duplex (Upper Unit) ⁸ Apartment Suite or Condominium unit
 ⁴ Duplex (Lower Unit) ⁹ Cottage or Seasonal Home
 ⁵ Triplex/Fourplex ¹⁰ Other: _____

2 Do you OWN or RENT this residence ?

- ¹ Own/Buying ² Rent/Lease ³ Other

3 Do you live at this residence year round?

- ¹ Yes, all year ² No, only part of the year

4 What type of DWELLING STRUCTURE do you live in?

- ¹ 1 storey ⁴ 2 storey ⁷ Bi-level ¹⁰ Cab - Over
 ² 1 1/2 storey ⁵ 2 1/2 storey ⁸ 2 level split ¹¹ Suite
 ³ 1 3/4 storey ⁶ 3 storey ⁹ 4 level split ¹² Other: _____

5 How many walls in your residence are ATTACHED to other residences or heated structures?

- ¹ None ² One ³ Two ⁴ Three

6 When was your residence originally BUILT?

- ¹ 2000 - present ⁵ 1960 - 1969 ⁹ 1920 - 1929
 ² 1990 - 1999 ⁶ 1950 - 1959 ¹⁰ 1910 - 1919
 ³ 1980 - 1989 ⁷ 1940 - 1949 ¹¹ 1900 - 1909
 ⁴ 1970 - 1979 ⁸ 1930 - 1939 ¹² 1899 or before

7 What is the **SIZE** of your residence in square feet?

(EXCLUDE BASEMENT AND GARAGE AREAS. ANSWER "7a", IF POSSIBLE.)

a) Specify size if **KNOWN**: _____ square feet.

b) If **UNKNOWN**, choose the approximate size range in square feet.

- | | | |
|--|---|---|
| <input type="checkbox"/> 1 Under 500 sq ft | <input type="checkbox"/> 7 1,501-1,700 sq ft | <input type="checkbox"/> 13 2,701-2,900 sq ft |
| <input type="checkbox"/> 2 501-700 sq ft | <input type="checkbox"/> 8 1,701-1,900 sq ft | <input type="checkbox"/> 14 2,901-3,100 sq ft |
| <input type="checkbox"/> 3 701-900 sq ft | <input type="checkbox"/> 9 1,901-2,100 sq ft | <input type="checkbox"/> 15 3,101-3,300 sq ft |
| <input type="checkbox"/> 4 901-1,100 sq ft | <input type="checkbox"/> 10 2,101-2,300 sq ft | <input type="checkbox"/> 16 3,301-3,500 sq ft |
| <input type="checkbox"/> 5 1,101-1,300 sq ft | <input type="checkbox"/> 11 2,301-2,500 sq ft | <input type="checkbox"/> 17 over 3,500 sq ft |
| <input type="checkbox"/> 6 1,301-1,500 sq ft | <input type="checkbox"/> 12 2,501-2,700 sq ft | |

8 What is the **ELECTRIC PANEL** size servicing your residence?

- | | | | |
|------------------------------------|------------------------------------|---|--|
| <input type="checkbox"/> 1 60 amp | <input type="checkbox"/> 3 150 amp | <input type="checkbox"/> 5 400 amp | <input type="checkbox"/> 7 Do not know |
| <input type="checkbox"/> 2 100 amp | <input type="checkbox"/> 4 200 amp | <input type="checkbox"/> 6 Other: _____ | |

9 What type of **WINDOWS** are in your residence? (CHECK ALL THAT APPLY.)

- 1 Single Pane with Storm Window
- 1 Two Pane Slider
- 1 Dual Pane
- 1 Triple Pane
- 1 Dual Pane with Low E coating(s) or Insulating Spacer Bar(s)
- 1 Triple Pane with Low E coating(s) or Insulating Spacer Bar(s)
- 1 Argon Gas (dual pane)
- 1 Argon Gas (triple pane)
- 1 Other : _____

a) How many exterior **DOORS** do you have in your residence? (Indicate by door type)

___ Patio Doors ___ Wood Doors ___ Steel Insulated Doors
___ Storm Doors ___ PVC Doors

b) What best describes the quality of **WINDOWS** in your residence?

- | | | |
|--------------------------------------|------------------------------------|---------------------------------|
| <input type="checkbox"/> 1 Excellent | <input type="checkbox"/> 3 Average | <input type="checkbox"/> 5 Poor |
| <input type="checkbox"/> 2 Very Good | <input type="checkbox"/> 4 Fair | |

c) What best describes the quality of **EXTERIOR DOORS** in your residence?

- | | | |
|--------------------------------------|------------------------------------|---------------------------------|
| <input type="checkbox"/> 1 Excellent | <input type="checkbox"/> 3 Average | <input type="checkbox"/> 5 Poor |
| <input type="checkbox"/> 2 Very Good | <input type="checkbox"/> 4 Fair | |

10

What best describes the overall level of **INSULATION** in your residence?

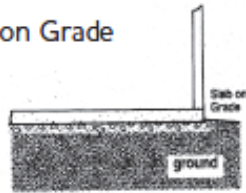
(EXCLUDE BASEMENT)

- | | | |
|--------------------------------------|------------------------------------|---------------------------------|
| <input type="checkbox"/> 1 Excellent | <input type="checkbox"/> 3 Average | <input type="checkbox"/> 5 Poor |
| <input type="checkbox"/> 2 Very Good | <input type="checkbox"/> 4 Fair | |

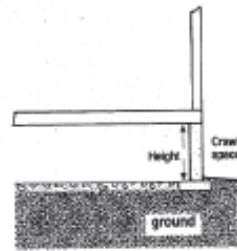
11 Please indicate which of the following best describes the **BASEMENT (foundation)** of your residence:

a) No Basement (foundation) – [Go to Question 12](#)

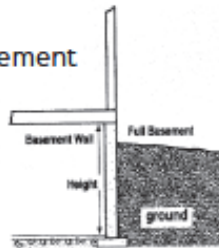
Slab on Grade



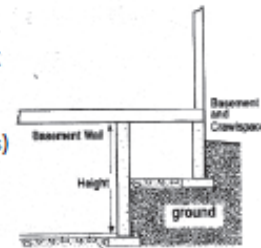
Crawl Space (including cottages and mobile homes)



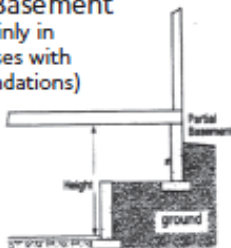
Full Basement



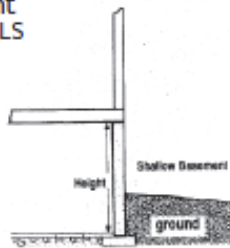
Partial Basement and Crawl Space (includes houses with ground level additions)



Partial Basement (found mainly in older houses with stone foundations)



Shallow Basement (includes SPLIT LEVELS and BI-LEVELS)



Other: _____

Do Not Know

b) What percentage of your home's **BASEMENT (foundation)** walls are insulated?

No Insulation – [Go to Question 12](#)

40% Insulated

90% Insulated

50% Insulated

100% Insulated

10% Insulated

60% Insulated

2 ft Below Grade Only

20% Insulated

70% Insulated

Other: _____

30% Insulated

80% Insulated

Do not know

c) Main type of **INSULATION**

Fibreglass Batting

Other: _____

Rigid

Do not know

Spray Foam

d) What % of your basement is finished?

No Basement

1 - 20%

41 - 60%

81 - 100%

0%

21 - 40%

61 - 80%

Do not know

12 Does this residence have any of the following PROBLEMS?

(CHECK ALL THAT APPLY.)

- | | |
|--|---|
| <input type="checkbox"/> Odours, cooking smells, stale air | <input type="checkbox"/> Water leakage in basement |
| <input type="checkbox"/> High humidity in winter | <input type="checkbox"/> Cold floor on slab on grade foundation |
| <input type="checkbox"/> Low humidity in winter | <input type="checkbox"/> Difficult to heat rooms |
| <input type="checkbox"/> Window condensation | <input type="checkbox"/> Inadequate supply of hot water |
| <input type="checkbox"/> Condensation in attic | <input type="checkbox"/> Short life of hot water tank
(less than five years) |
| <input type="checkbox"/> Mold and mildew | <input type="checkbox"/> No problems |
| <input type="checkbox"/> Ice dams on roof | |

13 In the last THREE YEARS, have you done any of the following projects at this residence? (CHECK ALL THAT APPLY.)

- Insulated basement or crawlspace
- Re-sided your house or upgraded the exterior walls
- Added insulation to your attic or ceiling
- Caulked the house to reduce air leakage
- Replaced some or all of the windows
- Improved the ventilation system in your home
- Upgraded electrical service/wiring
- Upgraded size of electrical panel
- Built an addition to the house
- Installed a natural gas BBQ hookup
- Replaced incandescent with compact fluorescent lighting
- Replaced heating system
- Replaced air conditioning
- Replaced hot water tank
- No projects done

14 Are any FARMING ACTIVITIES requiring electricity or natural gas conducted at this location?

- Yes, primarily farming Yes, hobby farming No

15 Are any ADDITIONAL BUILDINGS using ELECTRICITY at this location?

(CHECK ALL THAT APPLY.)

- | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Storage Shed | <input type="checkbox"/> Grain Dryer |
| <input type="checkbox"/> Workshop | <input type="checkbox"/> Barn | <input type="checkbox"/> Grain Bin(s) |
| <input type="checkbox"/> Garage | <input type="checkbox"/> Pumphouse | <input type="checkbox"/> Greenhouse |
| <input type="checkbox"/> Other: _____ | | |

16 Are any ADDITIONAL BUILDINGS using NATURAL GAS at this location?

(CHECK ALL THAT APPLY.)

- | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Storage Shed | <input type="checkbox"/> Grain Dryer |
| <input type="checkbox"/> Workshop | <input type="checkbox"/> Barn | <input type="checkbox"/> Grain Bin(s) |
| <input type="checkbox"/> Garage | <input type="checkbox"/> Pumphouse | <input type="checkbox"/> Greenhouse |
| <input type="checkbox"/> Other: _____ | | |

Section 2

Heating System

1 How do you pay for your SPACE HEATING costs?

- 1 Payment is made directly to Manitoba Hydro (part of utility bill)
- 2 Cost is included in rent or common service fees
- 3 Other: _____
- 4 Do not know

2 What is the MAIN HEATING FUEL used to heat your residence? (CHECK ONLY ONE.)

- 1 Electricity
- 2 Natural Gas
- 3 Fuel Oil
- 4 Wood
- 5 Propane
- 6 Other: _____
- 7 Do not know

3 What is the MAIN HEATING SYSTEM used to heat your residence? (CHECK ONLY ONE.)

- 1 Hi-efficiency Gas (+ 90%)
Central Forced Air Furnace
- 2 Mid-efficiency Gas (80-85%)
Central Forced Air Furnace
- 3 Standard-efficiency Gas (65%)
Central Forced Air Furnace
- 4 Gravity Air Furnace (no fan)
- 5 Electric Baseboards
- 6 Electric Forced Air Furnace
- 7 Radiant Cables/Panels
- 8 Heat Pump - Geothermal
(Ground Source)
- 9 Heat Pump - Air Source
- 10 Wood Stove
- 11 Outside Wood Boiler
- 12 Hot Water Boiler - with Pump
- 13 Hot Water Boiler - no Pump
- 14 Space Heater (Oil/Kerosene)
- 15 Dual Fuel - Wood/Electric Furnace
- 16 Dual Fuel - Wood/Oil Furnace
- 17 Other: _____
- 18 Do not know

4 What is the AGE of the main heating system?

- 1 0 - 3 years
- 2 4 - 6 years
- 3 7 - 9 years
- 4 10 - 12 years
- 5 13 - 15 years
- 6 16 - 20 years
- 7 21 - 25 years
- 8 Over 25 years
- 9 Do Not Know

5 What SUPPLEMENTAL heating fuel is used to heat your residence?

- 1 None
- 2 Electricity
- 3 Natural Gas
- 4 Fuel Oil
- 5 Wood
- 6 Propane
- 7 Other: _____
- 8 Do not know

6 What other HEATING SYSTEMS are used in your home?

(CHECK ALL THAT APPLY.)

- | | |
|---|--|
| <input type="checkbox"/> 1 None | <input type="checkbox"/> 1 Wood Fireplace (with glass doors) |
| <input type="checkbox"/> 1 Forced Air Furnace | <input type="checkbox"/> 1 Wood Fireplace (no glass doors) |
| <input type="checkbox"/> 1 Electric Baseboards | <input type="checkbox"/> 1 Outside Wood Boiler |
| <input type="checkbox"/> 1 Electric Portable Heater | <input type="checkbox"/> 1 Pellet Stove |
| <input type="checkbox"/> 1 Stove/Spaceheater | <input type="checkbox"/> 1 Heat Pump |
| <input type="checkbox"/> 1 Gas Fireplace (not decorative) | <input type="checkbox"/> 1 Other: _____ |
| <input type="checkbox"/> 1 Wood Stove | <input type="checkbox"/> 1 Do not know |

7 How is the central forced air furnace fan motor normally operated?

- | | |
|--|--|
| <input type="checkbox"/> 1 No Central Forced Air Furnace | <input type="checkbox"/> 5 Continuous Variable Direct Current Motor (on select hi-efficiency furnaces) |
| <input type="checkbox"/> 2 Comes on only when furnace is running | <input type="checkbox"/> 6 Do not know |
| <input type="checkbox"/> 3 Two speed (high, low) - continuous | |
| <input type="checkbox"/> 4 Continuous - one speed on | |

8 Do you perform annual maintenance checks on your heating system?

- | | | |
|---|---|--|
| <input type="checkbox"/> 1 Not applicable | <input type="checkbox"/> 3 Once a year | <input type="checkbox"/> 5 Every 4 or more years |
| <input type="checkbox"/> 2 No, never | <input type="checkbox"/> 4 Every 2 to 3 years | <input type="checkbox"/> 6 Do not know |

9 Do you regularly change or clean your furnace filter?

- | | | |
|---|---|--|
| <input type="checkbox"/> 1 Not applicable | <input type="checkbox"/> 3 Yes, every 3 to 4 months | <input type="checkbox"/> 5 Do not know |
| <input type="checkbox"/> 2 No, never | <input type="checkbox"/> 4 Yes, every year or more | |

10 If you use WOOD to provide heat for your home, how many FULL CORDS were burned in the past 12 months?

(A FULL CORD OF WOOD IS 4 FT X 4 FT X 8 FT.)

- | | | | |
|---|----------------------------------|----------------------------------|--|
| <input type="checkbox"/> 1 No wood used | <input type="checkbox"/> 3 1 - 2 | <input type="checkbox"/> 5 5 - 6 | <input type="checkbox"/> 7 9+ |
| <input type="checkbox"/> 2 Under 1 | <input type="checkbox"/> 4 3 - 4 | <input type="checkbox"/> 6 7 - 8 | <input type="checkbox"/> 8 Do not know |

11 What type of THERMOSTAT controls the main heating system?

- | | |
|--|---|
| <input type="checkbox"/> 1 No Thermostat | <input type="checkbox"/> 5 Flue Gauge (located on a wood stove chimney) |
| <input type="checkbox"/> 2 Individual Unit or Room Control | <input type="checkbox"/> 6 Other: _____ |
| <input type="checkbox"/> 3 Manual Central Control | <input type="checkbox"/> 7 Do not know |
| <input type="checkbox"/> 4 Programmable Thermostat | |

12 How often do you TURN DOWN the temperature at night during the heating season?

- | | | |
|--|---|--|
| <input type="checkbox"/> 1 Every Night | <input type="checkbox"/> 3 Occasionally | <input type="checkbox"/> 5 No Thermostat |
| <input type="checkbox"/> 2 Most Nights | <input type="checkbox"/> 4 Never | <input type="checkbox"/> 6 Do not know |

13 What is the average TEMPERATURE set for heating?

(CHECK ONE FOR EACH TIME PERIOD.)

°C	°F	Day	Evening	Night
17° or less	64° or less	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
18°-19°	65°-67°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
20°-21°	68°-70°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
22°-23°	71°-73°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
24°-25°	74°-77°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
26° plus	78° plus	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
Do not know		¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>

14 Do you use a dehumidifier?

- ¹ Yes ² No ³ Do not know

15 Do you use a humidifier?

- ¹ Yes ² No ³ Do not know

Section 3

Ventilation & Air Quality

1 What type of VENTILATION SYSTEM(s) is/are used to control the air quality in your home? (CHECK ALL THAT APPLY.)

- | | |
|--|---|
| ¹ <input type="checkbox"/> Central Exhaust System | ¹ <input type="checkbox"/> Roof Turbine Vent |
| ¹ <input type="checkbox"/> Heat Recovery Ventilator | ¹ <input type="checkbox"/> Windows/Doors |
| ¹ <input type="checkbox"/> Furnace Fan | ¹ <input type="checkbox"/> Other: _____ |
| ¹ <input type="checkbox"/> Kitchen/Bathroom Fans | ¹ <input type="checkbox"/> No Ventilation System |
| ¹ <input type="checkbox"/> Ceiling Fans | ¹ <input type="checkbox"/> Do not know |
| ¹ <input type="checkbox"/> Portable Fans | |

2 What type of AIR FILTRATION system is used?

- | | |
|---|---|
| ¹ <input type="checkbox"/> None | ⁴ <input type="checkbox"/> Electrostatic (Electronic) Air Filter/Cleaner |
| ² <input type="checkbox"/> Standard Furnace Air Filter | ⁵ <input type="checkbox"/> Other: _____ |
| ³ <input type="checkbox"/> Room Air Filter(s) | ⁶ <input type="checkbox"/> Do not know |

3 Is there a FRESH AIR INTAKE to your central forced air furnace?

- | | |
|---|---|
| ¹ <input type="checkbox"/> Yes | ³ <input type="checkbox"/> No Central Forced Air Furnace |
| ² <input type="checkbox"/> No | ⁴ <input type="checkbox"/> Do not know |

4 What best describes the air quality in your home during the winter months?

- ¹ Too Dry ² Too Humid ³ Comfortable

Section 4

Air Conditioning

1 What type of AIR CONDITIONER is used to COOL your residence?

- ¹ No Air Conditioner – Go to SECTION 5
- ² Heat Pump
- ³ Window or Wall Air Conditioner: How many?
¹ One ² Two ³ Three or More
- ⁴ Central Air Conditioner: How many?
¹ One ² Two ³ Three or More

2 How do you pay for your AIR CONDITIONING costs?

- ¹ Payment is made directly to
 Manitoba Hydro (part of utility bill)
- ² Cost is included in rent or common service fee
- ³ Other: _____
- ⁴ Do not know

3 What is the age of the MAIN air conditioning system?

- ¹ 0 - 3 years ⁴ 10 - 12 years ⁷ 21 - 25 years
- ² 4 - 6 years ⁵ 13 - 15 years ⁸ Over 25 years
- ³ 7 - 9 years ⁶ 16 - 20 years ⁹ Do not know

4 What is the AVERAGE TEMPERATURE set for cooling?

(CHECK ONE FOR EACH TIME PERIOD.)

°C	°F	Day	Evening	Night
17° or less	64° or less	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
18°-19°	65°-67°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
20°-21°	68°-70°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
22°-23°	71°-73°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
24°-25°	74°-77°	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
26° plus	78° plus	¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>
Do not know		¹ <input type="checkbox"/>	² <input type="checkbox"/>	³ <input type="checkbox"/>

Section 5

Hot Water

1 Is there a **HOT WATER TANK** used at your residence?

- ¹ No Hot Water Tank – Go to **SECTION 6**
- ² Shared Central Supply (Serving two or more residences.) – Go to **SECTION 6**
- ³ Private Individual Hot Water Tank (Used solely by your household.)
- ⁴ Instantaneous tankless water heater

2 How do you pay for your water heating costs?

- ¹ Payment is made directly to
Manitoba Hydro (part of utility bill)
- ² Cost is included in rent or
common service fee
- ³ Other: _____
- ⁴ Do not know

3 What is the temperature setting of your hot water?

- ¹ less than 120°F (warm)
- ² 120°F to 130°F (very warm)
- ³ 130°F to 140°F (hot)
- ⁴ 140°F to 150°F (very hot)
- ⁵ More than 150°F (scalding)
- ⁶ Do not know

4 What type of fuel is used to **HEAT** your **WATER**?

- ¹ Electricity
- ² Natural Gas
- ³ Propane
- ⁴ Fuel Oil
- ⁵ Wood
- ⁶ Solar
- ⁷ Other: _____
- ⁸ Do not know

5 Have you always heated the water with the **HEATING FUEL** mentioned in **Question #4**?

- ¹ Yes, Always
 - ² No, Previously Heated
 - ³ Do not know
- With: _____
Year Converted: _____ (e.g., 1992)

6 What is the **AGE** of your hot water tank?

- ¹ 0 - 3 years
- ² 4 - 6 years
- ³ 7 - 9 years
- ⁴ 10 - 12 years
- ⁵ 13 - 15 years
- ⁶ 16 - 20 years
- ⁷ 21 - 25 years
- ⁸ Over 25 years
- ⁹ Do not know

7 What is the approximate total size of your hot water tank(s)?

- ¹ Small (under 30 gal.)
- ² Medium (30-50 gal.)
- ³ Large (60-90 gal.)
- ⁴ Extra Large (over 90 gal.)
- ⁵ Other: _____
- ⁶ Do not know

- 8** How many **SHOWERHEADS** are installed in your home?
 1 None 2 One 3 Two 4 Three or more
- 9** On average, how many total showers are taken by your household per day?
 1 None 4 Two 7 Five
 2 Rarely shower 5 Three 8 Six or more
 3 One 6 Four
- 10** On average, how many tub baths are taken by your household per day?
 1 None 4 Two 7 Five
 2 Rarely take tub baths 5 Three 8 Six or more
 3 One 6 Four
- 11** Have you done any of the following been done to **CONSERVE** water?
 (CHECK ALL THAT APPLY.)
 1 Installed Energy Efficient Showerhead(s) (6 gal/min) 1 Installed Pipe Wrap
 1 Installed Energy Efficient Faucet Aerator(s) 1 None
 1 Installed Water Heater Blanket/Insulation 1 Do not know
 1 Installed Energy Efficient Toilets (1.6 or less gal/flush)
 1 Lowered Water Heater Temperature
- 12** Do you have an **ELECTRIC WATER PUMP** installed on your water system?
 (CHECK ALL THAT APPLY.)
 1 No Pump 1 Pressure Pump 1 Sewage Pump
 1 Well Pump 1 Sump Pump 1 Do not know

Section 6

Major Appliances

- 1** Please indicate the **COOKING APPLIANCE(S)** used in your home.
 (CHECK ALL THAT APPLY.)
- | | |
|---|--|
| 1 <input type="checkbox"/> None | 1 <input type="checkbox"/> Gas Cooktop |
| 1 <input type="checkbox"/> Electric Range with Standard Oven | 1 <input type="checkbox"/> Gas Range |
| 1 <input type="checkbox"/> Electric Range with Self-Cleaning Oven | 1 <input type="checkbox"/> Gas Wall Oven |
| 1 <input type="checkbox"/> Electric Range with Convection Oven | 1 <input type="checkbox"/> Wood Stove/Oven |
| 1 <input type="checkbox"/> Electric Counter Cooktop | 1 <input type="checkbox"/> Other: _____ |
| 1 <input type="checkbox"/> Electric Wall Oven | |
- a) **WEEKLY USAGE:** _____ (Average number of cooked meals each week.)

2 Is a **MICROWAVE OVEN** used in your home?

- ¹ No ² Yes

a) Daily usage _____ (average minutes per day)

3 How many **REFRIGERATORS** are used in your home?

- ¹ None – [Go to Question 4](#) ² One ³ Two ⁴ Three or More

a) Please describe the **MAIN REFRIGERATOR** that is used in your home.

- TYPE: ¹ Frost-Free ² Manual Defrost
- DOORS: ¹ Single Door ⁴ French Door, Bottom Freezer
 ² Two Door, Top Freezer ⁵ Side-By-Side
 ³ Two Door, Bottom Freezer
- SIZE: ¹ Small (12 cu. ft. or less) ³ Large (16.1 to 20 cu. ft.)
 ² Medium (12.1 to 16 cu. ft.) ⁴ Extra Large (Over 20 cu. ft.)
- AUTOMATIC WATER DISPENSER: ¹ yes ² no
- AUTOMATIC ICE DISPENSER: ¹ yes ² no

- AGE: (years) ¹ 0 - 3 years ⁴ 10 - 12 years ⁷ 21 - 25 years
 ² 4 - 6 years ⁵ 13 - 15 years ⁸ Over 25 years
 ³ 7 - 9 years ⁶ 16 - 20 years ⁹ Do not know

b) Please describe the **SECOND REFRIGERATOR** that is used in your home.

- ¹ None – [Go to Question 4](#)

- TYPE: ¹ Frost-Free ² Manual Defrost
- DOORS: ¹ Single Door ⁴ French Door, Bottom Freezer
 ² Two Door, Top Freezer ⁵ Side-By-Side
 ³ Two Door, Bottom Freezer
- SIZE: ¹ Small (12 cu. ft. or less) ³ Large (16.1 to 20 cu. ft.)
 ² Medium (12.1 to 16 cu. ft.) ⁴ Extra Large (Over 20 cu. ft.)

- AGE: (years) ¹ 0 - 3 years ⁴ 10 - 12 years ⁷ 21 - 25 years
 ² 4 - 6 years ⁵ 13 - 15 years ⁸ Over 25 years
 ³ 7 - 9 years ⁶ 16 - 20 years ⁹ Do not know

c) Is the second fridge operating all year?

- ¹ Yes, all year ² No, only part of the year.

d) Location of second refrigerator?

- ¹ Garage ³ Porch ⁵ Other: _____
² Basement ⁴ Main floor or above

4 How many stand-alone FREEZERS are used in your home?

(DO NOT INCLUDE FREEZER COMPARTMENT OF YOUR REFRIGERATOR)

- None - Go to Question 5 One Two Three or More

a) Please describe the **MAIN** stand-alone FREEZER that is used.

- TYPE: Frost-Free Manual Defrost
- STYLE: Upright Chest
- SIZE: Small (12 cu. ft. or less) Large (16.1 to 20 cu. ft.)
 Medium (12.1 to 16 cu. ft.) Extra Large (Over 20 cu. ft.)

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years 13 - 15 years 16 - 20 years 21 - 25 years Over 25 years Do not know

b) Location of main freezer?

- Garage Porch Other: _____
 Basement Main floor or above

c) Please describe the **SECOND** stand-alone FREEZER that is used.

- None - Go to Question 5

- TYPE: Frost-Free Manual Defrost
- STYLE: Upright Chest
- SIZE: Small (12 cu. ft. or less) Large (16.1 to 20 cu. ft.)
 Medium (12.1 to 16 cu. ft.) Extra Large (Over 20 cu. ft.)

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years 13 - 15 years 16 - 20 years 21 - 25 years Over 25 years Do not know

d) Is the second freezer operating all year?

- Yes, all year No, only part of the year.

e) Location of second freezer?

- Garage Porch Other: _____
 Basement Main floor or above

5 Is there an automatic DISHWASHER used in your home?

- No Dishwasher - Go to Question 6 Yes

- LOADS PER WEEK: ____ (loads/week)
(Average number of times the dishwasher is operating each week.)

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years 13 - 15 years 16 - 20 years 21 - 25 years Over 25 years Do not know

a) What type of DRYING CYCLE do you use most often:

- Heat Dry (Sanitizing Cycle) Air Dry (Econo) Do not know

b) Do you use the Water Heat Temperature Boost option?

- 1 Not available 3 Available, but choose not to use it
2 Available, and used always 4 Available, and use occasionally

6 Is there a CLOTHES WASHER used in your home? (CHECK TYPE USED MOST OFTEN)

- 1 Do not have a Clothes Washer – Go to Question 7
2 Hand Washing – Go to Question 7
3 Use laundry facility outside the home (e.g., apartment block or laundromat)
(Serving two or more residences.) – Go to Question 7
4 Top Load Automatic Clothes Washer (Used solely by this residence.)
5 Front Load Automatic Clothes Washer (Used solely by this residence.)
6 Compact/Spinner Washer
7 Wringer Washer

a) WATER TEMPERATURE for the WASH/RINSE CYCLE:

(Setting used most often, choose only one.)

- 1 Hot/Hot 4 Warm/Warm 7 Do not know
2 Hot/Warm 5 Warm/Cold
3 Hot/Cold 6 Cold/Cold

- LOADS PER WEEK: _____ (loads/week)
(Average number of times the clothes washer is operating each week.)

- AGE: (years) 1 0 - 3 years 4 10 - 12 years 7 21 - 25 years
2 4 - 6 years 5 13 - 15 years 8 Over 25 years
3 7 - 9 years 6 16 - 20 years 9 Do not know

7 Is there a CLOTHES DRYER used in your home? (CHECK TYPE USED MOST OFTEN.)

- 1 No Clothes Dryer – Go to Section 7
2 Clothes Line/Rack – Go to Section 7
3 Use laundry facility outside the home (e.g., apartment block or laundromat)
(Serving two or more residences.) – Go to Section 7
4 Automatic Clothes Dryer (Used solely by this residence.)
 - DRYER FUEL: 1 Electricity 3 Propane
2 Natural Gas 4 Other: _____
 - DRYER TEMP: 1 Cold (Low) 3 Warm (Medium) 5 Hot (High)
(Used most often.) 2 Delicate 4 Permanent Press 6 Automatic
 - LOADS/WEEK: _____ (loads/week) (Average number of times the dryer is operating each week.)
 - MINUTES/LOAD: _____ (minutes/load) 1 Automatic
(Average number of minutes the dryer is operating for each load.)

- AGE: (years) 1 0 - 3 years 4 10 - 12 years 7 21 - 25 years
2 4 - 6 years 5 13 - 15 years 8 Over 25 years
3 7 - 9 years 6 16 - 20 years 9 Do not know

Section 7 Home Electronics and Lighting

- 1 For the top 3 most frequently used television sets in your home, please check the most appropriate boxes below:

a) Please describe the **MAIN TELEVISION** that is used in your home.

Do not have a television set – [Go to Question 3](#)

- TYPE: ¹ Tube (CRT) ³ LCD ⁵ Projection
 ² Plasma ⁴ LED ⁶ Do not know
- SIZE: ¹ Under 21" ³ 30" - 39" ⁵ Over 49"
 ² 21" - 29" ⁴ 40" - 49" ⁶ Do not know
- AGE: (years) ¹ 0 - 3 years ³ 7 - 9 years ⁵ Over 12 years
 ² 4 - 6 years ⁴ 10 - 12 years ⁶ Do not know
- USAGE: ¹ 0 hours ³ 4 - 6 hours ⁵ Over 9 hours
 ² 1 - 3 hours ⁴ 7 - 9 hours ⁶ Do not know

b) Please describe the **SECOND TELEVISION** that is used in your home.

Do not have a second television set – [Go to Question 2](#)

- TYPE: ¹ Tube (CRT) ³ LCD ⁵ Projection
 ² Plasma ⁴ LED ⁶ Do not know
- SIZE: ¹ Under 21" ³ 30" - 39" ⁵ Over 49"
 ² 21" - 29" ⁴ 40" - 49" ⁶ Do not know
- AGE: (years) ¹ 0 - 3 years ³ 7 - 9 years ⁵ Over 12 years
 ² 4 - 6 years ⁴ 10 - 12 years ⁶ Do not know
- USAGE: ¹ 0 hours ³ 4 - 6 hours ⁵ Over 9 hours
 ² 1 - 3 hours ⁴ 7 - 9 hours ⁶ Do not know

c) Please describe the **THIRD TELEVISION** that is used in your home.

Do not have a third television set – [Go to Question 2](#)

- TYPE: ¹ Tube (CRT) ³ LCD ⁵ Projection
 ² Plasma ⁴ LED ⁶ Do not know
- SIZE: ¹ Under 21" ³ 30" - 39" ⁵ Over 49"
 ² 21" - 29" ⁴ 40" - 49" ⁶ Do not know
- AGE: (years) ¹ 0 - 3 years ³ 7 - 9 years ⁵ Over 12 years
 ² 4 - 6 years ⁴ 10 - 12 years ⁶ Do not know
- USAGE: ¹ 0 hours ³ 4 - 6 hours ⁵ Over 9 hours
 ² 1 - 3 hours ⁴ 7 - 9 hours ⁶ Do not know

2 For the top 3 most frequently used set top box or cable converter box in your home, please check the most appropriate boxes below.

a) Please describe the **MAIN SET-TOP OR CABLE CONVERTER BOX** that is used in your home.

Do not have a set-top or cable converter box – [Go to Question 3](#)

- SERVICE PROVIDER: Cable company Telephone company Satellite Do not know
- FEATURES: Digital Digital PVR HD HD PVR Do not know

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years Over 12 years Do not know

b) Please describe the **SECOND MAIN SET-TOP OR CABLE CONVERTER BOX** that is used in your home.

Do not have a second set-top or cable converter box – [Go to Question 3](#)

- SERVICE PROVIDER: Cable company Telephone company Satellite Do not know
- FEATURES: Digital Digital PVR HD HD PVR Do not know

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years Over 12 years Do not know

c) Please describe the **THIRD MAIN SET-TOP OR CABLE CONVERTER BOX** that is used in your home.

Do not have a third set-top or cable converter box – [Go to Question 3](#)

- SERVICE PROVIDER: Cable company Telephone company Satellite Do not know
- FEATURES: Digital Digital PVR HD HD PVR Do not know

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years Over 12 years Do not know

3 For the top 3 most frequently used computers in your home, please check the most appropriate boxes.

a) Please describe the **MAIN COMPUTER** that is used in your home.

Do not have a computer – [Go to Question 5](#)

- TYPE: Desktop Laptop Do not know
- SCREEN: Tube (CRT) LCD

- AGE: (years) 0 - 3 years 4 - 6 years 7 - 9 years 10 - 12 years Over 12 years Do not know

- USAGE: On 24 hours On when necessary Do not know

b) Please describe the **SECOND COMPUTER** that is used in your home.

¹ Do not have a second computer – [Go to Question 4](#)

• TYPE: ¹ Desktop ² Laptop ³ Do not know

• SCREEN: ¹ Tube (CRT) ² LCD

• AGE: (years) ¹ 0 - 3 years ³ 7 - 9 years ⁵ Over 12 years

² 4 - 6 years ⁴ 10 - 12 years ⁶ Do not know

• USAGE: ¹ On 24 hours ² On when necessary ³ Do not know

c) Please describe the **THIRD COMPUTER** that is used in your home.

¹ Do not have a third computer – [Go to Question 4](#)

• TYPE: ¹ Desktop ² Laptop ³ Do not know

• SCREEN: ¹ Tube (CRT) ² LCD

• AGE: (years) ¹ 0 - 3 years ³ 7 - 9 years ⁵ Over 12 years

² 4 - 6 years ⁴ 10 - 12 years ⁶ Do not know

• USAGE: ¹ On 24 hours ² On when necessary ³ Do not know

4 Do you have internet access at your residence?

¹ No ² Yes

5 What **LIGHT FIXTURES** listed below are used in your home? ([CHECK ALL THAT APPLY.](#))

a) **Bedrooms**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen

b) **Kitchen**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen

c) **Hallway**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen

d) **Living/Family Room / Dining Room**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen

e) **Laundry Area**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen ¹ No laundry area

f) **Basement area**

¹ Compact Fluorescent ¹ LED ¹ Tube Fluorescent

¹ Incandescent ¹ Halogen ¹ No basement area

6 How many **HALOGEN TORCHIERE LAMPS** are used at your residence?

¹ None ² One ³ Two or more

7 Are there any strings of **OUTDOOR SEASONAL LIGHTS** hung at your residence?

¹ No ³ Yes, Incandescent lights

² Yes, LED lights ⁴ Yes, both LED and Incandescent lights

Section 8

Hot Tub, Pool & Sauna

EXCLUDING HOT TUBS, POOLS AND SAUNAS IN APARTMENT/TOWNHOUSE COMPLEXES

- 1 Is there a **HOT TUB/JACUZZI** installed in your home?

¹ No ² Yes, total seating capacity _____

- 2 Is there a **SAUNA** installed in your home?

¹ No ² Yes

- 3 Does your home have a **SWIMMING POOL**?

¹ No - Go to SECTION 9 ² Yes, Indoor ³ Yes, Outdoor

a) **SIZE OF PUMP MOTOR:**

¹ No Pump ³ 1 hp ⁵ Do not know

² 3/4 hp or less ⁴ 1 1/4 hp

b) **HEATING FUEL:**

¹ Not Heated ³ Natural Gas ⁵ Solar

² Electric ⁴ Propane ⁶ Do not know

Section 9

Your Vehicle

- 1 How many **VEHICLES** are usually plugged in by your household during the winter months? (NOVEMBER - MARCH)

¹ None - Go to SECTION 10 ³ Two ⁵ Four or More

² One ⁴ Three

- 2 For your most **COMMONLY** used vehicle, please indicate your normal routine during the winter months. (NOVEMBER - MARCH)

a) **PARKED IN:** ¹ Detached Garage ³ Carport/Shelter ⁵ Outside
² Attached Garage ⁴ Underground Parkade

b) **CAR TIMER FOR BLOCKHEATER:** ¹ Yes ² No

c) **INTERIOR CAR WARMER:** ¹ Yes ² No

d) **What best describes the routine for plugging in your vehicle(s)?**

(CHOOSE ONLY ONE)

¹ Do not plug-in

² Plug-in every day

³ Plug-in occasionally - # of DAYS PER WEEK: _____ (1 to 7)

⁴ Dependent on the overnight temperature: _____ (Celsius) or _____ (Fahrenheit)

e) **When you do plug-in your vehicle(s), how many HOURS PER DAY ON AVERAGE is the block heater operating? ON A WEEKDAY (MON. TO FRI)**

¹ None ³ 3 - 4 hours ⁵ 7 to 8 hours

² 1 - 2 hours ⁴ 5 - 6 hours ⁶ Over 8 hours

Section 10

Services and Programs

- 1** Please indicate how you or anyone in your household USUALLY pays the Manitoba Hydro bill? (CHECK ONLY ONE.)
- ¹ In-Person - at a Manitoba Hydro office ⁵ Pre-Authorized Payment Plan
 ² In-Person - at a designated agency ⁶ Other: _____
 ³ By Mail ⁷ Do not know
 ⁴ On-Line
- 2** Are you aware of Manitoba Hydro's MYBILL method of receiving bills by email?
 ¹ Yes ² No
- 3** Would you be interested in receiving your Manitoba Hydro bill by email?
 ¹ Yes ³ Not sure ⁵ Have no internet access
 ² No ⁴ Already receive monthly Hydro bill by email
- 4** In the last year, how many times did you access the Manitoba Hydro website?
 ¹ Zero ² 1 to 5 ³ 6 to 10 ⁴ Over 10 ⁵ Have no internet access
- 5** Do you read the monthly Energy Matters news bulletin that comes with your bill?
 ¹ Yes, Always ² Yes, Occasionally ³ No, Never
- 6** Do you read the special bill inserts describing new Power Smart programs Manitoba Hydro is offering?
 ¹ Yes, Always ² Yes, Occasionally ³ No, Never
- 7** Have you participated in any programs as a result of reading the special bill insert?
 ¹ Yes ² No
- 8** Please check all the programs you have PARTICIPATED in while at your PRESENT RESIDENCE? (CHECK AS MANY AS APPLY.)
- ¹ Have participated in no programs at this point
 ¹ Power Smart Natural Gas Furnace Replacement Program
 ¹ Power Smart Natural Gas Boiler Replacement Program
 ¹ Power Smart New Home Program
 ¹ Power Smart Residential Loan
 ¹ WISE Program - Seniors Helping Seniors
 ¹ Earth Power (Geothermal) Loan
 ¹ Home Evaluation Program On-line
 ¹ Power Smart Home Insulation Program
 ¹ Power Smart Energy Efficient Appliance Program
 ¹ Power Smart Compact Fluorescent Lighting Promotions
 ¹ Seasonal LED Lights Turn-in Program
 ¹ Torchiere Lamp - Turn-In Halogen Program
 ¹ ENERGY STAR Light Fixtures - Mail-In Rebate
 ¹ Home Evaluation Program - Mail-in
 ¹ Power Smart In-Home Energy Evaluation program
 ¹ Lower Income Energy Efficiency Program

Section 1.1

Household Demographics

The following questions are of a personal nature, but are very important in explaining energy usage. Please try to answer these questions. If you are uncomfortable in answering any of them, just mark the 'Choose not to answer' box. All responses are kept strictly confidential.

1 Including yourself, how many persons usually live in your home?

- 1 One (myself) 3 Three 5 Five 7 Seven or more
2 Two 4 Four 6 Six 8 Choose not to answer

2 Please indicate the number of people usually living in your home, within each AGE GROUP.

_____ Under 6 years _____ 25-34 years _____ 55-64 years
_____ 6-18 years _____ 35-44 years _____ 65 and older
_____ 19-24 years _____ 45-54 years Choose not to answer

3 How many people who live in your home are EMPLOYED either FULL-TIME or PART-TIME?

- a) ___ Full-Time b) ___ Part-Time c) ___ Choose not to answer

4 What is your approximate total annual household INCOME? (ALL SOURCES BEFORE TAXES)

- 1 Under \$20,000 7 \$50,000-\$54,999 13 \$80,000-\$89,999
2 \$20,000-\$24,999 8 \$55,000-\$59,999 14 \$90,000-\$99,999
3 \$25,000-\$29,999 9 \$60,000-\$64,999 15 \$100,000-\$124,999
4 \$30,000-\$34,999 10 \$65,000-\$69,999 16 \$125,000-\$149,999
5 \$35,000-\$39,999 11 \$70,000-\$74,999 17 \$150,000 or over
6 \$40,000-\$49,999 12 \$75,000-\$79,999 18 Choose not to answer

5 Please indicate the highest EDUCATION LEVEL attained by each head of household?

	Person 1	Person 2
No Formal Education	1 <input type="checkbox"/>	1 <input type="checkbox"/>
Elementary (Grades 1-6)	2 <input type="checkbox"/>	2 <input type="checkbox"/>
Junior High (Grades 7-9)	3 <input type="checkbox"/>	3 <input type="checkbox"/>
Senior High (Grades 10-12)	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Trade School	5 <input type="checkbox"/>	5 <input type="checkbox"/>
Community College	6 <input type="checkbox"/>	6 <input type="checkbox"/>
University (Bachelor)	7 <input type="checkbox"/>	7 <input type="checkbox"/>
Graduate (Master's or PHD)	8 <input type="checkbox"/>	8 <input type="checkbox"/>
Other _____	9 <input type="checkbox"/>	9 <input type="checkbox"/>
Choose not to answer	10 <input type="checkbox"/>	10 <input type="checkbox"/>

We welcome any comments you may wish to make. Please record your comments in the space below.

Please mail this completed form in the postage
paid self-addressed envelope to:

**RESIDENTIAL ENERGY USE SURVEY
MARKET FORECAST DEPARTMENT**

Manitoba Hydro
P.O. Box 815, Station Main
Winnipeg, Manitoba R3C 2P4

THANK YOU
FOR YOUR TIME AND COOPERATION

Please answer the survey for the address shown on the **FRONT COVER**.
Return the completed questionnaire within the next **TWO WEEKS**, in
the postage paid envelope provided.

