Residential energy end use survey

Summary of results

Prepared for
Energy Solutions Centre

by
Malcolm Taggart
Luigi Zanasi
Janne Hicklin

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energy solutions centre

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INTRODUCTION

This document presents the answers to the questions asked in the Residential Energy End Use Survey, which was commissioned by the Energy Solutions Centre and Yukon Development Corporation to supplement Yukon Housing's Community Housing Surveys. The survey was undertaken in June of 2001 by the Yukon Bureau of Statistics.

The Community Housing Surveys done by the Yukon Housing Corporation (1999-2000), asked a large number of questions about energy efficiency-related building components, especially as they related to space heating and the building envelope. Surveys were conducted in most Yukon communities and all Whitehorse neighbourhoods; only Old Crow, Pelly Crossing and Faro were not surveyed.

From these Community Housing Surveys, detailed information is available on types of heating systems and fuels, wall construction and insulation levels, window types and energy costs. However, no data was collected on appliances, lighting and other electrical uses. For the program design purposes of the Energy Solutions Centre, the Yukon Housing data is valuable but does not provide comprehensive data on how electricity is used.

SURVEY INSTRUMENT DESIGN

Survey instrument design was developed by the consultants in cooperation with other Energy Solution Centre contractors. The Yukon Bureau of Statistics pre-tested the instrument and a number of improvements were made. The objective of the set of questions asked was to allow calculation of potential electricity use savings and to address a number of issues related to heating that were not included in the Community Housing Surveys.

The questions relating to electricity use focussed on the presence and age of most major household appliances, types and quantity of lighting, and other major electricity uses such as vehicle timers, hot tubs. The survey instrument included question on the following:

- dwelling type and tenure (rented or owned and who pays energy bills)
- heating systems (high efficiency burners and servicing)
- appliances (refrigerators, freezers, washing machines, ovens)
- lighting (number and types of bulbs and fixtures)

- domestic hot water (size of tank, insulation of tanks and pipes, hot water use, flow control devices)
- vehicle-related devices (timers, oil pan heaters, battery blankets, interior heaters)
- miscellaneous (hot tubs and water line heat tape)

Dwelling type and tenure data was also available from the Community Housing Surveys, but this information could not be used for data collected in the Energy Use Survey as there was no link between the two. Without asking these questions, the appliances used in rental vs. home-owner households could not be estimated. Basic dwelling type and tenure data was needed for the analysis of the Energy Use Survey data.

Most heating systems information was available from the Community Housing Surveys. The Energy Use Survey supplemented that data by finding out about high-efficiency burners and servicing schedules.

The Community Housing Surveys provided no information on appliances. The Energy Use Survey instrument asked question on refrigerators, freezers, washing machines, and ovens since information available at the time indicated that there were potentially high-energy savings from replacing these appliances. Stoves, dishwashers, clothes dryers, and televisions and other electronic equipment were not included in the survey.

The Community Housing Surveys provide no information on lighting. At the pre-test stage, the Yukon Bureau of Statistics found that a simple question asking how many bulbs of each type were present in the home yielded gross underestimates. The final question asked respondents to provide responses for each room in the dwelling.

The Community Housing Surveys only provide information on whether or not the dwelling has domestic hot water and a bath or shower. The Energy Use Survey supplements this by asking about pipe and hot water tank insulation, low-flow showerheads, as well as frequency of baths, showers and washing clothes,

Commonly used electrical heating devices for vehicles include block heaters, oil pan heaters, battery blankets, and interior heaters. For the purposes of this survey, it was assumed that every vehicle has, at a minimum, a block heater. These devices are can be controlled by timers or manually. The survey asked questions about the use of each of the devices and how they are controlled.

Two final questions were asked about electricity use: the presence of electric hot tubs and the use of electric heat tape to prevent water lines from freezing.

SAMPLE DESIGN

One of the major objectives of this study was to ensure that statistically significant results could be obtained from communities that have power supplied by either diesel-fired electricity generation or hydro electricity generation. Respondents were randomly selected within each strata (diesel vs hydro community).

A total of 719 Yukon households (see table below) were interviewed by telephone in June of 2001. Of the interviews, 416 were in hydro communities and 303 were in diesel communities. These sample sizes yield confidence intervals of±2.5 (for hydro communities) and ±2.9 (for diesel communities) percentage points at a 95% confidence level.

Reponses rates were very high, with only two potential respondents refusing to participate.

GEOGRAPHIC DISTRIBUTION

The actual number of interviews by community is as follows:

	Hydro communities
9	Carcross
8	Carmacks
5	Faro
8	Haines Junction
16	Marsh Lake
8	Mayo
6	Ross River
9	Tagish
12	Teslin
335	Whitehorse
416	Total hydro

	Diesel communities
13	Beaver Creek
17	Destruction Bay/ Burwash Landing
183	Dawson City
32	Old Crow
58	Watson Lake
303	Total diesel

719	**Total**

Based on the actual survey responses, only Whitehorse, Dawson City and Watson Lake would have had sufficient responses to provide separate community data. As the purpose of the survey was to calculate potential energy savings, the survey results are extrapolated to represent the entire Yukon. The survey responses were weighted based on the population and average household size of each community.

The sample was "blown up" (or weighted) to estimate the actual total Yukon population of dwellings at 11,064 households.

INTERPRETING CROSS-TABULATIONS

The survey responses are mostly presented in tables as standard cross-tabulations (crosstabs). The crosstabs list the actual number (or frequency) of responses as well as every possible combination of two variables (in percentages).

Sample results

A = estimated number of owned dwellings in hydro communities

B = estimated number of owned dwellings in all communities

C = estimated total number of dwellings in hydro communities

D =estimated total number of dwellings in all communites that answered this question

E =estimated number of respondents that did not answer this question

	hydro or diesel power				
Tenure	**Hydro community**		**Diesel community**	**Total**	
Owned dwelling	**A** 6,863		853	**B** 7,716	LINE 1
	62.56		7.78	70.34	LINE 2
	88.95		11.05		LINE 3
	72.95		54.61		LINE 4
Rented dwelling	2,545		709	3,254	LINE 1
	23.20		6.46	29.66	LINE 2
	78.21		21.79		LINE 3
	27.05		45.39		LINE 4
Total	**C** 9,408		1,562	**D** 10,970	
	85.76		14.24	100.00	
Predicted number of missing responses = 94 **E**					

The table above presents the results for Question 2 on dwelling tenure (owned vs rented). In this case, the first variable (second and third columns) is the type of electricity generation the respondent's community relies on, either hydro or diesel.

The other variable (the rows) is the response to the question. In this case the responses are grouped under two choices: "Is the respondent living in an owned dwelling?" and "Is the respondent living in a rented dwelling?"

The pairing of each combination of responses is refered to as a cell. Cells present combinations of the two variables. In this table, there are four cells. This varies by the number of responses to the questions. Each cell has four sets of answers or numbers.

LINE 1 is the *frequency* of occurrence—6,863(**A**) owned dwellings (the owner lives in their own dwelling) are in hydro communities of a total of 7,716 (**B**) owned Yukon dwellings; 853 owned dwellings are in diesel communities. For rental units, 2,545 are in hydro communities and 709 in diesel communities.

LINE 2 is the *percent* or percentage of the overall total. In this case, 6,863 dwellings represents 62.56% (**A /D:** 6,863/10,970) of all Yukon dwellings in hydro communities and 70.34% of all Yukon dwellings. Likewise 7.78% of homes in the Yukon are owned dwellings in diesel communities. 23.20% of homes in hydro communities are rented dwellings and 6.46% of homes in diesel communities are rented.

LINE 3 is the *row percentage* — the 6,863 dwellings show that 88.95% (**A /B:** 6,883/7,716) of all owned dwellings are in hydro communities.

LINE 4 is the *column percentage*,— 72.95% (**A /C:** 6,863/9,408) of dwellings in hydro communities are owned.

Totals: The sample represented a total of 10,970 households, of which 9,408 or 85.76% were in hydro communities and 1,562 or 14.24% were in diesel communities.

The last line indicates that it was estimated that 94 respondents didn't answer this question. 10, 970 **D** + 94 **E** = 11,064, the estimated Yukon population of dwellings.

SURVEY QUESTIONS AND RESPONSE TABLES

DWELLING TYPE AND TENURE

These questions were asked because in any energy awareness program design, different incentives will be applied, depending upon who pays the electric and heating bills. This information also allows a program to be designed that targets audiences in a particular category, and helps estimate market size and program delivery costs. It is apparent from the table below that the largest number of dwellings in both hydro and diesel communities are single detached homes, followed by mobile homes, "plexes" and apartments. The tenure table indicates that over 70% of dwellings in hydro communities are owned, while only 55% of homes in diesel communities are owned and 45% are rented.

1. What type of dwelling do you live in?

1 ☐ **Single detached house or cabin**
2 ☐ **Single detached house with suite**
3 ☐ **Suite in a single detached house**
4 ☐ **Duplex**
5 ☐ **Four-plex**
6 ☐ **Semi-detached, row or townhouse**
7 ☐ **Condo**
8 ☐ **Apartment in a building (more than one storey)**
Approximately how many suites are in the building?
☐ Don't know
☐ Refused
9 ☐ **Mobile home - single wide** (moved on wheels, has own frame)
10 ☐ **Mobile home - double wide** (moved on wheels, has own frame)
11 ☐ **Modular home**
12 ☐ **Other (specify)**
99 ☐ **Refused**

	hydro or diesel power		
Type of dwelling	**Hydro community**	**Diesel community**	**Total**
Single detached house or cabin	6,091	1,148	7,239
Single detached house with suite	120	8	128
Suite in a single detached house	264	4	268
Duplex, 4-plex, row house, condo	936	124	1,060
Apartment in building (more than one storey)	816	55	871
Mobile/modular home	1,142	185	1,327
Other	24	37	61
Apartment in commercial building	63	12	75
TOTAL	**9,456**	**1,573**	**11,029,**

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

2. Is this dwelling...

(Tenure)

1 ☐ **Owned by you or a member of this household** (even if it is still being paid for)? (skip to question 5)
2 ☐ **Rented** (even if no cash rent is paid)?
3 ☐ First Nation housing
5 ☐ Coop
6 ☐ Social housing
7 ☐ Other (specify)
99 ☐ Refused

	hydro or diesel power		
Tenure	Hydro community	Diesel community	Total
Owned dwelling	6,863	853	7,716
	62.56	7.78	70.34
	88.95	11.05	
	72.95	54.61	
Rented dwelling	2,545	709	3,254
	23.20	6.46	29.66
	78.21	21.79	
	27.05	45.39	
Total	9,408	1,562	10,970
	85.76	14.24	100.00
Predicted number of missing responses = 94			

ENERGY BILL PAYERS

The table in question 3 shows that in both hydro and diesel communities, over 90% of occupants pay their own power bills, regardless of whether the dwelling is owned or rented. Comparing and calculating data from the table below with the previous table on tenure, about 70% of tenants (rental dwellings) pay their own power bill in hydro communities. In diesel communities, 85% of tenants pay their own power bill.

The table in question 4 on space heating bills shows that nearly 90% of residents pay their own heating bill in hydro communities, and nearly 80% of residents pay for heat in diesel communities. In both hydro and diesel communities, about 55% of tenants pay their own heating costs. It appears that space heating is more often included in rent than electricity.

3. Who pays the electric bill for this dwelling?

1 ☐ **Self**
2 ☐ **Landlord/coop/condo corp**
9 ☐ **Other (specify)**
99 ☐ **Refused**

	hydro or diesel power		
Tenure	Hydro community	Diesel community	Total
Tenant - self	8,624	1,458	10,082
	78.75	13.31	92.06
	85.54	14.46	
	91.85	93.34	
Landlord/co-op/condo	741	100	841
	6.77	0.91	7.68
	88.11	11.89	
	7.89	6.40	
Combined self/landlord	24	4	28
	0.22	0.04	0.26
	85.71	14.29	
	0.26	0.26	
Total	9,389	1,562	10,951
	85.74	14.26	100.00
-			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

4. Who pays the heating bill for this dwelling?

1 ☐ **Self**
2 ☐ **Landlord/coop/condo corp**
9 ☐ **Other (specify)**
99 ☐ **Refused**

Heating bill payer	hydro or diesel power: Hydro community	Diesel community	Total
Tenant - Self	8,264	1,242	9,506
	75.46	11.34	86.80
	86.93	13.07	
	88.02	79.51	
Landlord/co-op/condo	1,101	312	1,413
	10.05	2.85	12.90
	77.92	22.08	
	11.73	19.97	
Combined self/landlord	24	8	32
	0.22	0.07	0.29
	75.00	25.00	
	0.26	0.51	
Total	9,389	1,562	10,951
	85.74	14.26	100.00
Predicted number of missing responses = 113			

FUEL OIL HEAT

Over 70% of residents in both hydro and diesel communities rely on fuel oil for space heating. It is interesting to note that the percentages are very similar in all responses relating to fuel oil heating regardless of whether they were in hydro or diesel communities.

About 30% of respondents did not know how old their oil furnace is. About one quarter reported that their oil furnace is less than five years old. Almost 25% of furnaces are more than ten years old in both hydro and diesel communities. About 40% of furnaces have high-efficiency Riello-type burners, and about 40% of people did not know whether their furnace had a high-efficiency burner.

5. Do you heat in part or solely with fuel oil?

1 ☐ **Yes**.
How old is your oil-fired furnace or boiler?
2 ☐ **No** (skip to question 7)
88 ☐ **Don't know** (skip to question 7)
99 ☐ **Refused** (skip to question 7)

Fuel oil	hydro or diesel power: Hydro community	Diesel community	Total
Yes	6,862	1,205	8,067
	62.08	10.90	72.98
	85.06	14.94	
	72.38	76.61	
No	2,356	319	2,675
	21.32	2.89	24.20
	88.07	11.93	
	24.85	20.28	
Don't know	262	49	311
	2.37	0.44	2.81
	84.24	15.76	
	2.76	3.12	
Total	9,480	1,573	11,053
	85.77	14.23	100.00
Predicted number of missing responses = 11			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

5. Do you heat in part or solely with fuel oil?

1 ☐ Yes
How old is your oil-fired furnace or boiler?
__ years
☐ **Don't know**
☐ **Refused**
2 ☐ No (skip to question 7)
88 ☐ Don't know (skip to question 7)
99 ☐ Refused (skip to question 7)

	hydro or diesel power		
Age of oil furnace	**Hydro community**	**Diesel community**	**Total**
less than 1 year	177	15	192
	2.21	0.19	2.40
	92.19	7.81	
	2.60	1.26	
1 to <5 years	1,784	305	2,089
	22.29	3.81	26.10
	85.40	14.60	
	26.18	25.63	
5 to <10 years	1,088	230	1,318
	13.59	2.87	16.47
	82.55	17.45	
	15.97	19.33	
10 to <20 years	697	170	867
	8.71	2.12	10.83
	80.39	19.61	
	10.23	14.29	
20+ years	1,076	114	1,190
	13.44	1.42	14.87
	90.42	9.58	
	15.79	9.58	
Don't know	1,992	356	2,348
	24.89	4.45	29.34
	84.84	15.16	
	29.23	29.92	
Total	6,814	1,190	8,004
	85.13	14.87	100.00
Predicted number of missing responses = 3,060			

6. Does your furnace or boiler have a high efficiency burner (e.g. Riello)?

1 ☐ **Yes**
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
High efficiency oil burner	**Hydro community**	**Diesel community**	**Total**
Yes	2,857	446	3,303
	35.19	5.49	40.68
	86.50	13.50	
	41.35	36.89	
No	1,166	165	1,331
	14.36	2.03	16.39
	87.60	12.40	
	16.87	13.65	
Don't know	2,887	598	3,485
	35.56	7.37	42.92
	82.84	17.16	
	41.78	49.46	
Total	6,910	1,209	8,119
	85.11	14.89	100.00
Predicted number of missing responses = 2,945			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

PROPANE HEAT

Only a small proportion of residents use propane for space heating: about 10% in hydro communities and 9% in diesel communities. Over 50% of propane systems are between five and ten years old in hydro communities. Diesel communities appear to have a greater number of older propane units. Since the sample size for propane heating is so small, there is no statistically significant difference between these figures.

7. Do you have a propane-fired furnace or boiler?

1 ☐ **Yes.**
How old is it?
__ years
☐ Don't know
☐ Refused
Is it high efficiency?
1 ☐ Yes
2 ☐ No
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

Propane furnace	hydro or diesel power: Hydro community	Diesel community	Total
Yes	978	143	1,121
	8.84	1.29	10.13
	87.24	12.76	
	10.30	9.09	
No	8,275	1,400	9,675
	74.79	12.65	87.45
	85.53	14.47	
	87.19	89.00	
Don't know	238	30	268
	2.15	0.27	2.42
	88.81	11.19	
	2.51	1.91	
Total	9,491	1,573	11,064
	85.78	14.22	100.00.

7. Do you have a propane-fired furnace or boiler?

1 ☐ Yes.
How old is it?
__ years
☐ Don't know
☐ Refused
Is it high efficiency?
1 ☐ Yes
2 ☐ No
2 ☐ No
88 ☐ Don't know
99 ☐ Refused

Age of propane furnace	hydro or diesel power: Hydro community	Diesel community	Total
1 to <5 years	72	11	83
	6.78	1.04	7.82
	86.75	13.25	
	7.83	7.69	
5 to <10 years	505	49	554
	47.55	4.61	52.17
	91.16	8.84	
	54.95	34.27	
10 to <20 years	115	64	179
	10.83	6.03	16.85
	64.25	35.75	
	12.51	44.76	
Don't know	227	19	246
	21.37	1.79	23.16
	92.28	7.72	
	24.70	13.29	
Total	919	143	1,062
	86.53	13.47	100.00
Predicted number of missing responses = 10,002			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

7. Do you have a propane-fired furnace or boiler?

1 ☐ Yes.
How old is it?
__ years
☐ Don't know
☐ Refused
Is it high efficiency?
1 ☐ Yes
2 ☐ No
2 ☐ No
88 ☐ Don't know
99 ☐ Refused

High efficiency propane furnace	hydro or diesel power: Hydro community	Diesel community	Total
Yes	323	53	376
	30.30	4.97	35.27
	85.90	14.10	
	34.25	43.09	
No	128	22	150
	12.01	2.06	14.07
	85.33	14.67	
	13.57	17.89	
Don't know	492	48	540
	46.15	4.50	50.66
	91.11	8.89	
	52.17	39.02	
Total	943	123	1,066
	88.46	11.54	100.00
Predicted number of missing responses = 9,998			

HEATING SYSTEM SERVICING

About two-thirds of residents have their furnace serviced annually in both hydro and diesel communities. The question was not designed to distinguish whether "servicing" means a simple air filter replacement or a full efficiency test and adjustments.

8. Do you have your furnace/ boiler serviced/tuned-up on an annual basis?

1 ☐ **Yes**
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

High efficiency propane furnace	hydro or diesel power: Hydro community	Diesel community	Total
Yes	5,469	937	6,406
	57.54	9.86	67.40
	85.37	14.63	
	67.38	67.56	
No	1,517	309	1,826
	15.96	3.25	19.21
	83.08	16.92	
	18.69	22.28	
Don't know	1,131	141	1,272
	11.90	1.48	13.38
	88.92	11.08	
	13.93	10.17	
Total	8,117	1,387	9,504
	85.41	14.59	100.00
Predicted number of missing responses = 1,560			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

REFRIGERATORS

In both hydro and diesel communities, about 90% of residents have one refrigerator in the household. Of the remaining, 10% have two refrigerators and less than 1% either have no fridge or more than two fridges. The majority of households have a "medium" (14-18 cu. ft.) sized fridge (62% in hydro communities and 66% in diesel communities). About 30% of residents in hydro communities have a "large" (over 18 cu. ft.) fridge. In diesel communities, only 20% have a large fridge. About 35% of fridges in both hydro and diesel communities are less than five years old. About 23% of refrigerators in all communities are more than ten years old, and 10% of respondents did not know the age of their refrigerator.

9. How many functioning refrigerators do you have in your home? (Total; do not include any refrigerators in suites that may be in the same house)

__ **Total** (if "0" skip to question 10)
1 __ Large fridge (18 cu. ft. and more)
2 __ Medium/regular fridge (14 -18 cu. ft.)
3 __ Small fridge (10 - 14 cu. ft.)
4 __ Bar fridge (less than 10 cu. ft.)
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
Total number of fridges	**Hydro community**	**Diesel community**	**Total**
0	94	7	101
	0.85	0.06	0.91
	93.07	6.93	
	0.99	0.45	
1	8,249	1,424	9,673
	74.56	12.87	87.43
	85.28	14.72	
	86.91	90.53	
2	1,076	138	1,214
	9.73	1.25	10.97
	88.63	11.37	
	11.34	8.77	
3	48	4	52
	0.43	0.04	0.47
	92.31	7.69	
	0.51	0.25	
4	24	0	24
	0.22	0.00	0.22
	100.00	0.00	
	0.25	0.00	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

9. How many functioning refrigerators do you have in your home? (Total; do not include any refrigerators in suites that may be in the same house)

__ Total (if "0" skip to question 10)
1 __ **Large fridge** (18 cu. ft. and more)
2 __ Medium/regular fridge (14 -18 cu. ft.)
3 __ Small fridge (10 - 14 cu. ft.)
4 __ Bar fridge (less than 10 cu. ft.)
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
No. of large fridges	Hydro community	Diesel community	Total
0	6,512	1,262	7,774
	58.86	11.41	70.26
	83.77	16.23	
	68.61	80.23	
1	2,789	299	3,088
	25.21	2.70	27.91
	90.32	9.68	
	29.39	19.01	
2	142	12	154
	1.28	0.11	1.39
	92.21	7.79	
	1.50	0.76	
3	24	0	24
	0.22	0.00	0.22
	100.00	0.00	
	0.25	0.00	
4	24	0	24
	0.22	0.00	0.22
	100.00	0.00	
	0.25	0.00	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

9. How many functioning refrigerators do you have in your home? (Total; do not include any refrigerators in suites that may be in the same house)

__ Total (if "0" skip to question 10)
1 __ Large fridge (18 cu. ft. and more)
2 __ **Medium/regular fridge** (14 -18 cu. ft.)
3 __ Small fridge (10 - 14 cu. ft.)
4 __ Bar fridge (less than 10 cu. ft.)
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
No. of medium fridges	Hydro community	Diesel community	Total
0	3,245	440	3,685
	29.33	3.98	33.31
	88.06	11.94	
	34.19	27.97	
1	5,978	1,080	7,058
	54.03	9.76	63.79
	84.70	15.30	
	62.99	68.66	
2	268	49	317
	2.42	0.44	2.87
	84.54	15.46	
	2.82	3.12	
3	0	4	4
	0.00	0.04	0.04
	0.00	100.00	
	0.00	0.25	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

9. How many functioning refrigerators do you have in your home? (Total; do not include any refrigerators in suites that may be in the same house)

__ Total (if "0" skip to question 10)
1 __ Large fridge (18 cu. ft. and more)
2 __ Medium/regular fridge (14 -18 cu. ft.)
3 __ **Small fridge** (10 - 14 cu. ft.)
4 __ Bar fridge (less than 10 cu. ft.)
88 ☐ Don't know

	hydro or diesel power		
No. of small fridges	**Hydro community**	**Diesel community**	**Total**
0	8,803	1,413	10,216
	79.56	12.77	92.34
	86.17	13.83	
	92.75	89.83	
1	688	145	833
	6.22	1.31	7.53
	82.59	17.41	
	7.25	9.22	
2	0	15	15
	0.00	0.14	0.14
	0.00	100.00	
	0.00	0.95	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

9. How many functioning refrigerators do you have in your home? (Total; do not include any refrigerators in suites that may be in the same house)

__ Total (if "0" skip to question 10)
1 __ Large fridge (18 cu. ft. and more)
2 __ Medium/regular fridge (14 -18 cu. ft.)
3 __ Small fridge (10 - 14 cu. ft.)
4 __ **Bar fridge** (less than 10 cu. ft.)
88 ☐ Don't know

	hydro or diesel power		
No. of bar fridges	**Hydro community**	**Diesel community**	**Total**
0	9,284	1,549	10,833
	83.91	14.00	97.91
	85.70	14.30	
	97.82	98.47	
1	192	24	216
	1.74	0.22	1.95
	88.89	11.11	
	2.02	1.53	
2	15	0	15
	0.14	0.00	0.14
	100.00	0.00	
	0.16	0.00	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

10. How old is your main kitchen refrigerator?

1 ☐ **Less than 1 year old**
2 ☐ **1 to 5 years old**
3 ☐ **5 to 10 years old**
4 ☐ **More than 10 years old**
88 ☐ **Don't know**
99 ☐ **Refused**

Total number of freezers	hydro or diesel power		
	Hydro community	Diesel community	Total
less than 1 year	873	143	1,016
	7.95	1.30	9.25
	85.93	14.07	
	9.27	9.13	
1 to 5 years	2,322	452	2,774
	21.13	4.11	25.25
	83.71	16.29	
	24.65	28.86	
5 to 10 years	3,168	446	3,614
	28.83	4.06	32.89
	87.66	12.34	
	33.63	28.48	
10+ years	2,189	368	2,557
	19.92	3.35	23.27
	85.61	14.39	
	23.24	23.50	
Don't know	869	157	1,026
	7.91	1.43	9.34
	84.70	15.30	
	9.22	10.03	
Total	9,421	1,566	10,987
	85.75	14.25	100.00
Predicted number of missing responses = 77			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

FREEZERS

About one third of Yukon households do not have a stand-alone freezer. About 55% of residents have one freezer. Only 10% of residents have an upright freezer. Over half the respondents have a chest type freezer. Of those chest freezers, about 40% are more than ten years old.

11. How many freezers do you have (not attached to fridge)?

__ **Total**
1 __ Upright
How old is it?
__ years
☐ Don't know
☐ Refused
2 __ Chest type
How old is it?
__ years
☐ Don't know
☐ Refused
88 ☐ Don't know
99 ☐ Refused

Total number of freezers	hydro or diesel power		
	Hydro community	Diesel community	Total
0	3,197	506	3,703
	28.90	4.57	33.47
	86.34	13.66	
	33.68	32.17	
1	5,438	862	6,300
	49.15	7.79	56.94
	86.32	13.68	
	57.30	54.80	
2	774	185	959
	7.00	1.67	8.67
	80.71	19.29	
	8.16	11.76	
3	82	20	102
	0.74	0.18	0.92
	80.39	19.61	
	0.86	1.27	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

11. How many freezers do you have (not attached to fridge)?

__ Total
1 __ **Upright**
How old is it?
__ years
☐ Don't know
☐ Refused
2 __ Chest type
How old is it?
__ years
☐ Don't know
☐ Refused
88 ☐ Don't know
99 ☐ Refused

No. of upright freezers	hydro or diesel power		
	Hydro community	Diesel community	Total
0	8,568	1,437	10,005
	77.44	12.99	90.43
	85.64	14.36	
	90.27	91.35	
1	923	118	1,041
	8.34	1.07	9.41
	88.66	11.34	
	9.73	7.50	
2	0	18	18
	0.00	0.16	0.16
	0.00	100.00	
	0.00	1.14	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

11. How many freezers do you have (not attached to fridge)?

__ Total
1 __ Upright
How old is it?
__ years
☐ Don't know
☐ Refused
2 __ Chest type
How old is it?
__ years
☐ Don't know
☐ Refused
88 ☐ Don't know
99 ☐ Refused

Age of upright freezer #1	hydro or diesel power: Hydro community	Diesel community	Total
less than 1 year	24	3	27
	2.28	0.29	2.57
	88.89	11.11	
	2.60	2.34	
1 to <5 years	290	26	316
	27.59	2.47	30.07
	91.77	8.23	
	31.42	20.31	
5 to <10 years	226	22	248
	21.50	2.09	23.60
	91.13	8.87	
	24.49	17.19	
10 to <20 years	193	53	246
	18.36	5.04	23.41
	78.46	21.54	
	20.91	41.41	
20+ years	70	4	74
	6.66	0.38	7.04
	94.59	5.41	
	7.58	3.13	
Don't know	120	20	140
	11.42	1.90	13.32
	85.71	14.29	
	13.00	15.63	
Total	923	128	1,051
	87.82	12.18	100.00
Predicted number of missing responses = 10,013			

11. How many freezers do you have (not attached to fridge)?

__ Total
1 __ Upright
How old is it?
__ years
☐ Don't know
☐ Refused
2 __ **Chest type**
How old is it?
__ years
☐ Don't know
☐ Refused
88 ☐ Don't know
99 ☐ Refused

No. of chest freezers	hydro or diesel power: Hydro community	Diesel community	Total
0	3,955	581	4,536
	35.75	5.25	41.00
	87.19	12.81	
	41.67	36.94	
1	4,826	816	5,642
	43.62	7.38	50.99
	85.54	14.46	
	50.85	51.88	
2	647	160	807
	5.85	1.45	7.29
	80.17	19.83	
	6.82	10.17	
3	63	16	79
	0.57	0.14	0.71
	79.75	20.25	
	0.66	1.02	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

11. How many freezers do you have (not attached to fridge)?

__ Total
1 __ Upright
How old is it?
__ years
☐ Don't know
☐ Refused
2 __ Chest type
How old is it?
__ years
☐ Don't know
☐ Refused
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
Age of chest freezer #1	**Hydro community**	**Diesel community**	**Total**
less than 1 year	67	4	71
	1.03	0.06	1.09
	94.37	5.63	
	1.21	0.41	
1 to <5 years	1,190	206	1,396
	18.30	3.17	21.47
	85.24	14.76	
	21.57	20.93	
5 to <10 years	1,353	239	1,592
	20.81	3.68	24.49
	84.99	15.01	
	24.52	24.29	
10 to <20 years	1,686	310	1,996
	25.93	4.77	30.70
	84.47	15.53	
	30.56	31.50	
20+ years	608	60	668
	9.35	0.92	10.28
	91.02	8.98	
	11.02	6.10	
Don't know	613	165	778
	9.43	2.54	11.97
	78.79	21.21	
	11.11	16.77	
Total	5,517	984	6,501
	84.86	15.14	100.00
Predicted number of missing responses = 4,563			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

CLOTHES WASHERS

Just under 80% of households have top-loading clothes washers. Only 5% have front-loading machines.

The remainder have no washing machine or have access to apartment clothes washing facilities. Over 20% of washing machine are more 10 years old. Nearly 15% of respondents did not know the age of their washer.

Over 90% of clothes washers include a water level control.

Over 60% of households do between 1 and 5 loads per week and about 25% do 6 to 10 loads per week. About 25% do not use any hot water for clothes washing, while nearly 70% of respondents reported some use of hot water.

12. What kind of washing machine do you have in this dwelling?

1 ☐ **Top loading**
How old is it?
__ years
☐ Don't know
☐ Refused

2 ☐ **Front loading**
How old is it?
__ years
☐ Don't know
☐ Refused

3 ☐ **No washing machine** (skip to question 16)

4 ☐ **Washing machine in common laundry area of apartment building** (skip to question 14)

88 ☐ **Don't know** (skip to question 14)

99 ☐ **Refused** (skip to question 14)

	hydro or diesel power		
Type of washing machine	**Hydro community**	**Diesel community**	**Total**
Top loading	7,530	1,225	8,755
	68.06	11.07	79.13
	86.01	13.99	
	79.34	77.88	
Front loading	500	68	568
	4.52	0.61	5.13
	88.03	11.97	
	5.27	4.32	
No washing machine	741	196	937
	6.70	1.77	8.47
	79.08	20.92	
	7.81	12.46	
Apartment building laundry	720	84	804
	6.51	0.76	7.27
	89.55	10.45	
	7.59	5.34	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

12. What kind of washing machine do you have in this dwelling?

1 ☐ Top loading
How old is it?
__ years
☐ Don't know
☐ Refused
2 ☐ Front loading
How old is it?
__ years
☐ Don't know
☐ Refused
3 ☐ No washing machine (skip to question 16)
4 ☐ Washing machine in common laundry area of apartment building (skip to question 14)
88 ☐ Don't know (skip to question 14)
99 ☐ Refused (skip to question 14)

Age of washing machine (top and front loading)	hydro or diesel power		
	Hydro community	Diesel community	Total
less than 1 year	179	12	191
	1.92	0.13	2.05
	93.72	6.28	
	2.23	0.94	
1 to <5 years	2,516	502	3,018
	27.05	5.40	32.45
	83.37	16.63	
	31.33	39.50	
5 to <10 years	2,318	305	2,623
	24.92	3.28	28.20
	88.37	11.63	
	28.87	24.00	
10 to <20 years	1,581	242	1,823
	17.00	2.60	19.60
	86.73	13.27	
	19.69	19.04	
20+ years	212	15	227
	2.28	0.16	2.44
	93.39	6.61	
	2.64	1.18	
Don't know	1,224	195	1,419
	13.16	2.10	15.26
	86.26	13.74	
	15.24	15.34	
Total	8,030	1,271	9,301
	86.33	13.67	100.00
Predicted number of missing responses = 1,763			

13. Does the washing machine have a water level control on it?

1 ☐ **Yes**
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

Water level control	hydro or diesel power		
	Hydro community	Diesel community	Total
Yes	7,505	1,188	8,693
	80.46	12.74	93.19
	86.33	13.67	
	93.18	93.25	
No	423	51	474
	4.53	0.55	5.08
	89.24	10.76	
	5.25	4.00	
Don't know	126	35	161
	1.35	0.38	1.73
	78.26	21.74	
	1.56	2.75	
Total	8,054	1,274	9,328
	86.34	13.66	100.00
Predicted number of missing responses = 1,736			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

14. In a typical week, how many loads of washing are done in this dwelling?

1 __**loads**
88 ☐ **Don't know**
99 ☐ **Refused**

No. of wash loads/week	hydro or diesel power		
	Hydro community	Diesel community	Total
0	35	4	39
	0.35	0.04	0.38
	89.74	10.26	
	0.40	0.29	
1-5	5,596	854	6,450
	55.17	8.42	63.59
	86.76	13.24	
	63.78	62.38	
6-10	2,385	393	2,778
	23.51	3.87	27.39
	85.85	14.15	
	27.18	28.71	
More than 10	640	84	724
	6.31	0.83	7.14
	88.40	11.60	
	7.29	6.14	
Don't know	118	34	152
	1.16	0.34	1.50
	77.63	22.37	
	1.34	2.48	
Total	8,774	1,369	10,143
	86.50	13.50	100.00
Predicted number of missing responses = 921			

15. How many of those loads use hot or warm water?

1 __**loads**
88 ☐ **Don't know**
99 ☐ **Refused**

No. of hot or warm water loads/week	hydro or diesel power		
	Hydro community	Diesel community	Total
0	2,182	346	2,528
	21.52	3.41	24.93
	86.31	13.69	
	24.87	25.35	
0.5	48	0	48
	0.47	0.00	0.47
	100.00	0.00	
	0.55	0.00	
1-5	4,939	777	5,716
	48.71	7.66	56.38
	86.41	13.59	
	56.29	56.92	
6-10	1,141	153	1,294
	11.25	1.51	12.76
	88.18	11.82	
	13.00	11.21	
More than 10	250	25	275
	2.47	0.25	2.71
	90.91	9.09	
	2.85	1.83	
Don't know	214	64	278
	2.11	0.63	2.74
	76.98	23.02	
	2.44	4.69	
Total	8,774	1,365	10,139
	86.54	13.46	100.00
Predicted number of missing responses = 925			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

OVENS

This question was to determine the relative amount of electric vs propane cooking appliances. In all Yukon communities, over 97% of residents use electric ovens.

16. How many and what kind of oven(s) do you have?

1 __Electric
2 __Propane
3 __Other (specify)

Total no. of ovens	hydro or diesel power		
	Hydro community	Diesel community	Total
0	72	19	91
	0.65	0.17	0.82
	79.12	20.88	
	0.76	1.21	
1	9,268	1,534	10,802
	83.77	13.86	97.63
	85.80	14.20	
	97.65	97.52	
2	151	16	167
	1.36	0.14	1.51
	90.42	9.58	
	1.59	1.02	
3	0	4	4
	0.00	0.04	0.04
	0.00	100.00	
	0.00	0.25	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

16. How many and what kind of oven(s) do you have?

1 __**Electric**
2 __Propane
3 __Other (specify)

No. of electric ovens	hydro or diesel power		
	Hydro community	Diesel community	Total
0	594	170	764
	5.37	1.54	6.91
	77.75	22.25	
	6.26	10.81	
1	8,798	1,395	10,193
	79.52	12.61	92.13
	86.31	13.69	
	92.70	88.68	
2	99	8	107
	0.89	0.07	0.97
	92.52	7.48	
	1.04	0.51	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

16. How many and what kind of oven(s) do you have?
1 __Electric
2 __**Propane**
3 __Other (specify)

No. of propane ovens	hydro or diesel power: Hydro community	Diesel community	Total
0	9,004	1,426	10,430
	81.38	12.89	94.27
	86.33	13.67	
	94.87	90.65	
1	487	147	634
	4.40	1.33	5.73
	76.81	23.19	
	5.13	9.35	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

16. How many and what kind of oven(s) do you have?
1 __Electric
2 __Propane
3 __**Other** (specify)

No. of other ovens	hydro or diesel power: Hydro community	Diesel community	Total
0	9,404	1,561	10,965
	85.00	14.11	99.11
	85.76	14.24	
	99.08	99.24	
1	87	8	95
	0.79	0.07	0.86
	91.58	8.42	
	0.92	0.51	
3	0	4	4
	0.00	0.04	0.04
	0.00	100.00	
	0.00	0.25	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

LIGHTING

Incandescent lighting is still (by far) the most commonly used type of residential illumination in the Yukon. In terms of total lighting, it outnumbers the combined use of fluorescent, halogen and compact fluorescent by a ratio of about five to one in both hydro and diesel communities.

Fluorescent lighting is most commonly used in garages, kitchens and basements. Even so, fluorescent bulbs are still only used half as much as incandescent bulbs in those spaces. Throughout the Yukon, the penetration of compact fluorescent lighting is very low.

Just over 40% of hydro community households reported the use of motion sensors to control lighting. This is about double the percentage of motion sensor use in diesel communities. Of these, nearly twelve times as many households (in all communities) use exterior motion sensors as compared to interior motion sensors.

About 60% of households have only one motion sensor, and about 30% have two. About half the respondents in hydro communities who reported the use of indoor motion sensors have more than one. In diesel communities, all respondents who use indoor sensors have only one.

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

17. In total, approximately how many light bulbs do you have in your home? (Including inside and outside light fixtures as well as lamps, but not including fixtures in a suite)

All communities

Room		Type of bulb			
		Compact fluorescent	Fluorescent	Halogen	Incandescent
Basement	Total rooms	111	1,585	177	4,073
	Total bulbs	255	7,253	1,074	17,678
	Bulbs per room	2.3	4.6	6.1	4.3
Bathroom	Total rooms	334	723	296	15,551
	Total bulbs	454	1,101	695	53,097
	Bulbs per room	1.4	1.5	2.3	3.4
Bedroom	Total rooms	610	702	660	27,900
	Total bulbs	998	1,400	1,015	64,811
	Bulbs per room	1.6	2.0	1.5	2.3
Dining	Total rooms	193	252	239	5,990
	Total bulbs	468	422	531	18,848
	Bulbs per room	2.4	1.7	2.2	3.1
Family	Total rooms	97	423	185	2,660
	Total bulbs	148	2,383	946	11,145
	Bulbs per room	1.5	5.6	5.1	4.2
Garage	Total rooms	0	1,580	92	2,644
	Total bulbs	–	8,669	566	9,318
	Bulbs per room	–	5.5	6.2	3.5
Hallways	Total rooms	304	341	47	9,243
	Total bulbs	572	926	191	25,620
	Bulbs per room	1.9	2.7	4.1	2.8
Kitchen	Total rooms	456	4,819	613	7,866
	Total bulbs	918	12,655	2,563	26,757
	Bulbs per room	2.0	2.6	4.2	3.4
Living	Total rooms	381	494	1,184	8,729
	Total bulbs	635	1,381	1,753	29,592
	Bulbs per room	1.7	2.8	1.5	3.4
Other	Total rooms	91	958	187	4,503
	Total bulbs	115	2,625	451	13,618
	Bulbs per room	1.3	2.7	2.4	3.0
Outside	Total rooms	56	15	441	9,476
	Total bulbs	160	19	883	25,995
	Bulbs per room	2.9	1.3	2.0	2.7
All rooms	Total bulbs	4,723	38,834	10,668	296,479

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

17. In total, approximately how many light bulbs do you have in your home? (Including inside and outside light fixtures as well as lamps, but not including fixtures in a suite)

Hydro communities

Room		Type of bulb			
		Compact fluorescent	Fluorescent	Halogen	Incandescent
Basement	Total rooms	111	1,495	177	3,684
	Total bulbs	255	6,459	1,074	16,305
	Bulbs per room	2.3	4.3	6.1	4.4
Bathroom	Total rooms	303	603	255	13,754
	Total bulbs	408	887	622	48,485
	Bulbs per room	1.3	1.5	2.4	3.5
Bedroom	Total rooms	594	604	637	24,162
	Total bulbs	978	1,212	992	57,909
	Bulbs per room	1.6	2.0	1.6	2.4
Dining	Total rooms	185	207	220	5,347
	Total bulbs	456	351	508	16,983
	Bulbs per room	2.5	1.7	2.3	3.2
Family	Total rooms	94	393	177	2,520
	Total bulbs	142	2,172	918	10,762
	Bulbs per room	1.5	5.5	5.2	4.3
Garage	Total rooms	0	1,419	81	2,423
	Total bulbs	–	7,568	555	8,720
	Bulbs per room	–	5.3	6.9	3.6
Hallways	Total rooms	289	258	43	8,090
	Total bulbs	545	671	187	23,085
	Bulbs per room	1.9	2.6	4.3	2.9
Kitchen	Total rooms	401	4,094	523	6,696
	Total bulbs	807	10,987	2,355	23,132
	Bulbs per room	2.0	2.7	4.5	3.5
Living	Total rooms	321	419	1,080	7,489
	Total bulbs	509	1,220	1,617	26,439
	Bulbs per room	1.6	2.9	1.5	3.5
Other	Total rooms	80	851	168	3,883
	Total bulbs	104	2,330	432	12,152
	Bulbs per room	1.3	2.7	2.6	3.1
Outside	Total rooms	56	0	406	8,145
	Total bulbs	160	–	836	23,318
	Bulbs per room	2.9	–	2.1	2.9
All rooms	Total bulbs	4,364	33,857	10,096	267,290

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

17. In total, approximately how many light bulbs do you have in your home? (Including inside and outside light fixtures as well as lamps, but not including fixtures in a suite)

Diesel communities

Room		Type of bulb			
		Compact fluorescent	Fluorescent	Halogen	Incandescent
Basement	Total rooms	0	90	0	389
	Total bulbs	–	794	–	1,373
	Bulbs per room	–	8.8	–	3.5
Bathroom	Total rooms	31	120	41	1,797
	Total bulbs	46	214	73	4,612
	Bulbs per room	1.5	1.8	1.8	2.6
Bedroom	Total rooms	16	98	23	3,738
	Total bulbs	20	188	23	6,902
	Bulbs per room	1.3	1.9	1.0	1.8
Dining	Total rooms	8	45	19	643
	Total bulbs	12	71	23	1,865
	Bulbs per room	1.5	1.6	1.2	2.9
Family	Total rooms	3	30	8	140
	Total bulbs	6	211	28	383
	Bulbs per room	2.0	7.0	3.5	2.7
Garage	Total rooms	0	161	11	221
	Total bulbs	–	1,101	11	598
	Bulbs per room	–	6.8	1.0	2.7
Hallways	Total rooms	15	83	4	1,153
	Total bulbs	27	255	4	2,535
	Bulbs per room	1.8	3.1	1.0	2.2
Kitchen	Total rooms	55	725	90	1,170
	Total bulbs	111	1,668	208	3,625
	Bulbs per room	2.0	2.3	2.3	3.1
Living	Total rooms	60	75	104	1,240
	Total bulbs	126	161	136	3,153
	Bulbs per room	2.1	2.1	1.3	2.5
Other	Total rooms	11	107	19	620
	Total bulbs	11	295	19	1,466
	Bulbs per room	1.0	2.8	1.0	2.4
Outside	Total rooms	0	15	35	1,331
	Total bulbs	–	19	47	2,677
	Bulbs per room	–	1.3	1.3	2.0
All rooms	Total bulbs	359	4,977	572	29,189

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

18. Are any of your lights controlled by motion sensors?

1 ☐ **Yes**
2 ☐ **No**
3 __ Total interior (indoor) fixtures with motion sensor
4 __ Total exterior (outside) fixtures with motion sensor
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
Motion sensors	**Hydro community**	**Diesel community**	**Total**
Yes	4,125	349	4,474
	37.32	3.16	40.48
	92.20	7.80	
	43.46	22.34	
No	5,318	1,206	6,524
	48.11	10.91	59.02
	81.51	18.49	
	56.03	77.21	
Don't know	48	7	55
	0.43	0.06	0.50
	87.27	12.73	
	0.51	0.45	
Total	9,491	1,562	11,053
	85.87	14.13	100.00
Predicted number of missing responses = 11			

18. Are any of your lights controlled by motion sensors? Total interior (indoor) fixtures with motion sensor

1 ☐ Yes
2 ☐ No
3 __ **Total interior (indoor) fixtures with motion sensor**
4 __ Total exterior (outside) fixtures with motion sensor
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
No. of interior motion sensors	**Hydro community**	**Diesel community**	**Total**
1	144	21	165
	49.48	7.22	56.70
	87.27	12.73	
	53.33	100.00	
2	48	0	48
	16.49	0.00	16.49
	100.00	0.00	
	17.78	0.00	
3	22	0	22
	7.56	0.00	7.56
	100.00	0.00	
	8.15	0.00	
4	32	0	32
	11.00	0.00	11.00
	100.00	0.00	
	11.85	0.00	
5	24	0	24
	8.25	0.00	8.25
	100.00	0.00	
	8.89	0.00	
Total	270	21	291
	92.78	7.22	100.00
Predicted number of missing responses = 10,773			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

18. Are any of your lights controlled by motion sensors? Total interior (indoor) fixtures with motion sensor

1 ☐ Yes
2 ☐ No
3 __ Total interior (indoor) fixtures with motion sensor
4 __ **Total exterior (outside) fixtures with motion sensor**
88 ☐ Don't know
99 ☐ Refused

99 ☐ Refused

No. of exterior motion sensors	hydro or diesel power: Hydro community	Diesel community	Total
1	2,358	204	2,562
	54.17	4.69	58.86
	92.04	7.96	
	58.64	61.45	
2	1,094	109	1,203
	25.13	2.50	27.64
	90.94	9.06	
	27.21	32.83	
3	203	8	211
	4.66	0.18	4.85
	96.21	3.79	
	5.05	2.41	
4	240	11	251
	5.51	0.25	5.77
	95.62	4.38	
	5.97	3.31	
5	54	0	54
	1.24	0.00	1.24
	100.00	0.00	
	1.34	0.00	
6	48	0	48
	1.10	0.00	1.10
	100.00	0.00	
	1.19	0.00	
8	24	0	24
	0.55	0.00	0.55
	100.00	0.00	
	0.60	0.00	
Total	4,021	332	4,353
	92.37	7.63	100.00
Predicted number of missing responses = 6,711			

DOMESTIC HOT WATER

About 40% of households in all communities have 40 gallon hot water tanks. Just over 20% have 60 gallon tanks. In hydro communities, 25% did not know what size their tank was. In diesel communities, 16% did not know the size of their tank. Less than 1% of respondents have "on-demand" or instantaneous hot water.

In diesel communities, 50% of households have additional insulation on their hot water tank. In hydro communities only 30% reported additional insulation on their tank. However, in both hydro and diesel communities, about 40% of respondents report insulation on their hot water pipes.

Over 65% of households across the Yukon report low-flow showerheads. About 15% of respondents don't know whether the showerhead is low-flow or not. Over 50% of respondents have had their low-flow showerheads for between one and

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

five years. In diesel communities about 15% of the showerheads are less than a year old, compared to hydro communities, where less than 5% are under a year old.

The amount of showering per household is quite consistent between diesel and hydro communities. In all communities, 12% of households report between one and five showers per week. About 35% report between five and ten showers per week, and between 40% and 50% report over ten showers per week.

The number of baths is also fairly similar between hydro and diesel communities, with between 40% and 50% of households reporting between five and ten baths per week, and about 15% reporting more than five per week.

19. What size is the hot water tank in your dwelling?

1 ☐ **small (20 gallon)**
2 ☐ **medium (40 gallon)**
3 ☐ **large (60 gallon)**
4 ☐ **On demand system** (no tank)
5 ☐ **Other** (specify)
5 ☐ No domestic hot water (skip to question 26)
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
Hot water tank size	**Hydro community**	**Diesel community**	**Total**
Small, 20 gallon	363	130	493
	3.53	1.26	4.80
	73.63	26.37	
	4.14	8.63	
Medium, 40 gallon	3,419	650	4,069
	33.27	6.32	39.59
	84.03	15.97	
	38.98	43.13	
Large, 60 gallon	2,161	313	2,474
	21.03	3.05	24.07
	87.35	12.65	
	24.64	20.77	
On-demand system	59	23	82
	0.57	0.22	0.80
	71.95	28.05	
	0.67	1.53	
Other	537	140	677
	5.22	1.36	6.59
	79.32	20.68	
	6.12	9.29	
Don't know	2,232	251	2,483
	21.72	2.44	24.16
	89.89	10.11	
	25.45	16.66	
Total	8,771	1,507	10,278
	85.34	14.66	100.00
Predicted number of missing responses = 786			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

20. Does your hot water tank have an ADDITIONAL insulating blanket installed?

1 ☐ **Yes**
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

Additional insulating blanket	hydro or diesel power		
	Hydro community	Diesel community	Total
Yes	2,595	714	3,309
	26.10	7.18	33.28
	78.42	21.58	
	30.48	49.97	
No	4,582	577	5,159
	46.08	5.80	51.88
	88.82	11.18	
	53.81	40.38	
Don't know	1,338	138	1,476
	13.46	1.39	14.84
	90.65	9.35	
	15.71	9.66	
Total	8,515	1,429	9,944
	85.63	14.37	100.00
Predicted number of missing responses = 1,120			

21. Are your hot water pipes insulated?

1 ☐ **Yes**
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**

Insulated pipes	hydro or diesel power		
	Hydro community	Diesel community	Total
Yes	3,329	619	3,948
	33.05	6.14	39.19
	84.32	15.68	
	38.61	42.63	
No	2,926	544	3,470
	29.05	5.40	34.45
	84.32	15.68	
	33.94	37.47	
Don't know	2,367	289	2,656
	23.50	2.87	26.36
	89.12	10.88	
	27.45	19.90	
Total	8,622	1,452	10,074
	85.59	14.41	100.00
Predicted number of missing responses = 990			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

22. Do you have low-flow showerheads?

1 ☐ **Yes**
How old are your showerheads?
__ years
☐ Don't know
☐ Refused
2 ☐ **No**
88 ☐ **Don't know**
99 ☐ **Refused**
3 ☐ No shower (skip to 25)

	hydro or diesel power		
Low-flow showerheads	**Hydro community**	**Diesel community**	**Total**
Yes	6,185	1,031	7,216
	56.93	9.49	66.42
	85.71	14.29	
	66.21	67.74	
No	2,368	419	2,787
	21.80	3.86	25.65
	84.97	15.03	
	25.35	27.53	
Not applicable	99	22	121
	0.91	0.20	1.11
	81.82	18.18	
	1.06	1.45	
Don't know	690	50	740
	6.35	0.46	6.81
	93.24	6.76	
	7.39	3.29	
Total	9,342	1,522	10,864
	85.99	14.01	100.00
Predicted number of missing responses = 200			

22. Do you have low-flow showerheads?

1 ☐ Yes
How old are your showerheads?
__ years
☐ Don't know
☐ Refused
2 ☐ No
88 ☐ Don't know
99 ☐ Refused
3 ☐ No shower (skip to 25)

	hydro or diesel power		
Age of low-flow showerheads	**Hydro community**	**Diesel community**	**Total**
less than 1 year	241	158	399
	3.37	2.21	5.58
	60.40	39.60	
	3.93	15.51	
1 to <5 years	3,339	535	3,874
	46.66	7.48	54.14
	86.19	13.81	
	54.41	52.50	
5 to <10 years	1,098	112	1,210
	15.34	1.57	16.91
	90.74	9.26	
	17.89	10.99	
10 to <20 years	659	57	716
	9.21	0.80	10.01
	92.04	7.96	
	10.74	5.59	
20+ years	0	3	3
	0.00	0.04	0.04
	0.00	100.00	
	0.00	0.29	
Don't know	800	154	954
	11.18	2.15	13.33
	83.86	16.14	
	13.04	15.11	
Total	6,137	1,019	7,156
	85.76	14.24	100.0
Predicted number of missing responses = 3,908			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

24. In a typical week, how many showers in total do the members of your household take?

1 __ **Total showers per week**
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
No. of showers per week	**Hydro community**	**Diesel community**	**Total**
0	353	70	423
	3.27	0.65	3.92
	83.45	16.55	
	3.80	4.67	
1-5	1,143	182	1,325
	10.60	1.69	12.28
	86.26	13.74	
	12.31	12.13	
6-10	3,113	592	3,705
	28.86	5.49	34.35
	84.02	15.98	
	33.52	39.47	
More than 10	4,650	637	5,287
	43.11	5.91	49.02
	87.95	12.05	
	50.08	42.47	
Don't know	27	19	46
	0.25	0.18	0.43
	58.70	41.30	
	0.29	1.27	
Total	9,286	1,500	10,786
	86.09	13.91	100.00
Predicted number of missing responses = 278			

25. In a typical week, how many baths in total do the members of your household take?

1 __ **Total baths per week**
88 ☐ **Don't know**
99 ☐ **Refused**
2 ☐ No bathtub

	hydro or diesel power		
No. of baths per week	**Hydro community**	**Diesel community**	**Total**
0	3,214	611	3,825
	29.58	5.62	35.21
	84.03	15.97	
	34.40	40.14	
0.5	24	0	24
	0.22	0.00	0.22
	100.00	0.00	
	0.26	0.00	
1-5	4,700	623	5,323
	43.26	5.73	49.00
	88.30	11.70	
	50.31	40.93	
6-10	1,087	203	1,290
	10.01	1.87	11.87
	84.26	15.74	
	11.64	13.34	
More than 10	266	49	315
	2.45	0.45	2.90
	84.44	15.56	
	2.85	3.22	
Don't know	51	36	87
	0.47	0.33	0.80
	58.62	41.38	
	0.55	2.37	
Total	9,342	1,522	10,864
	85.99	14.01	100.00
Predicted number of missing responses = 200			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

VEHICLE HEATING DEVICES

In diesel communities over 25% of households do not use vehicle plug-ins at all, compared to 17% in hydro communities. About 50% of all homes in the Yukon use plug-ins for one vehicle. Slightly over 25% in hydro communities and just under 25% in diesel communities plug in two vehicles, and very few people (2.5% in hydro and none in diesel communities plug in three vehicles.

About 30% in hydro and 20% in diesel communities use a timer. Of those who have more than one vehicle, about 80% use one timer. Only 20% use two timers. In all communities, about 50% plug-in manually as needed. In hydro communities about 20%, and in diesel communities about 25%, plug in all night long.

Oil pan heaters are a popular form of keeping vehicles warm. Only 20% of respondents do not use oil pan heaters. About 40% of hydro community respondents use one, and over 20% use two oil pan heaters. In diesel communities, just under 50% of respondents have one and just over 20% have two.

Battery blankets are less popular. Just under 35% of respondents in both hydro and diesel communities do not use them at all. About 40% use one battery blanket and just under 20% of respondents use two. Interior car heaters are by far the least popular. Between 85% and 89% of respondents do not use them at all. Under 10% of respondents have one interior heater and 2% use two.

26. How many vehicles do you plug in during the winter?

1 __ **Total vehicles** (if "0" skip to 31)
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
No. of vehicles plugged in	**Hydro community**	**Diesel community**	**Total**
0	1,624	423	2,047
	14.74	3.84	18.58
	79.34	20.66	
	17.20	26.89	
1	5,015	796	5,811
	45.52	7.23	52.75
	86.30	13.70	
	53.11	50.60	
2	2,570	354	2,924
	23.33	3.21	26.54
	87.89	12.11	
	27.22	22.50	
3	234	0	234
	2.12	0.00	2.12
	100.00	0.00	
	2.48	0.00	
Total	9,443	1,573	11,016
	85.72	14.28	100.00
Predicted number of missing responses = 48			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

27. When you plug in your vehicle(s) do you usually:

1 ☐ **Use a timer?**
If the respondent indicated more than 1 vehicle then ask "How many timers do you use?"
2 ☐ **Manually plug in as needed before starting vehicle(s)?**
3 ☐ **Plug in all night?** (no timer)
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
Plug in habits	**Hydro community**	**Diesel community**	**Total**
Use a timer	2,288	242	2,530
	25.51	2.70	28.21
	90.43	9.57	
	29.26	21.04	
Manually plug in as needed	3,911	615	4,526
	43.61	6.86	50.46
	86.41	13.59	
	50.02	53.48	
Plug in all night, no timer	1,572	293	1,865
	17.53	3.27	20.79
	84.29	15.71	
	20.10	25.48	
Don't know	48	0	48
	0.54	0.00	0.54
	100.00	0.00	
	0.61	0.00	
Total	7,819	1,150	8,969
	87.18	12.82	100.00
Predicted number of missing responses = 2,095			

27. When you plug in your vehicle(s) do you usually:

1 ☐ Use a timer?
If the respondent indicated more than 1 vehicle then ask "How many timers do you use?"
2 ☐ Manually plug in as needed before starting vehicle(s)?
3 ☐ Plug in all night? (no timer)
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
No. of timers used	**Hydro community**	**Diesel community**	**Total**
0	11	0	11
	0.51	0.00	0.51
	100.00	0.00	
	0.56	0.00	
1	1,581	176	1,757
	72.59	8.08	80.67
	89.98	10.02	
	80.70	80.37	
2	367	43	410
	16.85	1.97	18.82
	89.51	10.49	
	18.73	19.63	
Total	1,959	219	2,178
	89.94	10.06	100.00
Predicted number of missing responses = 8,886			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

28. How many vehicles have an oil pan heater?

1 __ **Total**
88 ☐ **Don't know**
99 ☐ **Refused**

Vehicles with oil pan heaters	hydro or diesel power		
	Hydro community	Diesel community	Total
0	1,978	253	2,231
	22.05	2.82	24.87
	88.66	11.34	
	25.30	22.00	
1	3,081	557	3,638
	34.35	6.21	40.56
	84.69	15.31	
	39.40	48.43	
2	1,646	244	1,890
	18.35	2.72	21.07
	87.09	12.91	
	21.05	21.22	
3	192	16	208
	2.14	0.18	2.32
	92.31	7.69	
	2.46	1.39	
4	0	8	8
	0.00	0.09	0.09
	0.00	100.00	
	0.00	0.70	
9	24	0	24
	0.27	0.00	0.27
	100.00	0.00	
	0.31	0.00	
Don't know	898	72	970
	10.01	0.80	10.82
	92.58	7.42	
	11.48	6.26	
Total	7,819	1,150	8,969
	87.18	12.82	100.00
Predicted number of missing responses = 2,095			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

29. How many vehicles have a battery blanket?

1 __ **Total**
88 ☐ **Don't know**
99 ☐ **Refused**

Vehicles with battery blankets	hydro or diesel power		
	Hydro community	Diesel community	Total
0	2,593	454	3,047
	28.91	5.06	33.97
	85.10	14.90	
	33.16	39.48	
1	3,099	447	3,546
	34.55	4.98	39.54
	87.39	12.61	
	39.63	38.87	
2	1,545	188	1,733
	17.23	2.10	19.32
	89.15	10.85	
	19.76	16.35	
3	170	16	186
	1.90	0.18	2.07
	91.40	8.60	
	2.17	1.39	
4	24	4	28
	0.27	0.04	0.31
	85.71	14.29	
	0.31	0.35	
Don't know	388	41	429
	4.33	0.46	4.78
	90.44	9.56	
	4.96	3.57	
Total	7,819	1,150	8,969
	87.18	12.82	100.00
Predicted number of missing responses = 2,095			

30. How many vehicles have an interior heater?

1 __ **Total**
88 ☐ **Don't know**
99 ☐ **Refused**

Vehicles with interior heaters	hydro or diesel power		
	Hydro community	Diesel community	Total
0	6,594	1,024	7,618
	73.52	11.42	84.94
	86.56	13.44	
	84.33	89.04	
1	750	80	830
	8.36	0.89	9.25
	90.36	9.64	
	9.59	6.96	
2	220	24	244
	2.45	0.27	2.72
	90.16	9.84	
	2.81	2.09	
3	24	0	24
	0.27	0.00	0.27
	100.00	0.00	
	0.31	0.00	
Don't know	231	22	253
	2.58	0.25	2.82
	91.30	8.70	
	2.95	1.91	
Total	7,819	1,150	8,969
	87.18	12.82	100.00
Predicted number of missing responses = 2,095			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

MISCELLANEOUS

About 95% of respondents in both hydro and diesel communities report that they have no hot tub. About 5% of hydro respondents have a hot tub and nearly 3% of diesel respondents. Almost all of these are outdoor tubs.

31. Do you have an ELECTRIC hot tub?

1 ☐ **Yes, indoor**
2 ☐ **Yes, outdoor**
3 ☐ **No**
88 ☐ Don't know
99 ☐ Refused

	hydro or diesel power		
Electric hot tub	Hydro community	Diesel community	Total
Yes, indoor	107	11	118
	0.97	0.10	1.07
	90.68	9.32	
	1.13	0.70	
Yes, outdoor	478	45	523
	4.33	0.41	4.74
	91.40	8.60	
	5.05	2.86	
No	8,886	1,517	10,403
	80.46	13.74	94.20
	85.42	14.58	
	93.82	96.44	
Total	9,471	1,573	11,044
	85.76	14.24	100.00
Predicted number of missing responses = 20			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

Almost none of the respondents who have heat tape leave it permanently turned on. In hydro communities, about 36% have heat tape and turn it off during summer months. In diesel communities, about 50% use heat tape only in the winter. About 16% of respondents in hydro communities and 13% in diesel communities use a bleeder instead of heat tape. About 5% in Hydro communities and 6% in diesel communities stated in the comments that they had no bleeders or heat tape. Reponses were recoded to reflect these comments. Surprisingly, about 34% of respondents in hydro communities and under 19% in diesel communities do not know whether or not they have heat tape at all.

32. Do you have any heat tape to prevent water lines from freezing?

1 ☐ **Yes, always on**
2 ☐ **Yes, but turned off during summer**
3 ☐ **No, use bleeders**
4 ☐ **N/A, no water lines**
88 ☐ **Don't know**
99 ☐ **Refused**

	hydro or diesel power		
Heat tape	**Hydro community**	**Diesel community**	**Total**
Yes, always on	216	61	277
	1.95	0.55	2.51
	77.98	22.02	
	2.28	3.91	
Yes, off during summer	3,444	782	4,226
	31.16	7.08	38.23
	81.50	18.50	
	36.29	50.06	
No, use bleeders	1,577	203	1,780
	14.27	1.84	16.10
	88.60	11.40	
	16.62	13.00	
N/A, no water lines	471	111	582
	4.26	1.00	5.27
	80.93	19.07	
	4.96	7.11	
No, no heat tape or bleeders	463	87	550
	4.19	0.79	4.98
	84.18	15.82	
	4.88	5.57	
Yes, but never on	59	28	87
	0.53	0.25	0.79
	67.82	32.18	
	0.62	1.79	
Don't know	3,261	290	3,551
	29.50	2.62	32.13
	91.83	8.17	
	34.36	18.57	
Total	9,491	1,562	11,053
	85.87	14.13	100.00
Predicted number of missing responses = 11			

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

33. How many people live in this dwelling?

__ Total

	hydro or diesel power		
No. of residents	Hydro community	Diesel community	Total
1	1,984	351	2,335
	17.93	3.17	21.10
	84.97	15.03	
	20.90	22.31	
2	3,074	551	3,625
	27.78	4.98	32.76
	84.80	15.20	
	32.39	35.03	
3	1,654	295	1,949
	14.95	2.67	17.62
	84.86	15.14	
	17.43	18.75	
4	1,844	167	2,011
	16.67	1.51	18.18
	91.70	8.30	
	19.43	10.62	
More than five	911	209	1,120
	8.23	1.89	10.12
	81.34	18.66	
	9.60	13.29	
Refused	24	0	24
	0.22	0.00	0.22
	100.00	0.00	
	0.25	0.00	
Total	9,491	1,573	11,064
	85.78	14.22	100.00

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

COMMENTS

34. Do you have any comments you wish to add about energy use?

1 ☐ **Yes**
2 ☐ **No**

Comments	hydro or diesel power		
	Hydro community	Diesel community	Total
Yes	95	76	171
	13.23	10.58	23.82
	55.56	44.44	
	22.84	25.17	
No	318	226	544
	44.29	31.48	75.77
	58.46	41.54	
	76.44	74.83	
Not applicable	3	0	3
	0.42	0.00	0.42
	100.00	0.00	
	0.72	0.00	
Total	416	302	718
	57.94	42.06	100.00
Predicted number of missing responses = 1			

Note that this table represents the actual number of responses, not weighted numbers as shown in the responses to other questions.

Comments received

This presents verbatim comments as recorded by interviewers. To facilitate the interpretation, they have been separated by category and by origin (diesel or hydro community). The categories are:

- survey general
- house calls program
- heating system
- refrigerators
- freezers
- heat tape, bleeders
- hot water
- washing machines
- showerheads
- lighting
- vehicles
- self-sufficient energy supply
- energy supply
- miscellaneous
- transportation
- follow up?

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

Survey general

Hydro community comments

- It's a good idea to do this survey.

House calls program

Diesel community comments

- Respondent reported 2 energy-saving, five-year bulbs. Recommended to him by an energy awareness/savings program visiting homes in the Yukon last year.
- All for energy saving, liked the programs a lot; thought they did a good job. Energy saving programs.
- Appreciated the energy audit that was done on the house.
- Bill Kendrick came through and did the energy program it was really well done.
- Energy efficient people were by in last year. Installed blanket on hot water tank. We already use efficient bulbs and low-flow showerheads. Also have triple pane windows, well insulated home. They gave us a very high efficiency rating.
- Had energy 2000 around last summer. They put plastic on large window (inside) but left the window open 2 inches. Was that way all winter and when she called they said she would not have had any heat loss or dollar loss. Wonders how much help that was.
- Had the efficiency people in last year to wrap water tank etc.
- Heard that lots of people were visited by some energy efficiency people last year and it was very helpful. Where can I get hold of them?
- I think the energy smart programs are really great, the ones where people come around. Saw a big difference afterwards.
- The program that helped insulate and lower energy was good.
- Want hot water tank wrapped. Should advertise programs, energy saving ones, better; they didn't hear about it. If there is such a concern should look at their programs and how they are run or they might waste theirs and the public's money.
- When the energy program came and gave out energy lights they weren't bright enough for his house so weren't useful.
- Yukon energy team visited; installed energy smart bulbs in living room, low-flow showerheads and insulation blanket on water tank. Very helpful and educational.

Hydro community comments

- Respondent said energy efficiency crew was by within the last year. Installed insulated blankets and showerheads.
- This program that offered to come into home to help save energy was fabulous.
- Yukon Energy team came by last year and we also had an energy audit done.

Heating system

Diesel community comments

- Everyone should go back to wood, fuel is too expensive.
- Interested in fixing up woodstove for energy efficiency; cut down on oil use.
- Use mostly wood heat/hot water; oil only for back-up or very cold weather.
- Use oil heat in garage (monitor).
- Wood heat only.
- Wood heat only.
- Wood heat only.

Hydro community comments

- Boiler.
- Hot water heat.
- Switch from electric to something else because electric is too much money.
- Both an oil-fired furnace 23 years, and oil-fired burner 8 years[q 6 - boiler only.
- Electric heat only.
- Electric heat only.
- Expensive, run a wood stove, use furnace as serious backup if woodstove can't keep up.
- High efficiency burner getting installed.
- N/a electric heat.
- N/a no furnaces or boiler.
- No furnace or boiler; only live in this dwelling in summer months.
- Q.19: no tank oil-fired hot water heating also. Supplies domestic hot water.
- Switching back to wood heat because of the price of oil.
- Use wood to heat. Is building onto a cabin at present.
- Very expensive for propane; alternate is wood heat; they will use it more this winter.
- We try to save energy and use wood.
- Wood heat with electric backup.

Refrigerators

Diesel community comments

- 1 medium fridge, one small fridge.
- Have one large fridge and one small fridge.

Hydro community comments

- 1 large fridge and 1 small fridge[q 16 - 1 convection and 1 toaster oven.
- Have 1 large and 1 medium fridge.
- Have 1 large and 1 medium fridge.
- 1 large fridge and 1 medium fridge.
- 2 medium fridges and 1 bar fridge.
- Have 1 medium and 1 small fridge.

- Have 1 medium fridge and 1 bar fridge.
- Have 1 small fridge.
- Have one large fridge and one small fridge.
- One bar fridge also.

Freezers

Diesel community comments
- Have upright and chest style freezer. Don't know how old they are.

Hydro community comments
- 1 upright freezer 8 years old and 1 chest style 10 years old.
- 1 upright freezer one year old. 2 chest type freezers 10 years and 20 years.
- Also have 1 chest type freezer, 15 years old.
- Have 2 freezers; 1 is upright and don't know the age, the other is a 10-year-old chest type.

Heat tape, bleeders

Diesel community comments
- Has heat-tape but never has it on.
- Have an overflow that's on all winter.
- Have heat tape but it is never used.
- Heat tape is always off.
- Heat tape is never on.
- Never use heat tape, though they have it.
- 4 responses) no water lines coming into house, water delivery.
- No water lines outside of house.
- No water lines outside coming into house.
- No water lines.
- On demand only; not always on.
- One heat tape in well on timer for 2 hours a day. Other heat tape only on in winter.
- Only use heat tape when gel freezes up which is almost never.
- Q.32 have own well, not outside water lines.
- Yes, but said the heat tape is always off.
- Yes, have heat tape but don't use it.

Hydro community comments
- All lines inside; water is hauled.
- Centrifugal force pump system installed by city, continual motion keeps water lines from freezing.
- City installed the constant motion system to keep water lines open last year.
- No heat tape or bleeders.
- No heat tape or bleeders.
- Don't know; no heat tape, electric pump.
- Don't know; respondent said did not have heat tape or bleeders.
- Don't know; she has heat tape but doesn't know if it is turned off during summer.
- Don't know; no heat tape or bleeders.
- Has heat tapes but has never plugged them in.
- Has own well, no tapes needed.
- Have heat tape but don't use it.
- Never turn on heat tape.
- No heat tape.
- Not on all winter, just used to thaw lines when needed.
- Not sure if heat tape is turned off.
- On own well; heat tape on that line on thermostat.
- Recently added a dishwasher and new system by city for keeping water lines open, runs on a sensor that detects water temperature and comes on only when needed.
- The well is inside the house so there is no need for heat tape or bleeders.
- Well water - no bleeders, no heat tape, we never go away. House always warm.

Hot water

Diesel community comments
- 270 litres.
- An elderly woman lives here and only takes sponge baths.
- Don't like energy efficient showers. Preheats water so she can control amounts used.
- Have hot water preheated, figure that saves $60 a month.
- High efficiency hot water tank, insulation already built in, not supposed to add insulating blanket. Q.24 between 1-8 showers a week. Q.31 jacuzzi with electric jets but no heater on it.
- Low-flow faucets.
- Mindful of the water usage, handwash clothes in bathwater, afterwards.
- Showers everyday, bath every night.
- We have 2 hot water tanks; one holds the water from the well at room temperature, then is transferred to the electric water heater. In winter we use wood only and the water is heated by wood.

Hydro community comments
- 175 litres.
- Have 2x40 gallon tanks.
- Hot water tank is brand new and extra self-insulated.
- Q.19: two hot water tanks, one for 20 gallons, the second for 40 gallons.
- Q.19: has 2 tanks; one medium; one large.

- Recently we had a terrible power bill and it turns out one element was burned out in the hot water heater. Too bad there isn't some mechanism to warn people when something is amiss. Also, something in place to make it more attractive for landlords to keep-up their properties, i.e.: Install new hot water tanks, energy efficient lighting systems, etc.
- Should promote solar panels more for hot water tanks. Propane quite efficient; government should promote solar more.
- Shut your hot water tank off and it saves a lot of money.
- Some hot water pipes are insulated and some are not.
- Were saving lots until they had baby, extra laundry, baths, etc..

Washing machines

Diesel community comments
- Front loading washer automatically adjusts water level.
- We bought washer/dryer to save energy and water.

Hydro community comments
- Apartment-sized washing machine, hand filled with water.
- Twin tub style washing machine, filled by hand.
- Front loading washer for 5 years, as well.
- Washer saves 1/4 of power of normal washer.

Showerheads

Hydro community comments
- I wish someone would invent or make available an in-line water restriction system, so you could avoid having to change all the fixtures and plumbing at the other end. This is our 2nd house in Granger and most houses were built with the "dwarf" system — an expensive fixture outfit that doesn't allow you to change to low-flow heads without ripping a bunch of plumbing out of the wall.

Lighting

Diesel community comments
- Q.17: 7 bulbs in total travel trailer.
- 1 light outside is actually "low sodium."
- All light bulbs are 40 watt. Residents are 97 and 103 years old. Vehicle plugged in belongs to caregiver.
- Don't use a lot of lights; conserve where possible.
- I try to conserve energy and turn off the lights.
- Minimal lights - 2 large energy efficient fluorescent bulbs (not tubes: in main living area and 9 other lights. Refuse to use more.
- Respondent uses oil lamps for lighting. Has only 2 incandescent bulbs that run only when generator operating.
- Some are allergic to florescent lights so if there is another way to do them she'd like to know.
- Try to keep lights turned off as much as possible.
- We are trying to look at conservation by using low wattage incandescent lights. Q.17 1 mercury vapour light bulb, outside.
- Why don't you ask about energy saver lights or low-flush toilets?

Hydro community comments
- A lot of lights don't get used very often.
- Although there are many many lights in this house we don't use them all. Also use energy saving bulbs
- Only answered part of question: respondent said he didn't know what kind of bulbs were in his house "9 different kinds, I don't know." He then said he didn't want to answer that question "it's too complicated."
- Q.17 would not break down the lights for each room, only gave total.
- There should be an education push to teach people to turn off lights.
- Think all the street lights are too much and use too much power, especially in the rural areas.
- Usually make sure lights off before leaving and turn heat down before leaving house.
- We save energy well, don't turn on lights during the day.
- We use timer on lights and turn lights off when we leave.

Vehicles

Diesel community comments
- Never plug in vehicles unless absolutely needed.
- 1 vehicle plug in as needed, 1 vehicle plug in all night.
- One vehicle on timer, one vehicle plugged in when needed.
- One vehicle on timer, the other vehicle plugged in as needed.
- Our car is 72 years old. Didn't have heaters back then.
- Q.uestions about transmission heater should be asked and whether block heater or circulation heater.
- Rarely plug vehicle in, mostly use the garage.
- Use timer half the time and plug in all night half the time.

Hydro community comments
- Q.27 - 1 vehicle on timer, 1 vehicle plugged in all night.
- Q.27 rarely plug in, insulated garage.
- Didn't plug any vehicles in last summer. Only plug in when -30 or colder.
- One vehicle kept warm with command start.
- One vehicle plugged in as needed. One vehicle plugged in all night.
- One vehicle uses a timer, one vehicle manually plugged in as needed.
- Only plug in one vehicle at a time.
- Plug in all night if lower than -25c.

Self-sufficient energy supply

Diesel community comments

- Q.17: this home has its own generator and inverter. Low wattage bulbs. No water lines.
- Live in the bush. Generate their own power. Heat with wood. Haul their water. Hot water heated by propane on demand 6 sm. 12v light bulbs run by rv battery.
- Generate their own power and haul water.

Hydro community comments

- We make our own power. And are very energy efficient.
- We support solar and wind generators.

Energy supply

Diesel community comments

- Electricity far too expensive.
- "it's terribly expensive" (referring to electrical. Oil furnace only used occasionally in absence of owners — predominately wood heat).
- A lot of power outages where they live.
- Alternative energy should be encouraged especially wind; no more dams. Designs should consider making the energy source affordable for average family.
- Amazing how high energy bill is in the summer, they must have raised rates.
- Cost a lot up there on electric heater; heat is really high.
- Doing good.
- Hope they run a powerline from Mayo to Dawson and it reduces power costs.
- How come our bill is so high? It seems like it really shot up.
- I think people should be getting off diesel and using more renewable energy like wood boilers, wind and microhydro.
- It's expensive.
- Light bill is really high.
- Look at under-water turbines instead of dams.
- Low prices of energy.
- Not too happy they're building a line from Mayo to Dawson. Not sure who's going to swallow the costs of that and don't think the general public is aware.
- Prices are going up every year.
- Should use more hydro; use instead of diesel.
- There is a lot of overuse of energy. What Yukon Energy is doing with alternate energy programs is good. Noticed changes, need to get away from diesel. Price of fuel is very outrageous.
- Too expensive.
- Too expensive.
- Very expensive.
- When is the powerline coming by this place?

Hydro community comments

- Cheaper please!
- Could price come down.
- Electricity is awfully expensive.
- Energy is extremely expensive. Don't waste energy.
- Everyone should go to low energy bulbs.
- Expensive.
- Happy with energy service in Yukon. Keep with it so we don't have California problems.
- Hydro is too expensive. Don't like it. Need help retrofitting his house to save energy.
- It should be cheaper.
- It's expensive!
- Its too expensive.
- Like the idea of wind mills on the hill, good way to create energy.
- Like to see homes converted to solar/wind generation and given a monthly bill. Stuck with Faro's bill when Faro shut down, stuck with their energy bill.
- Lower the prices of energy.
- Needs to be cheaper.
- Power bills are too high, considering our big dam; dam is not being utilized properly.
- Price could go down.
- Price is way too high. Service is poor when you ask a question.
- Supply of electricity should not be in the hands of private business enterprises. It should be a publicly owned and operated utility.
- Takhini housing heat is really expensive.
- The price of hydro is crazy.
- They should try to regulate electrical costs because, in down or hard times, it's hard to keep up with rising costs of energy. Hardly no communication.
- This is a Fraser customs area. They have their own hydro power generation. Wanted this fact mentioned in case it affect survey results.
- Too expensive, try to be as efficient as possible.
- Too expensive.
- Too freakin expensive.
- Very expensive fuel oil.
- Very expensive lately.
- Very expensive, so pay more attention to what they use. Shut hot tub down in January usually. They have 2 vehicles and a garage but it was too warm to plug in last winter, normally they use it very little.
- When is it going to be cheaper? The price has gone up.
- Why aren't they looking at other types of energy. Feels that wood heat should not be promoted because it is a high pollutant. They switched away from it.
- Wish it was cheaper.
- Would like electric bill to go down.

- Yukoners are not energy efficient. Don't use resources. Use too much water, waste too much.

Miscellaneous

Diesel community comments

- Oil-fired boiler system provides heat and hot water for whole building. Respondent didn't know any details except that the boiler is oil-fired.
- Only rented this 3 weeks ago. Q.9 have one large fridge and one bar fridge.
- Common sense is all it takes to conserve.
- Energy is pretty low, run out of water fast. Q.8: wood heat only. Q.32: don't know; no heat tape or bleeders.
- From Europe so I am used to saving water and energy, all for energy conservation.
- House is built in 1983; would like to have it renovated.
- I know we use too much. Hard to stay under 1,000 hours; we almost did this month — 1,032 hours. Rate is different below 1,000 hours.
- Lowers energy because smaller house (Q.8 no furnace or boiler, wood heat only).
- My wife works all day so only one light a day and at night 2 lights and tv question; Q.4: heat is electric and oil. She pays electric and landlord pays oil; low-flow on kitchen sink. Would like to keep cost down on electricity.
- Not very careful with their energy.
- Q.3 and 4: respondent pays electricity in summer and landlord pays in winter.
- Q.19: 2 tanks, one=20 gallon, one=60 gallon.
- Q.19: common hot water tank for entire four-plex) insulation is very poor in this house. Q.2.2 YTG employee housing.
- Raised in a country where you have to conserve energy, so he does that here in Canada too.
- Should insulate all the pipes properly.
- Suite has 2 living/sleeping rooms. Connected to business. Use business facilities.
- The water is really bad so he uses a distiller and it sucks a lot of energy.
- This is a bed and breakfast.
- This is a community nursing residence.
- This is a summer residence only.
- This is an office/apartment that he uses only when he is there on business in summer. Uses an electric baseboard heater when necessary.
- This is one unit of a motel which respondent occupies as part of his employment.
- Try to conserve energy as much as possible, and power, use it sparingly.
- Very conservative with energy.
- Why no questions about insulation? Triple pane windows, etc. In Watson Lake, many houses are very old and poorly insulated. If the pipeline comes through will Watson Lake get natural gas for heating? Will it be significantly cheaper?
- You are not on the grid for powerlines.

Hydro community comments

- Q.22: 1 is 1 year old and the other is 5 years old.
- Q.32: have a transformer.
- Q.8: every other year; Q.19: 2 40 gallon hot water tanks.
- Q.8: every two years; Q.20: insulated crawl space.
- Q.8: have furnace checked biannually.
- Q.8: n/a electric heat; Q. 32 - n/a.
- Q.8: no furnace or boiler; Q.20: n/a no tank; Q.31: this is a soft tub - does not have an electric heater but extracts heat from the pump to warm the water.
- responses exclude suite.
- As rural/residential we are obligated to install yard litres for which we are responsible for the power. Also our well we have to have heat tape to keep the lines open. 3 freezers, 2 refrigerators, 21 loads of laundry all needed because of bed and breakfast. Q.19: one oil-fired 40 gallon and one 100 gallon stainless steel hooked up to woodstove — cost of water actually drops in winter.
- Changing bulbs slowly as we can afford it.
- Do best not to overuse it.
- Done storm windows to help conserve energy.
- Don't use dryer a lot, very old appliances and are going to replace them. Horrendous power bills in an old house. A lot of interest in energy saving area.
- Don't use your dryer, hang clothes outside, it is cheaper.
- Energy use is fine; don't abuse it, but it is very pricey.
- Have inside well. Vehicle in garage.
- Helpful just doing survey; makes her more aware of the ways she could save energy such as insulating blanket on hot water tank. Q.8: wood and electric heat only.
- I try to be energy efficient. It's expensive for people on their own and there should be rebates.
- It is getting very expensive; really noticed a big increase and we are careful.
- It's difficult to cut down in winter. One shift worker who is up quite late so lights on a lot. Would like to see electric rates go down.
- Live in 10-year-old house. 3 sealed windows. Energy audit done. Went to 2x30 gallon tanks to save energy. House is very efficient. Q.uestions seemed more about energy consumption not conservation.
- Never use dryer, use clothesline.
- Noticed water level dropped off.
- Only live in this dwelling in summer months.
- People should cut back on energy use.

- People should make a good effort to understand alternatives and get off of fuel.
- Pretty conservative with energy.
- Q.32: there are no outside water lines. The well house is attached. Q.26: has heated garage so doesn't use any vehicle timers or heaters. Q.9: one medium fridge and one small fridge.
- Q.26/27: use heated garage.
- Should bring down prices; Q.8: n/a wood/electric.
- Showerhead only a week old.
- The cleaner we can get the better regarding fuel efficiency. Q.11: also have chest type 12 years old.
- This is a summer cabin only.
- This is her own personal line and she rents a room with a little burner and washer and dryer.
- This is one room cabin no indoor water.
- Try to be conservative, not enough people are, or are aware of what to do. They only have a light on for the room they are in.
- Try to be energy efficient as much as they can.
- Try to save energy (Q.19: Hot water tank not in dwelling, duplex).
- Try to save energy, too expensive to replace appliances with low energy appliances.
- Try to save energy.
- Very careful with energy because it is so expensive.
- We are very conscious about turning out lights and saving energy.
- We have a 'green' home; it is energy efficient.
- We're conservers of energy use and try to keep it to a minimum.
- Why aren't there any questions about TVs? I have 2 and they're on all the time. I heard they use a lot of electricity.
- Wind power? (Q.32: on timer called water matrix).
- Wondered if there would be questions about dryer use and why there wasn't.
- Work at the energy solution centre.
- Would like to see that people who own their trailer but not land should be able to receive Whitehorse Housing's cheaper programs.

Transportation

Hydro community comments

- too many ads to encourage driving big cars like SUVs; media manipulate people on energy consumption; more should use bus.

Follow up?

Diesel community comments

- We would appreciate any information on how we can better use our energy.
- More information on how to save energy especially for winter. So people can prepare their households.
- Are there any types of energy generation wind or solar on a smaller scale for a smaller household. (Q.32: respondent said no water lines, delivered).
- Well water ruined during recent construction/blasting in area. Full of sediment, has clogged washing machine, dishwasher, and showerheads — only good for washing dishes and flushing toilet — respondent doesn't shower or do laundry at home anymore.

Hydro community comments

- Would like to be more energy efficient but don't know how. Need more literature sent to homes — pamphlets or something.

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage

Line 1: Frequency

Line 2: Percentage of total

Line 3: Row percentage

Line 4: Column percentage