

# **Yukon Electricity Values Survey 2016 Report**

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for  
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## EXECUTIVE SUMMARY

The Yukon Bureau of Statistics conducted the Electricity Values Survey in the spring of 2016 on behalf of the Yukon Energy Corporation (YEC). The purpose of the survey was to generate information on Yukon residents' preference for factors that would be affected by future electricity generation in Yukon. The survey also aimed at understanding Yukon residents' preferences and values relating to energy use.

A stratified random sample representing one-third of total eligible Yukon households was selected to complete the phone survey. The overall response rate for the survey was 63.2%, indicating the results are a good representation of all Yukon households.

Respondents ranked four major factors in order of importance to YEC's future projects. Environmental Protection was ranked first by 44% of respondents, followed by Cost (23%), Reliability (21%), and Social Responsibility (8%).

In contrast to the importance given to YEC's projects, when respondents were asked to rank five factors that influence their own home heating system selection, cost was the most important factor (chosen first by 45% of respondents) to influence a respondent's home heating selection. Respondents' selection of home heating system was more influenced by cost than all four other factors (safety, environmental concerns, comfort, and ease of maintenance) combined.

Respondents ranked statements on Environmental Protection in order of importance. 'Reduce pollution to land, water, and air, other than greenhouse gas emissions' was ranked first by 30% of households, followed by 'Reduce impacts on species' habitats and wildlife populations at risk' (24%), and 'Reduce impacts on Earth's atmosphere' (23%). 'Minimize the amount of land affected by a new energy project' was ranked last (12%).

While Social Responsibility was the factor least ranked first of the four major factors, a question asking respondents to rank statements relating to social responsibility revealed that one-third of Yukon households ranked 'Enhancing economic growth and creating jobs' as the most important social responsibility.

When asked if they would support specific Yukon Energy initiatives even if it meant a potential increase in electricity rates, respondents answered 'Yes' at the following percentages:

- An effort to reduce impact on species' habitats and wildlife populations at risk (81%)
- An effort to reduce GHG emissions in energy production (78%)
- An effort to create local jobs (73%)
- An effort to maintain access to wilderness recreation (73%)
- An effort to reduce power outages in your area (71%)
- An effort to not compromise traditional pursuits as a way of life (69%)
- An effort to enhance economic growth for Yukon (57%)
- A decision to supply electricity to mines (46%)

In ranking three energy sources in order of preference for Yukon's future, 59% of the responding households chose renewable energy as their preferred future energy source. About one-third (31%) preferred energy conservation as a future energy source, while only 5% preferred fossil fuels as a future energy source.

If YEC is required to choose a fossil fuel for future back-up generation, slightly over half of Yukon households (51%) would prefer the use of natural gas. Only 14% would prefer diesel fuel.

At 47%, fuel oil is the most prevalent primary home heating source in Yukon. Electricity (baseboard, furnace or boiler) is the second most prevalent primary home heating source and is used by a quarter (25%) of households. Of those who did not already use electricity as a primary or additional home heating source, only 18% had considered switching to electric heat.

Most households (41%) did not have an additional home heating source. Of households that did have additional home heating sources (59%), wood was the most common (36%) additional home heating source followed by electricity (31%). While fuel oil was the most commonly used primary source of heat, it was not commonly used (13%) as an additional home heating source.

A little over three-quarters of the respondents (76%) said their electricity bills are affordable, while 55% thought Yukon's current electricity rates are reasonable. Almost all respondents (97%) claimed they make efforts to reduce their energy use; however, a little over three-quarters (77%) of respondents said they 'always' or 'frequently' check the energy efficiency rating when purchasing a new appliance or electronic device.

Eighty-five percent of all households experienced at least one power outage in 2015. About two-thirds of the households felt it necessary to have back-up heating and/or a generator in case of power outages.

Most (61%) respondents were confident that YEC is able to plan and develop sustainable energy sources to meet future needs. About a fifth (19%) of the respondents said that they do not have confidence in YEC's ability.

## INTRODUCTION

The Electricity Values Survey 2016 was conducted by the Yukon Bureau of Statistics (YBS) on behalf of the Yukon Energy Corporation (YEC). The objective of the survey was to generate information on Yukon residents' perspectives on factors that need to be considered in planning for Yukon's future electricity needs. The results of the survey will be used in YEC's 2016 Resource Plan – a document that outlines how to meet Yukon's electricity needs for the next 20 years (2016 to 2035).

The Electricity Values Survey 2016 was designed to collect information primarily on Yukon residents' preference for factors that can potentially be affected by Yukon's future electricity generation. For instance, how would Yukon residents balance their preference between environmental protection, cost, reliability, and social responsibility, knowing that choosing any energy option requires trade-off? The survey questionnaire also included modules aimed to understand Yukon residents' interests and values relating to energy use so that they can be reflected in YEC's 2016 Resource Plan.

YBS conducted the survey using a Computer Assisted Telephone Interviewing (CATI) system. A stratified random sample<sup>1</sup> of 4,534 households representing one-third of the total eligible Yukon households (13,591) was selected to complete the CATI survey<sup>2</sup>. Only one person per household could complete the survey and the respondent was selected with a regressive eligibility criterion<sup>3</sup> based on their availability during the call. The overall weighted<sup>4</sup> response rate for the survey was 63.2% indicating that the results are a good representation of Yukon households.

The results of a survey with a response rate of 70% or greater are considered excellent, while those derived from a survey with a response rate between 60% and 70% are considered of good quality. Results from a survey below 60% response rate tend to have high margins of error. However, for highly important public opinion research involving key policy or resource allocation decisions, Canada's federal government departments target a response rate of 40% to 60%<sup>5</sup>.

Appendices to this report contain the following information:

- Appendix A: Results and summary tables of survey responses,
- Appendix B: Survey response rates and survey delivery details, and
- Appendix C: Survey questions.

The following analyses<sup>6</sup> provide a summary of results by survey question (or group of related questions). The results of the ranking questions are presented as percentages of first ranking as well as weighted averages of all rankings<sup>7</sup>.

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<sup>1</sup> All Yukon households were stratified by geography and household size (i.e., the number of household members) and random sample was drawn from each stratum. Smaller communities were allocated with a relatively bigger proportion of samples.

<sup>2</sup> The distribution of the valid sample was checked against that of the initial sample and the survey universe by stratum to ensure randomness of the sample with valid contact information.

<sup>3</sup> The most senior person, or the next senior person, or in their absence, an adult who is at least 18 years old.

<sup>4</sup> The distribution of the responses was checked against that of the sample by stratum, and the sample weights were calibrated to adjust for non-response.

<sup>5</sup> <http://www.tpsgc-pwgsc.gc.ca/rop-por/rapports-reports/comitephone-panelphone/page-06-eng.html>

<sup>6</sup> All graph values are represented as percentages of the sum of respondents based on weighted frequencies.

<sup>7</sup> Geometrically declining weights are applied to progressively reducing preferences to calculate weighted averages.

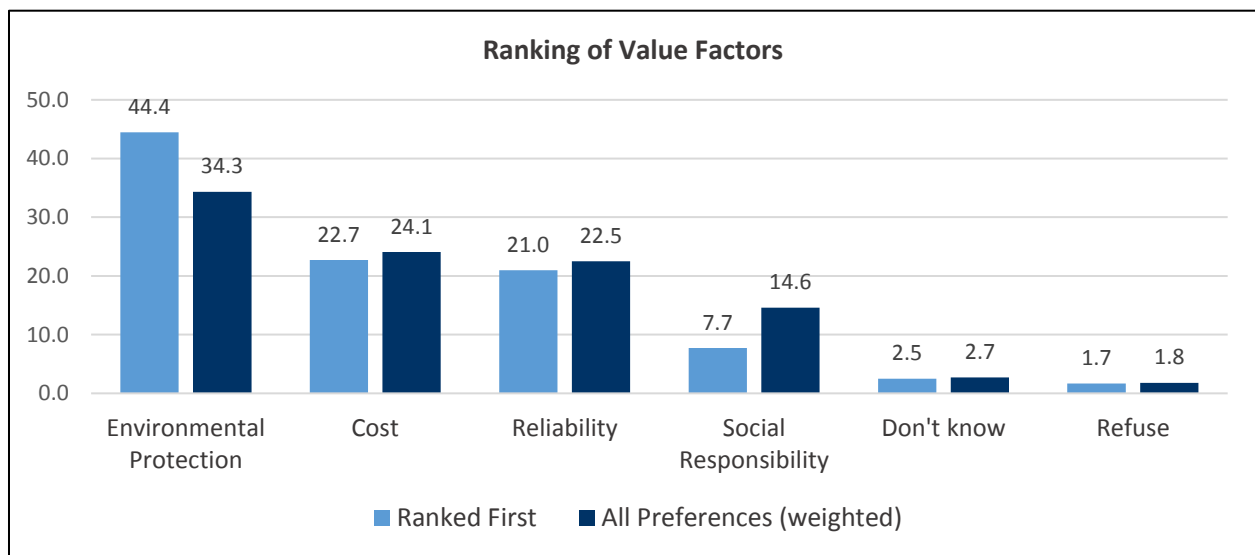
## PART 1: UNDERSTANDING THE PUBLIC'S VALUES REGARDING YEC INITIATIVES

A critical part of YEC's resource planning work is to gather input from Yukoners so that the Corporation can create a plan reflecting Yukoners' values in terms of the territory's energy future. Since all energy options have impacts on often competing preferences and require trade-offs, YEC wanted to understand how the public would rank various factors in terms of their importance. Four broad categories of factors included Environmental Protection, Cost, Reliability, and Social Responsibility. Each survey question in this section is related to one or more factors in these categories.

### FACTORS TO BE CONSIDERED FOR YEC'S FUTURE PROJECTS

Respondents were asked to rank four factors in order of importance for YEC's future projects. As shown in Figure 1, the four factors were ranked in order of importance as follows:

- Environmental Protection: 44.4% ranked first (weighted average of all rankings: 34.3%);
- Cost: 22.7% ranked first (weighted average of all rankings: 24.1%);
- Reliability: 21.0% ranked first (weighted average of all rankings: 22.5%), and
- Social Responsibility: 7.7% ranked first (weighted average of all rankings: 14.6%).



**Figure 1. Ranking of factors that respondents would like YEC to consider in deciding on future projects.**

Of those Yukon households that value *Environmental Protection* as the most important factor, 32.5% ranked the reduction of risk of pollution to land, water and air other than greenhouse gases as the most important form of environmental protection, followed closely by reduction of impacts on Earth's atmosphere (30.5%). Even with a potential increase in electricity rates, 71.0% households of this group would support YEC's effort to create local jobs. However, only 52.5% households would support YEC's effort to enhance economic growth. While ranking statements on *Social Responsibility*, 27.1% of this group ranked maintaining traditional pursuits as the most important *Social Responsibility*, and 23.9% chose economic growth and job creation as the most important. This group was split almost evenly between Yes (40.9%) and No (41.5%) when asked if they would support YEC's decision to supply

electricity to mines even with a potential increase to electricity rates. In addition, 57.0% of this group preferred renewable energy as the most important type of future energy source for Yukon. For 38.4% of this group, *cost* was the most important factor that influences their home heating selection, while only 18.7% identified *environmental concerns* as the most important factor.

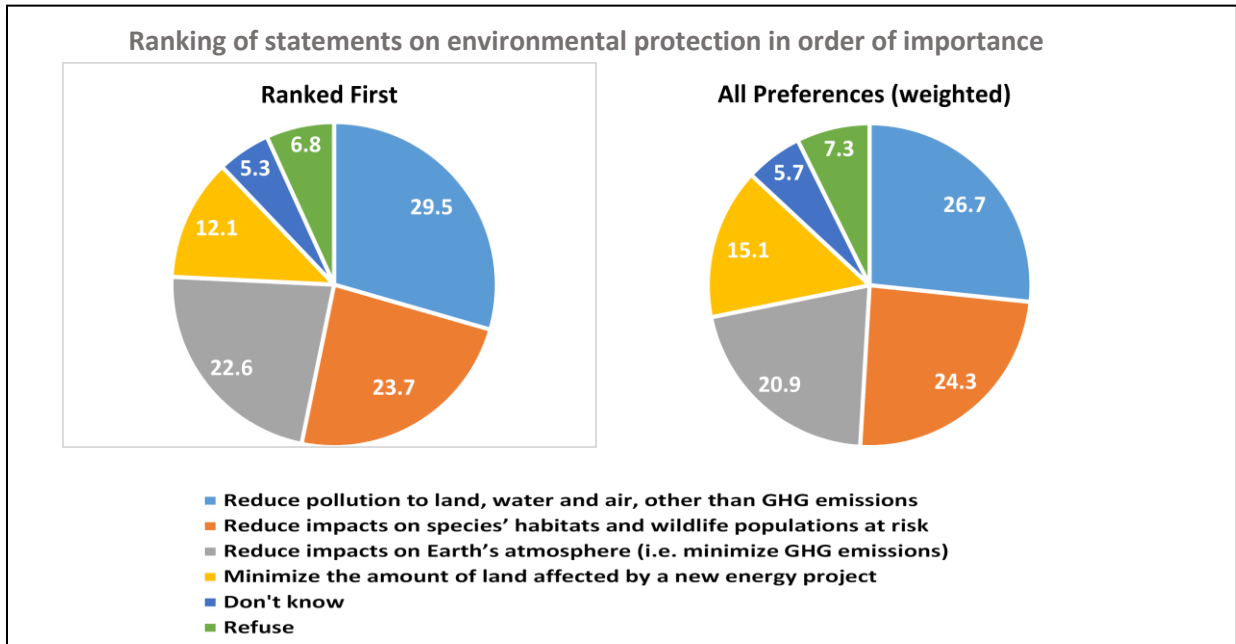
Of households that value *Cost* as the most important factor, 31.2% ranked the reduction of pollution to land, water and air other than greenhouse gases as the most important form of environmental protection. Even with an increase in electricity rates, 76.4% of this group would support an effort to reduce impact on species' habitats and wildlife populations at risk, 75.8% would favour creation of local jobs, and 52.5% would support YEC's decision to supply electricity to mines. Most households (43.8%) in this group chose economic growth and job creation as the most important *Social Responsibility*. Further, 64.1% of this group preferred renewable energy as future energy source for Yukon and for 59.9%, *cost* was the most important factor that influences their home heating selection.

Of households that value *Reliability* as the most important factor, 32.4% ranked the reduction of pollution to land, water and air other than greenhouse gases as the most important form of environmental protection. Even with an increase in electricity rates, 77.2% of the respondents in this group would support efforts to reduce power outages in their areas and 75.8% would favour creation of local jobs. Majority of the households in this group (44.6%) ranked economic growth and job creation as the most important *Social Responsibility*. In addition, 61.4% of this group ranked renewable energy as the most important type of future energy source for Yukon and 51.4% said *cost* was the most important factor that influences their home heating selection.

Of households that value *Social Responsibility* as the most important attribute, 31.7% ranked the reduction of impacts on species' habitats and wildlife populations at risk as the most important form of environmental protection. Even with an increase in electricity rates, 84.9% of this group would support an effort to reduce impact on species' habitats and wildlife populations at risk, and 79.7% would favour an effort to reduce greenhouse gas emissions in energy production. Of this group, 34.4% ranked economic growth and job creation as the most important *Social Responsibility*. Further, 57.7% of this group ranked renewable energy as the most important type of future energy source for Yukon and for 31.7%, *cost* was the most important factor that influences their home heating selection.

## ENVIRONMENTAL PROTECTION

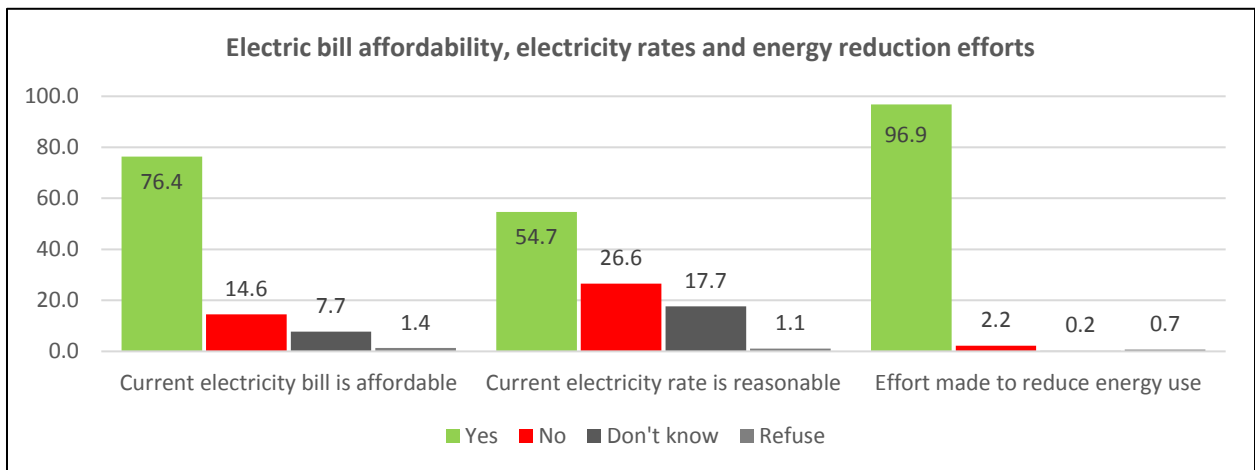
Respondents were asked to rank statements on *Environmental Protection* in order of their importance. The statement 'reduce pollution to land, water and air, other than GHG emissions' was ranked first by 29.5% (weighted average of all rankings: 26.7%) of households (Figure 2). This was followed by 'reduce impacts on species' habitats and wildlife populations at risk' (23.7%; weighted average: 24.3%) and 'reduce impacts on earth's atmosphere specifically relating to GHG emissions' (22.6%; weighted average: 20.9%). 'Minimize the amount of land affected by a new energy project' was the least important to households at 12.1% (weighted average: 15.1%).



**Figure 2. Ranking of preference for environmental protection in respondents' order of importance.**

**ELECTRICITY AFFORDABILITY, REASONABILITY OF RATES, AND CONSERVATION EFFORTS**

Respondents were asked simple questions on the affordability of their electricity bills, the reasonability of the electricity rate, and their efforts to reduce energy use. While a little over three-quarters of the respondents (76.4%) said that their electricity bills are affordable, 54.7% thought that Yukon's current electricity rates are reasonable (Figure 3). Almost all respondents (96.9%) claimed that they make efforts to reduce their energy use.

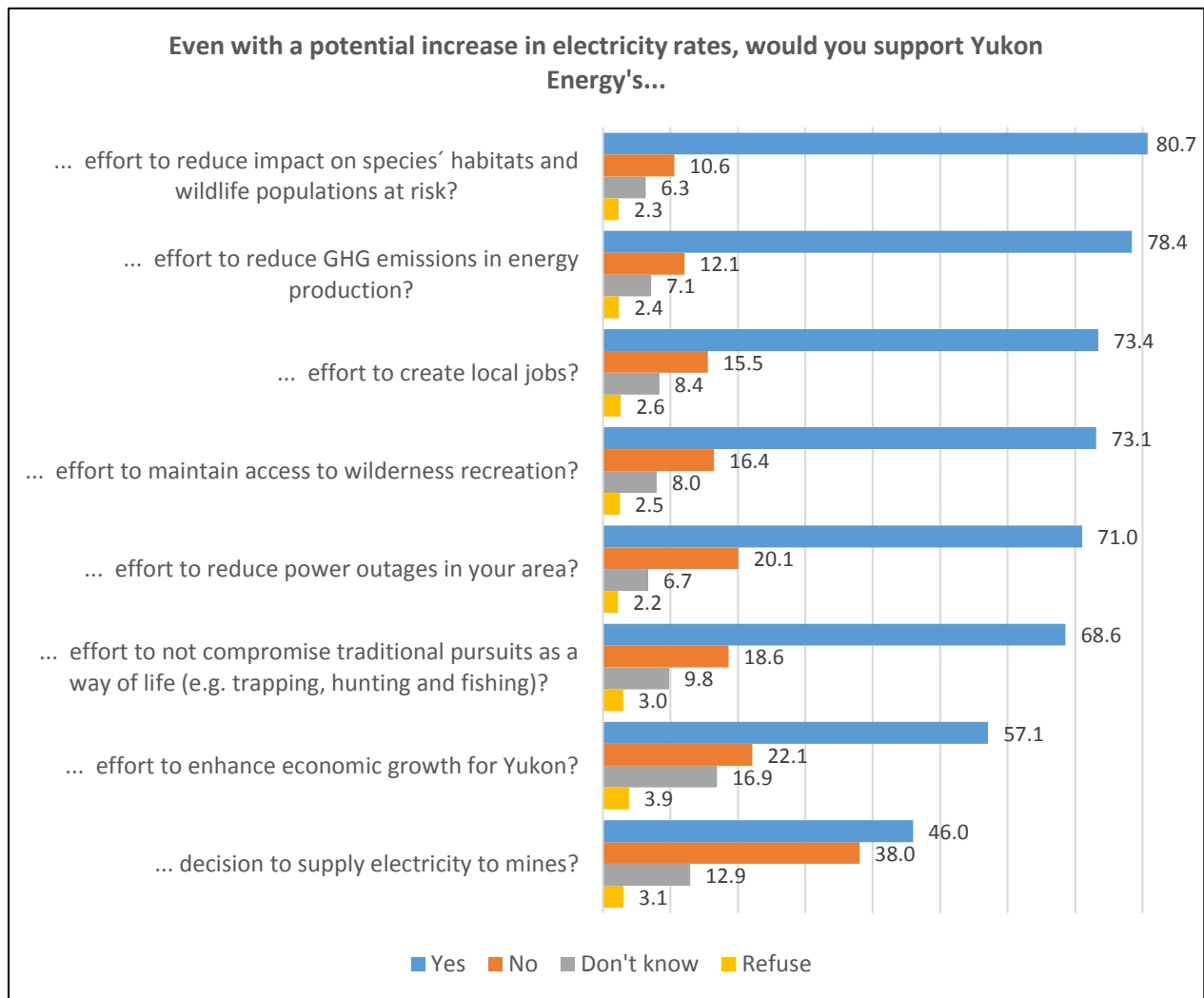


**Figure 3. The affordability of electricity bills, the reasonability of current electricity rates, and efforts to reduce energy use.**

## SUPPORT FOR YEC INITIATIVES

Respondents were asked, even with a potential increase in electricity rates, whether they would support YEC's initiatives to protect environment, maintain social responsibility, and enhance reliability in project planning. The results are presented in Figure 4.

As shown in the figure, 80.7% Yukon households would support YEC's efforts to protect environment, even with a potential increase in electricity rates. While 73.4% households would support initiatives that would create local jobs, only 57.1% would favour initiatives to enhance economic growth. About three-quarters of households (73.1%) would support initiatives to maintain access to wilderness recreation, about two-thirds (68.6%) would support initiatives not to compromise traditional pursuits, and 71.0% would support initiatives to reduce power outages. The support for YEC's decision to supply electricity to mines was the lowest at 46.0%.



**Figure 4. Extent of support to YEC initiatives even with a potential increase in electricity rates.**

## POWER OUTAGES AND BACK-UP HEATING

Respondents were asked if they had experienced power outages in 2015. While 84.5% of all households experienced at least one power outages in 2015, 64.6% of those households experienced at least one outage that lasted more than an hour (Figure 5). About two-thirds of the households (67.2%) felt it necessary to have back-up heating and/or a generator in case of power outages (Figure 6).

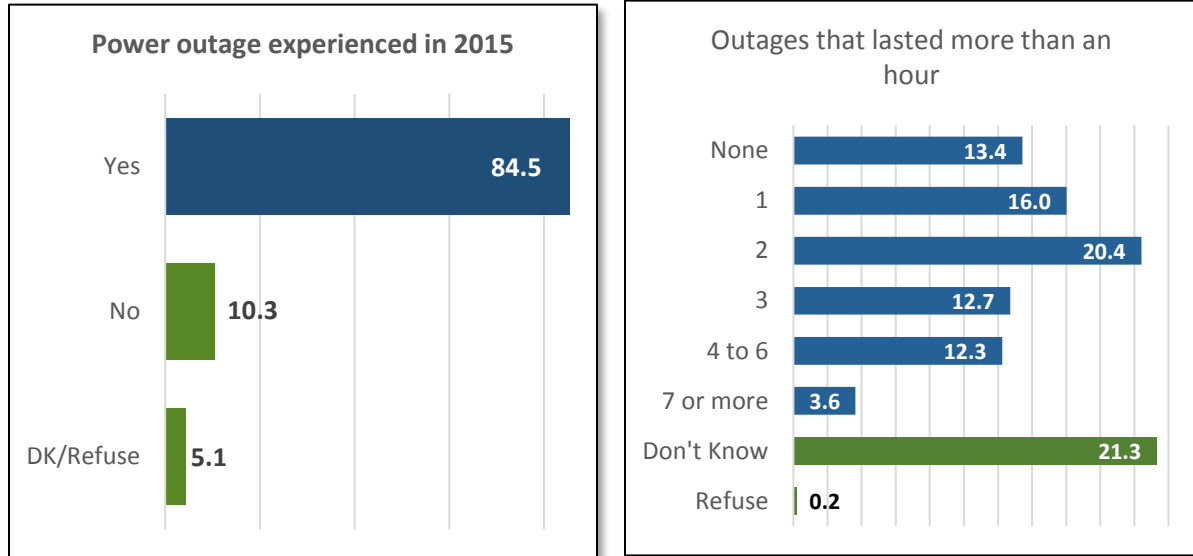


Figure 5. Respondents' experience of power outages in 2015.

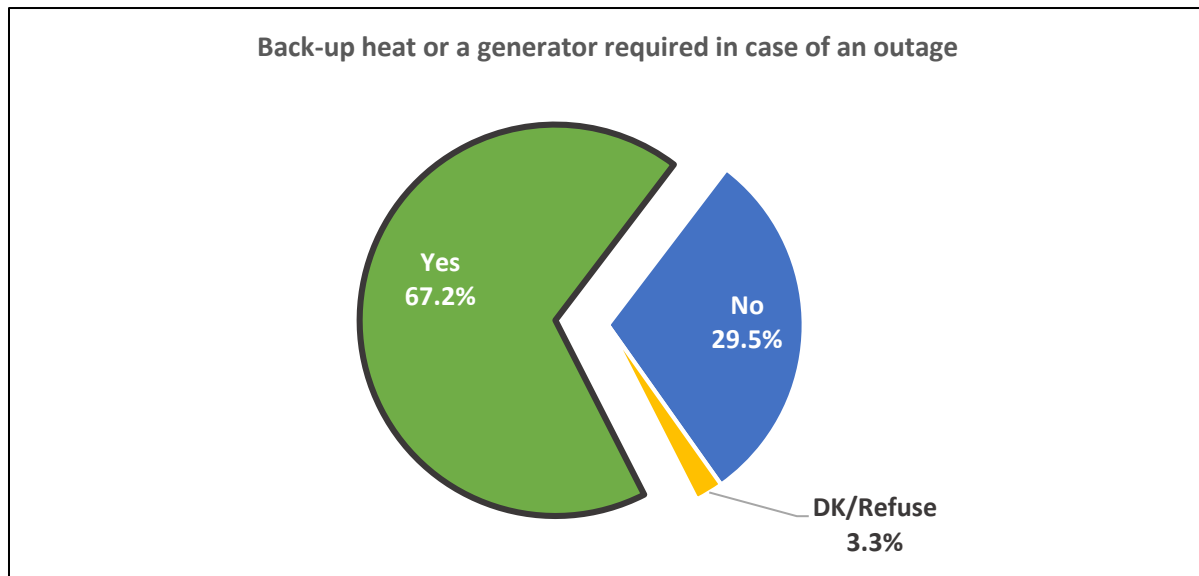


Figure 6. Necessity of back-up heating and/or a generator in case of a power outage.

## SOCIAL RESPONSIBILITY

The survey asked the respondents to rank the following statements concerning social responsibility in order of importance:

- Enhance economic growth and create jobs;
- Do not compromise traditional pursuits (e.g. trapping, hunting and fishing);
- Maintain access to wilderness recreation; and
- Conservation of historical sites to protect Yukon culture.

Based on the responses, one-third of Yukon households (33.3%; weighted average of all rankings: 25.2%) ranked 'enhance economic growth and create jobs' as the most important *Social Responsibility*, while about one-fifth (20.2%; weighted average: 21.0%), ranked 'do not compromise traditional pursuits' as the most important (Figure 7). The next in order were maintaining access to wilderness recreation (16.7%; weighted average: 20.0%), and conservation of historical sites to protect Yukon culture (14.8%; weighted average of all rankings: 17.5%).

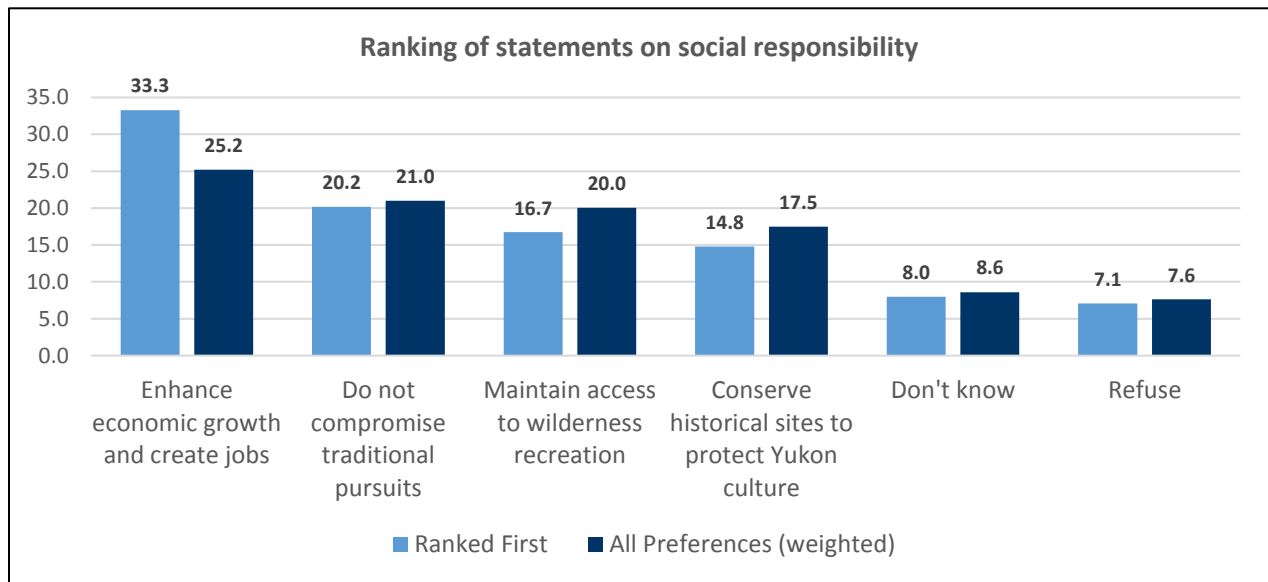
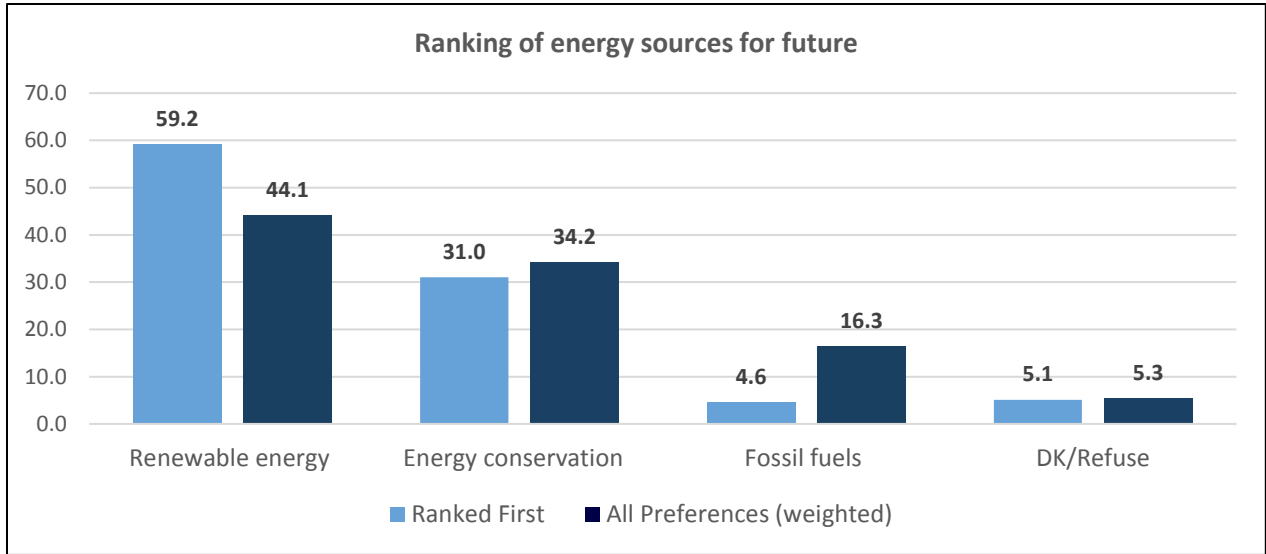


Figure 7. Ranking of statements relating to social responsibility in order of importance.

## PREFERRED FUTURE ENERGY SOURCE FOR YUKON

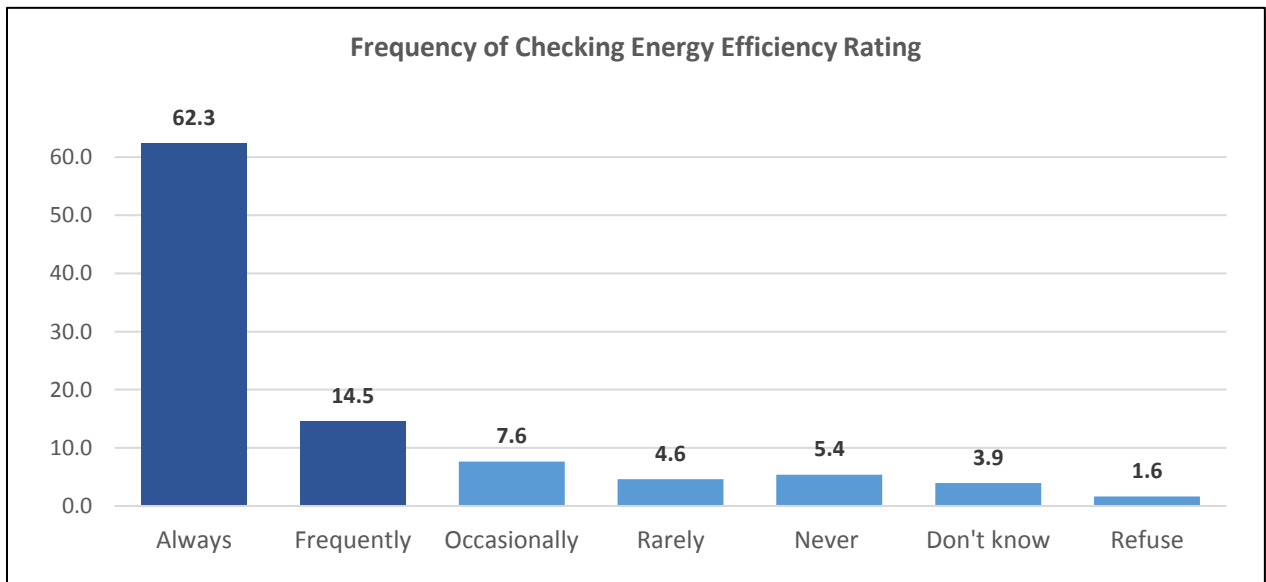
When asked to rank three energy sources (fossil fuels, renewable energy and energy conservation) in order of preference, 59.2% (weighted average of all rankings: 44.1%) of the responding households chose renewable energy as their preferred future energy source (Figure 8). About one-third (31.0%; weighted average: 34.2%) preferred energy conservation as a future energy source, while only 4.6% (weighted average of all rankings: 16.3%) preferred fossil fuels as a future energy source.



**Figure 8. Ranking of energy sources for Yukon’s future in order of preference.**

**ENERGY EFFICIENCY**

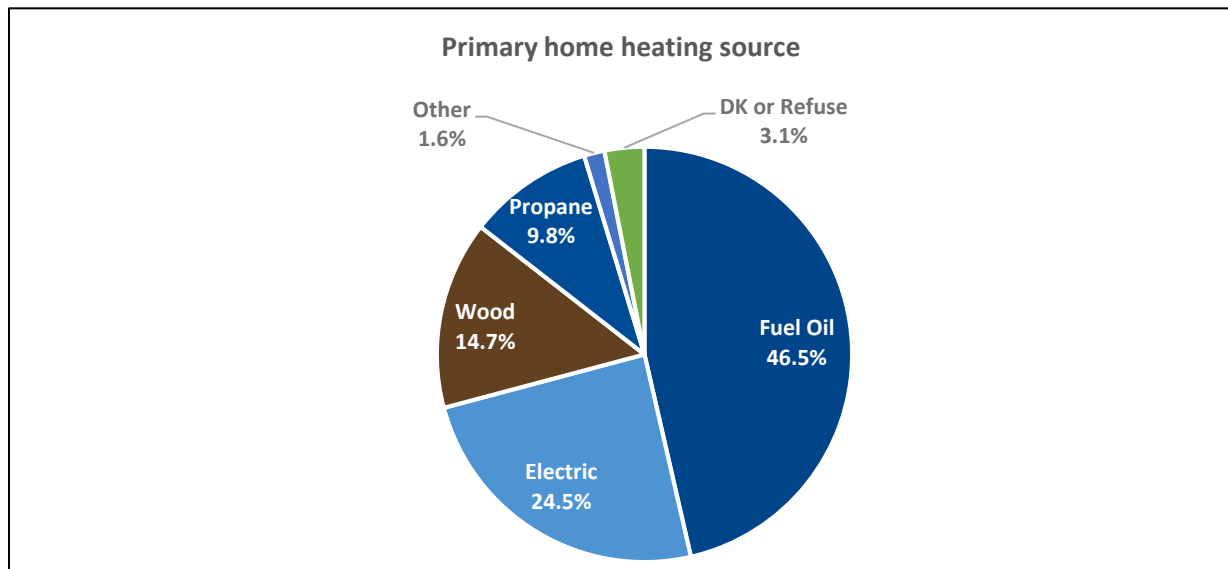
Respondents were asked how often they consider the item’s energy efficiency rating when purchasing a new appliance or electronic device. A little over three-quarters (76.8%) of the respondents said they always or frequently check energy efficiency rating when purchasing a new appliance or electronic device, while 10.0% of the respondents never or rarely check (Figure 9).



**Figure 9. Frequency of checking energy efficiency rating before purchasing a new appliance or electronic device.**

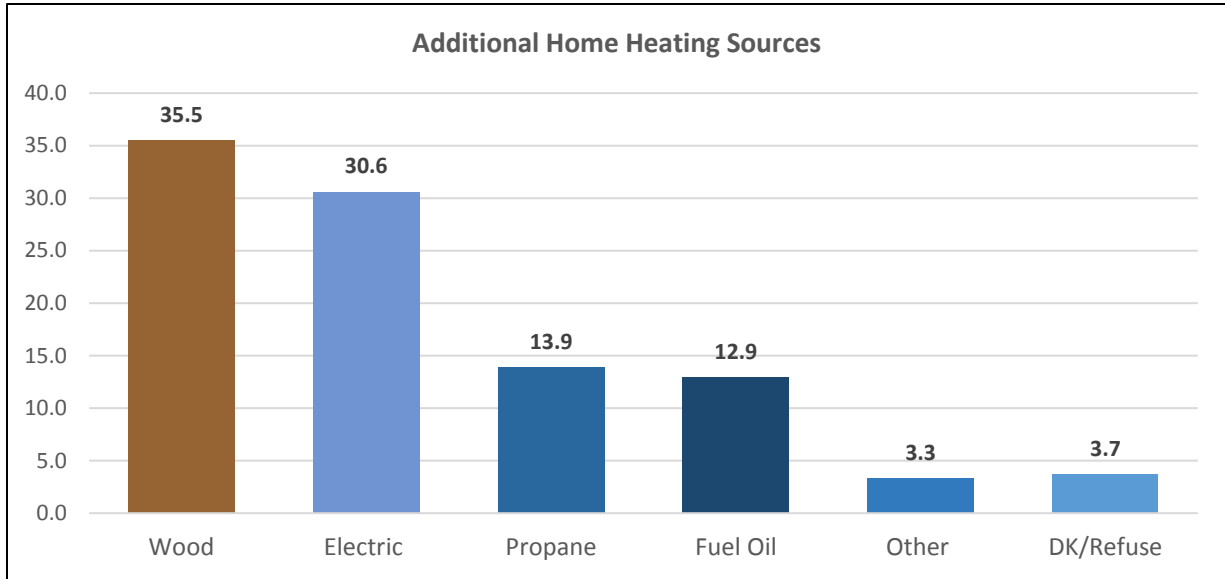
## HOME HEATING SOURCES

Respondents were asked about their primary home heating sources as listed on their home insurance. At 46.5%, fuel oil is the most prevalent primary home heating source in Yukon. Electricity (baseboard, furnace or boiler) is the second most prevalent primary home heating source used by almost a quarter (24.5%) of the households (Figure 10a). Other primary sources, not listed in the question, included diesel, pellet stove, solar, forced air, kerosene heater, propane hot water heat, heat pump and exchange, Toyostove, pellet boiler, radiant heat, electro-thermal storage unit, and external wood boiler.



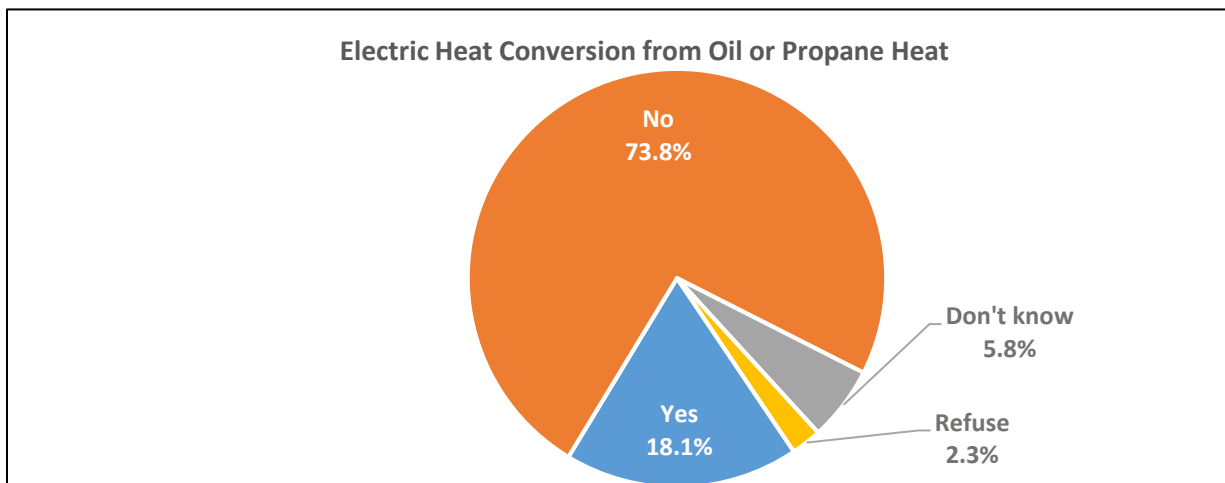
**Figure 10a. Primary home heating sources as listed on home insurance.**

In response to the question about additional home heating sources, most respondents (41.2%) said they did not have an additional home heating source. Of households that had additional home heating sources (58.9%), wood was the most common (35.5%) additional home heating source followed by electricity (30.6%), as shown in Figure 10b. While fuel oil was the most commonly used (46.5%) primary source of heat, it was not so commonly used (12.9%) as an additional home heating source. Other additional home heating sources (3.3%) included pellet stove, fireplace, solar, diesel, generator, kerosene heater, Toyostove, oil, infrared heater, propane system, hot water heat, sauna, forced air, boiler system, candles, monitor, portable electrical heater, and hydronic.



**Figure 10b. Additional home heating sources (Note: respondents were allowed to choose multiple responses and percentages are derived from the sum of all reported additional home heating sources).**

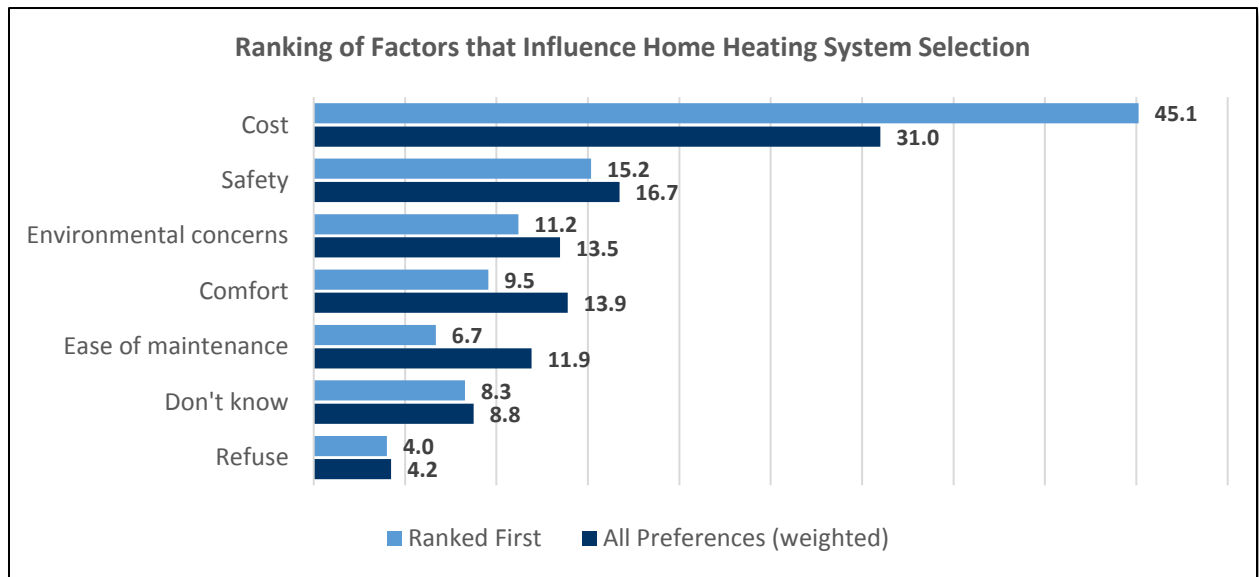
Responding households with oil or propane as a home heating source were asked if they have considered switching to electric heat. Of those who did not already use electricity as a primary or additional home heating source, 73.4% had not considered switching to electric heat, while 18.1% had (Figure 11).



**Figure 11. Respondents' consideration of switching to electric heat.**

## HOME HEATING SELECTION

Respondents were asked to rank five factors that influence their home heating system selection. Of the five given factors, cost was the most important (45.1%; weighted average of all rankings: 31.0%) to influence a respondent's home heating selection, distantly followed by safety (15.2%; weighted average: 16.7%), environmental concerns (11.2%; weighted average: 13.5%), comfort (9.5%; weighted average: 13.9%) and ease of maintenance (6.7%; weighted average of all rankings: 11.9%). In terms of first ranking (light blue bars in the chart below), respondents' selection of home heating system is more influenced by cost than all four other factors combined (Figure 12).



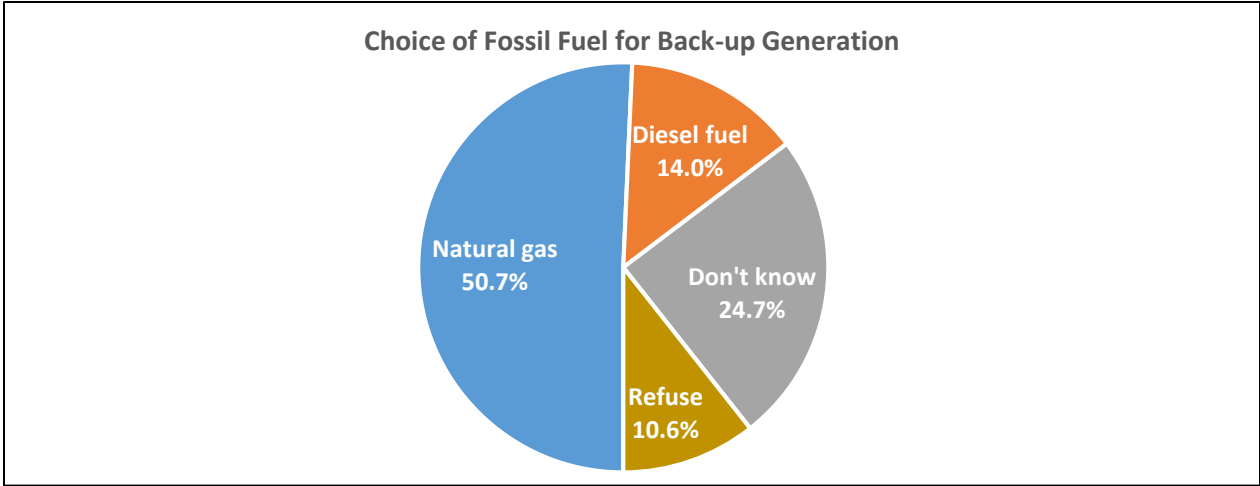
**Figure 12. Ranking of factors that influence respondents' home heating system selection.**

## PART 2: FOCUS ON UNDERSTANDING THE SUPPORT FOR YEC INITIATIVES

This section of the survey generated information on two topics: to understand the Yukoners' preference for the type of fossil fuel for future back-up generation and to find if Yukoners have confidence in YEC's ability to plan and develop sustainable energy sources to meet future needs.

### YUKON'S FUTURE BACK-UP GENERATION FOSSIL FUEL CHOICE

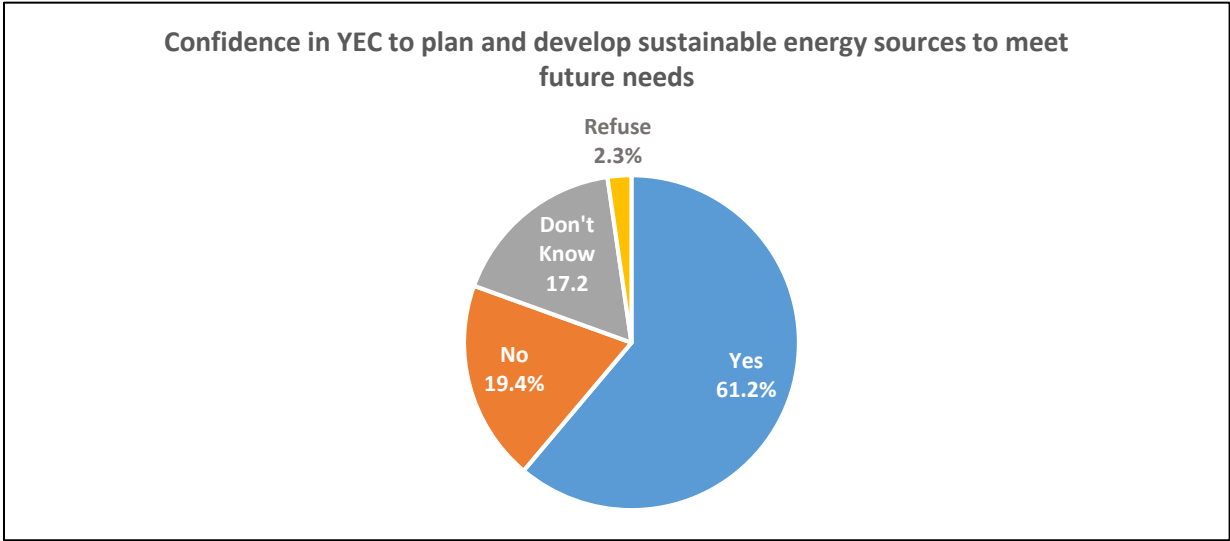
Respondents were asked about their preference of fossil fuel if YEC is required to choose a fossil fuel for future back-up generation. Slightly over half of Yukon households (50.7%) would prefer the use of natural gas if YEC is required to choose a fossil fuel for future back-up generation (Figure 13). Only 14.0% would prefer diesel fuel. About a quarter of the responding households did not know how to respond to this question, while 10.6% refused to provide a response.



**Figure 13. Respondents' preference of fossil fuel if YEC is required to choose a fossil fuel for future back-up generation.**

**CONFIDENCE IN YEC TO PLAN AND DEVELOP SUSTAINABLE ENERGY SOURCES**

Respondents were asked if they have confidence in YEC to plan and develop sustainable energy sources to meet future needs. Most (61.2%) respondents were confident that YEC is able to plan and develop sustainable energy sources to meet future needs (Figure 14). About a fifth (19.2%) of the respondents said that that they do not have confidence in YEC's ability, while 17.2% either did not know or refused.



**Figure 14. Respondents' confidence in YEC's ability to plan and develop sustainable energy sources to meet future needs.**

### PART 3: DEMOGRAPHICS OF THE RESPONDENTS

The survey was a household survey designed to collect responses primarily from head of the household or the next senior person in the household. Therefore, the demographic characteristics of the respondents of this survey may not match those of Yukon’s total population.

#### RESPONDENTS’ AGE GROUPS

More female (55.1%) than male respondents (42.7%) completed the survey. The largest proportion (28.0%) of the respondents were in the age group of 60 years or more, followed by the 30-39 years age group at 21.1% and the 50-59 years age group at 20.8% (Figure 15). As expected, the smallest represented age group was 18-29 years.

Since the survey was designed to collect responses primarily from household heads or the next senior person, the age distribution of the respondents is not expected to match that of the population, especially those in the 18-29 years and the 60+ years age groups. However, the percentages of respondents in the age groups 30-39 years (21.1%), 40-49 years (17.6%) and 50-59 years (20.8%), are roughly comparable to the relevant population percentages (19.7%, 17.2% and 20.3%, respectively).

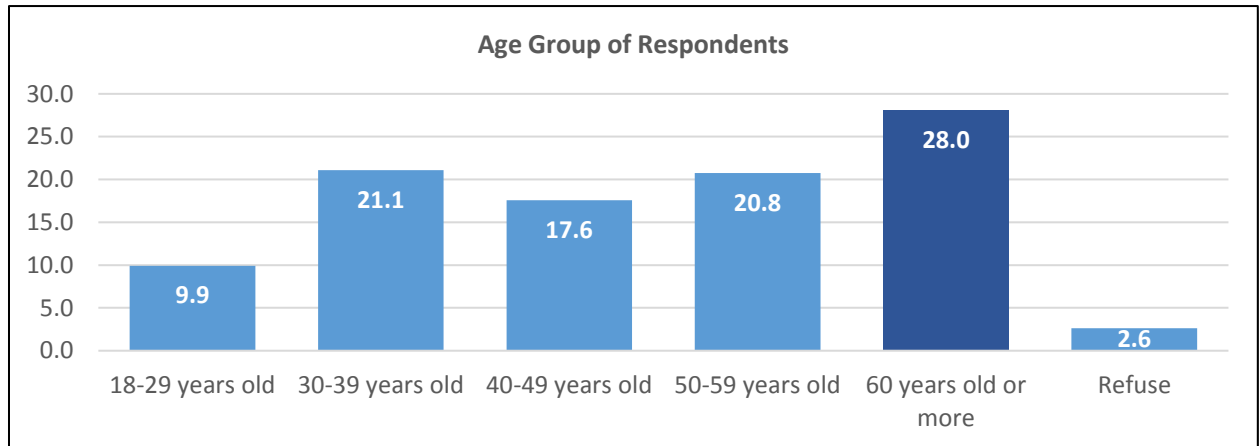
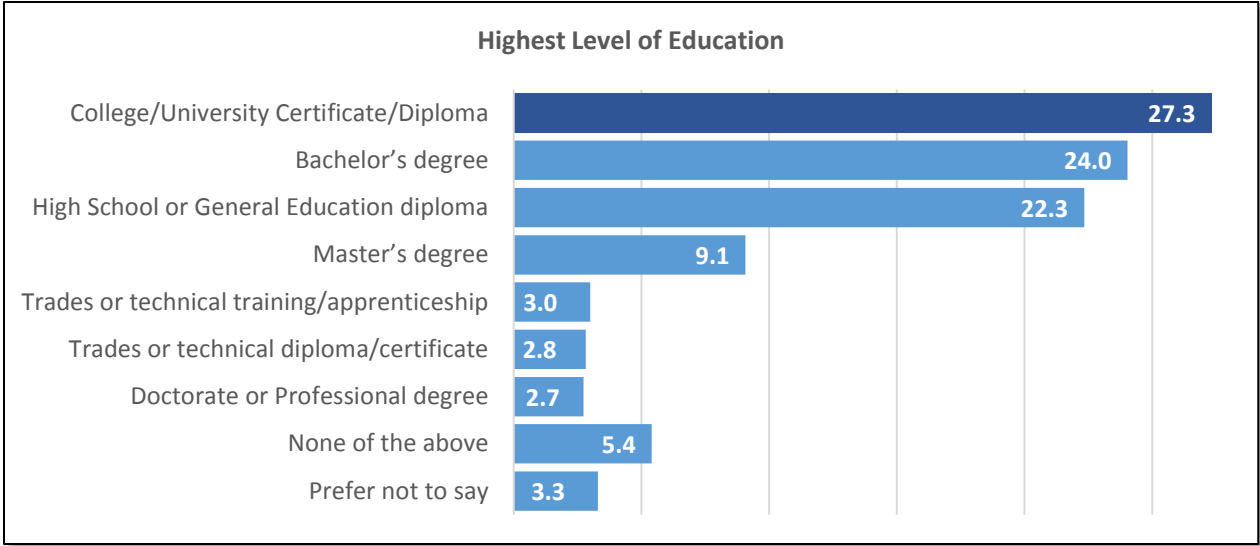


Figure 15. Age groups of the respondents.

#### RESPONDENTS’ EDUCATION LEVELS

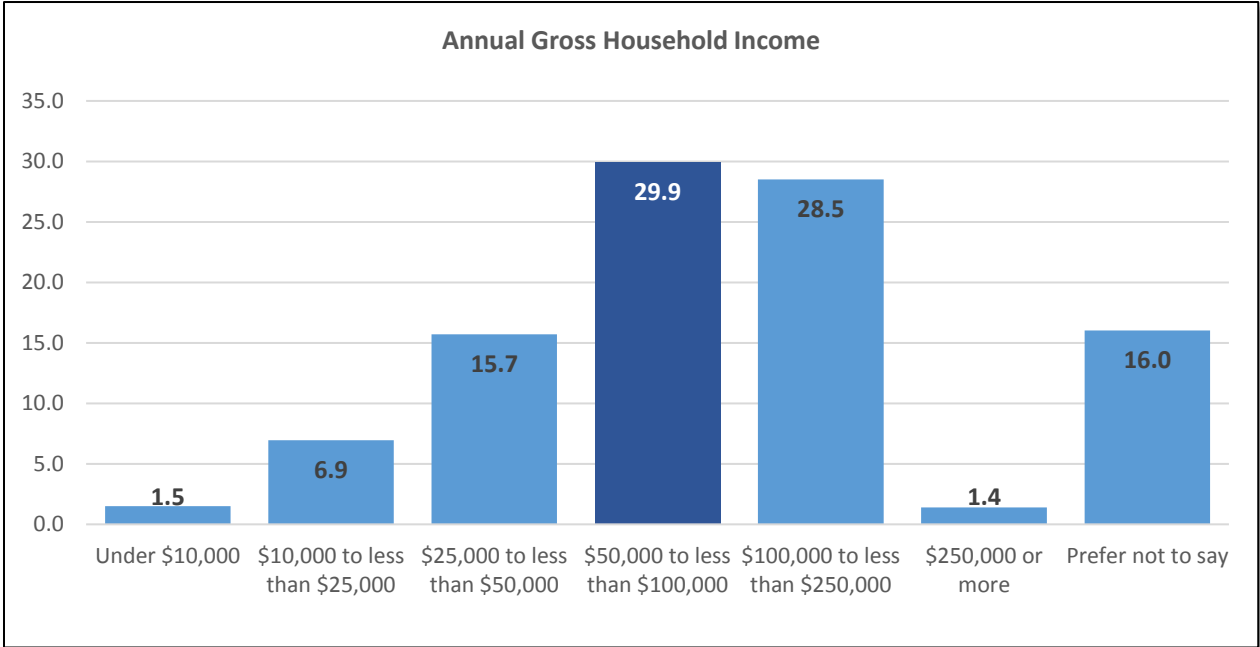
Nearly all respondents had at least a high school (or general education) diploma (Figure 16). About a quarter (24.2%) of the respondents had a bachelor’s degree, while 11.8% had a graduate degree.



**Figure 16. Levels of education of the respondents.**

**INCOME GROUPS OF RESPONDING HOUSEHOLDS**

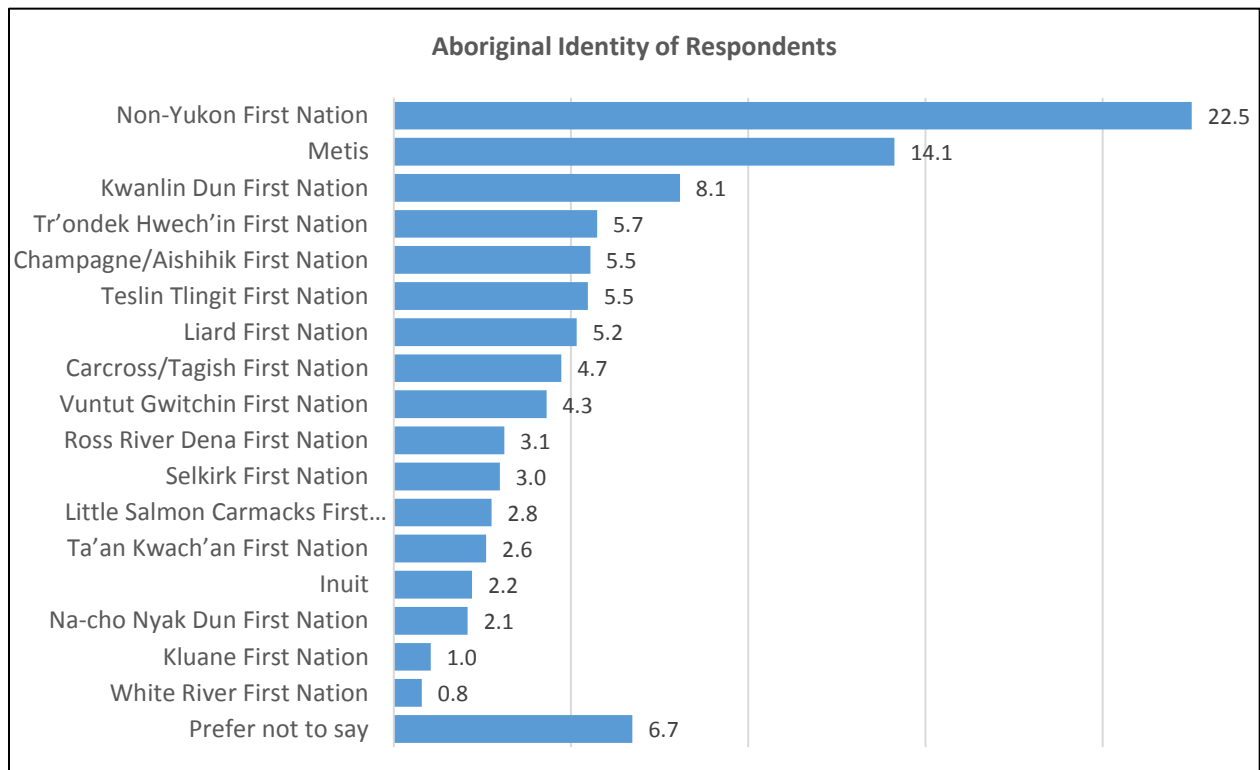
Almost 60% of respondents had an annual gross household income of greater than \$50,000; about half of them had a household income of more than \$100,000 (Figure 17). Of the demographic questions, this question had the highest refusal rate at 16.0%.



**Figure 17. Responding households by annual gross household income.**

## RESPONSE BY ABORIGINAL GROUPS

Of the 14.5% of respondents who identified themselves as Aboriginal, 22.5% identified themselves as non-Yukon First Nations and 14.1% identified themselves as Metis (Figure 18). The ratio of Aboriginal respondents is less than the proportion of Aboriginal population in Yukon (23.1%). However, a comparison of the results of Aboriginal respondents to those of non-Aboriginal respondents did not reveal any significant difference except the ranking order of the statements on social responsibility. Compared to non-Aboriginal respondents, Aboriginal respondents ranked 'do not compromise traditional pursuits' first at a higher rate (34.2% compared to 17.7%), and ranked 'enhance economic growth and create jobs' first at a lower rate (23.9% compared to 34.8%).



**Figure 18. Respondents who identified themselves as Aboriginal.**

## RESPONSE BY COMMUNITY

Most respondents (76.4%) lived in Whitehorse and 22.8% of Yukon respondents lived in other Yukon communities. Less than 1% of respondents lived outside of Yukon or refused to reveal their Yukon community. A comparison of the results for Whitehorse and the rest of Yukon communities did not reveal any significant difference.

## CONCLUSION

Through this survey, Yukoners ranked environmental protection as the most important factor for YEC's future project management goals, followed in order by cost, reliability, and social responsibility. However, personal home heating selection was influenced largely by cost (45.5%), followed by safety (15.2%), environmental concerns (11.2%), comfort (9.5%), and ease of maintenance (6.7%). When considering environmental protection, reducing the risk of pollution to land, water and air, other than greenhouse gases was of the most concern (29.5%).

Overall, respondents' current electricity bills were reported to be affordable (76.4%). However, when asked if current electricity rates were reasonable, there was more uncertainty; 54.7% thought rates were reasonable and 17.7% did not know. Most responding households (84.5) experienced a power outage in 2015, 65.1% of them reported one or more outages lasting more than an hour. In turn, 67.9% of the responding households felt it was necessary to have back-up heat source in case of an outage.

Based on the responses to this survey, Yukoners would generally support YEC's efforts to protect environment, enhance reliability, not compromise traditional pursuits, maintain access to wilderness, and create local jobs, even with a potential increase in electricity rates. However, respondents' support for YEC's efforts to economic growth was not overwhelming and they were divided on the issue of supplying electricity to mines if it leads to an increase in electricity rates.

For 56.3% Yukon households, the primary home heating source was fuel oil, followed by electricity for about a quarter of them. Most additional home heating sources were wood and electricity. Of households that did not have electric heating, 18.1% had considered switching to electric heat.

Most responding households (59.2%) selected renewable energy sources as the most preferred energy sources for Yukon's future, while 31.0% of them preferred energy conservation over new energy production. A little over half of the responding households would prefer natural gas, if YEC is required to use a fossil fuel for future back-up generation. Many of the respondents (61.2%) expressed their confidence in YEC's ability to plan and develop sustainable energy sources for the future.

## APPENDIX A – SUMMARY TABLES

Q1. To help Yukon Energy choose new projects, please rank the following four factors in order of importance.	Percent			
	1st	2nd	3rd	4th
Environmental Protection	44.4	23.9	19.0	6.7
Cost	22.7	28.4	21.9	23.3
Reliability	21.0	21.8	33.8	18.5
Social Responsibility	7.7	21.1	20.0	46.1
Don't know	2.5	2.9	3.2	3.2
Refuse	1.7	1.9	2.1	2.1

Q2. For environmental protection, please rank which statement you consider more important.	Percent			
	1st	2nd	3rd	4th
Reduce impacts on Earth's atmosphere	22.6	16.3	22.1	21.8
Reduce risk of pollution to land, water and air, other than greenhouse	29.5	27.3	18.3	12.1
Reduce impact on species' habitats and wildlife populations at risk	23.7	28.6	26.3	6.7
Minimize the amount of land affected by a new energy project	12.1	13.9	18.2	44.2
Don't know	5.3	6.1	6.6	6.7
Refuse	6.8	7.8	8.5	8.6

Q3 Is your current electricity bill affordable?	Percent
Yes	76.4
No	14.6
DK	7.7
Refuse	1.4

Q4 Do you think that the current electricity rate in Yukon is reasonable?	Percent
Yes	54.7
No	26.6
DK	17.7
Refuse	1.1

Q5 Do you make efforts to reduce your energy use?	Percent
Yes	96.9
No	2.2
DK	0.2
Refuse	0.7

Q6 Even with a potential increase to electricity rates, would you support Yukon Energy's ...	Percent			
	Yes	No	DK	Refuse
... effort to enhance economic growth for Yukon?	57.1	22.1	16.9	3.9
... effort to create local jobs?	73.4	15.5	8.4	2.6
... effort to reduce power outages in your area?	71.0	20.1	6.7	2.2
... effort to reduce GHG emissions in energy production?	78.4	12.1	7.1	2.4
... effort to reduce impact on species' habitats and wildlife populations at risk?	80.7	10.6	6.3	2.3
... effort to not compromise traditional pursuits as a way of life (e.g. trapping, hunting and fishing)?	68.6	18.6	9.8	3.0
... effort to maintain access to wilderness recreation?	73.1	16.4	8.0	2.5
... decision to supply electricity to mines?	46.0	38.0	12.9	3.1

Q7 Did you experience power outages in 2015?	Percent
Yes	84.5
No	10.3
DK	4.3
Refuse	0.9

Q8 Approximately how many power outages did you experience in 2015 that lasted more than one hour?	Percent
Less than an hour	13.4
1	16.0
2	20.4
3	12.7
4	5.3
5	3.9
6	3.1
7 or more	3.7
DK	21.3
Refuse	0.2

Q9 Do you feel it is necessary to have back-up heating and/or a generator at your home in case of power	Percent
Yes	67.2
No	29.5
DK	2.3
Refuse	1.0

Q10. With respect to social responsibility, please rank the statements in order of importance.	Percent			
	1st	2nd	3rd	4th
Enhance economic growth and create jobs	33.3	11.7	15.0	23.8
Do not compromise traditional pursuits as a way of life	20.2	24.2	20.4	16.8
Maintain access to wilderness recreation	16.7	27.3	23.8	14.5
Conservation of historical sites to protect Yukon culture	14.8	19.5	22.2	26.1
Don't know	8.0	9.2	9.8	10.0
Refuse	7.1	8.2	8.7	8.9

Q11. Please rank the next three energy sources for Yukon's future in terms of preference.	Percent		
	1st	2nd	3rd
Fossil fuels	4.6	11.9	78.1
Renewable energy	59.2	30.2	4.9
Energy conservation	31.0	52.3	11.2
Don't know	2.8	3.1	3.2
Refuse	2.3	2.5	2.6

Q12 When purchasing a new appliance/electronic device, how often do you consider the item's energy	Percent
Always	62.3
Frequently	14.5
Occasionally	7.6
Rarely	4.6
Never	5.4
Don't know	3.9
Refuse	1.6

Q13 What is the primary heating source in your home as listed on your home insurance?	Percent
Electric (Baseboard, furnace or boiler)	24.5
Fuel Oil	46.5
Propane	9.8
Wood	14.7
Other (specify):	1.6
Don't Know	1.8
Refuse	1.3

Q13_O What other primary heating sources are in your home as listed on your home insurance? (n=133)	Percent
Diesel	24.4
Electro Thermal Storage Unit	2.4
External Wood Boiler	2.4
Forced Air	7.3
Heat Pump	4.8
Heat exchange	2.4
Hot Water Heat	2.4
Kerosene Heater	7.3
Oil and Wood Furnace Combo	7.2
Pellet Boiler	2.4
Pellet Stove	15.1
Propane Hot Water	2.4
Radiant Heat	2.4
Solar	7.3
Toyo Stove	4.8
Water	2.4
Wood And Propane Combo	2.4

Q14 What additional heating sources exist in your home? (Check all that apply.)	Percent
Electric (Baseboard, furnace or boiler)	20.7
Fuel Oil	8.7
No secondary	41.2
Propane	9.4
Wood	24.0
Other (specify):	2.3
Don't Know	1.2
Refuse	1.3

Q14 (Other) What other additional heating sources exist in your home? (Check all that apply.)	Percent
Boiler System/Hot Water Heat/Hydronic	6.6
Candles	1.7
Diesel	7.9
Fireplace	10.0
Forced Air	1.7
Generator	6.7
Kerosene Heater	5.0
Monitor/Toyo Stove	6.7
Oil	3.4
Pellet Stove	29.5
Portable Electrical Heater/Infrared Heater	5.0
Propane System	3.3
Sauna	3.3
Solar	9.2

Q15 Have you considered switching to electric heat?	Percent
Yes	18.1
No	73.8
DK	5.8
Refuse	2.3

Q16. Please rank how the following five factors influence your home heating system selection.	Percent				
	1st	2nd	3rd	4th	5th
Cost	45.1	17.4	11.6	6.6	7.8
Comfort	9.5	20.0	17.6	17.7	20.8
Safety	15.2	17.9	21.6	20.1	9.4
Environmental concerns	11.2	13.9	17.4	21.9	21.0
Ease of maintenance	6.7	17.6	17.5	18.7	25.8
Don't know	8.3	8.9	9.7	10.1	10.2
Refuse	4.0	4.3	4.7	4.9	4.9

Q17 If Yukon Energy is required to choose a fossil fuel for future back-up generation, which fuel do you prefer?	Percent
Natural gas	50.7
Diesel fuel	14.0
DK	24.7
Refuse	10.6

Q18 Do you have confidence in Yukon Energy to plan and develop sustainable energy sources to meet future	Percent
Yes	61.2
No	19.4
DK	17.2
Refuse	2.3

Q19 You identify yourself as a:	Percent
Male	42.7
Female	55.1
Other	0.4
Prefer not to say	1.7

Q20 Is your age between:	Percent
18-29 years old	9.9
30-39 years old	21.1
40-49 years old	17.6
50-59 years old	20.8
60 years old or more	28.0
Refuse	2.6

Q21 What is your highest level of education?	Percent
High School diploma or certificate	20.7
GED (General Education Diploma)	0.9
College/University Certificate/Diploma	27.6
Trades or technical training/apprenticeship	3.0
Trades or technical diploma/certificate	2.9
Bachelor's degree	24.3
Master's degree	9.2
Doctorate	1.2
Professional degree (medicine, law)	1.6
None of the above	5.5
Prefer not to say	3.3

Q22 What is your annual household income range before tax?	Percent
Under \$10,000	1.5
\$10,000 to less than \$25,000	7.0
\$25,000 to less than \$50,000	15.7
\$50,000 to less than \$100,000	29.9
\$100,000 to less than \$250,000	28.5
\$250,000 or more	1.4
Prefer not to say	16.0

Q23 Do you identify yourself as an Aboriginal person (First Nations, Metis or Inuit)?	Percent
Yes	14.5
No	83.3
Refuse	2.2

Q24 In which Aboriginal group do you associate?	Percent
Carcross/Tagish First Nation	4.7
Champagne/Aishihik First Nation	5.5
Kluane First Nation	1.0
Kwanlin Dun First Nation	8.1
Liard First Nation	5.2
Little Salmon Carmacks First Nation	2.8
Na-cho Nyak Dun First Nation	2.1
Ross River Dena First Nation	3.1
Selkirk First Nation	3.0
Ta'an Kwach'an First Nation	2.6
Teslin Tlingit First Nation	5.5
Tr'ondek Hwech'in First Nation	5.7
Vuntut Gwitchin First Nation	4.3
White River First Nation	0.8
Non-Yukon First Nation	22.5
Metis	14.1
Inuit	2.2
Prefer not to say	6.7

Q25 In which Yukon community do you live?	Percent
Beaver Creek	0.3
Burwash Landing	0.3
Carmacks	0.9
Carcross	0.9
Dawson City	4.3
Destruction Bay	0.3
Faro	1.3
Haines Junction	2.5
Keno	0.1
Marsh Lake	2.2
Mayo	1.0
Old Crow	0.4
Pelly Crossing	0.5
Ross River	0.6
Stewart Crossing	0.1
Tagish	1.2
Teslin	1.1
Watson Lake	2.7
Whitehorse	76.3
Other (specify)	3.1
I don't live in Yukon	0.0

Q25 In which other Yukon community do you live?	Percent
O_Q25m1	Percent
Between Whitehorse And Carmacks	1.3
Braeburn	1.3
Carcross Road	1.3
Carmacks And Whitehorse	1.3
Champagne	1.3
Fox Lake	2.6
Golden Horn	3.9
Hootalinqua	2.6
Ibex Valley	5.2
Iron Creek	1.3
Lake Laberge	6.5
Mayo Road	2.6
Mendan Hall	5.2
Mount Lorne	14.2
Mountain	1.3
Near Johnson's Crossing	1.3
Outside City Limits	2.6
Silver City	1.3
South McClintock Subdivision	1.3
Spruce Hill	1.3
Swift River	1.3
Takhini Hot Springs Road	7.8
Upper Liard	1.3
Wolf Creek	1.9
Refuse	28.4

**YEC Electricity Values Survey 2016**

**Hello. May I speak to...** [read contact name(s) from label...]?

- Yes → [continue with introduction]
- No → We are conducting the Electricity Values Survey.  
When would be a good time to call back? \_\_\_\_\_

My name is \_\_\_\_\_ and I am calling from Yukon Bureau of Statistics in Whitehorse. We are conducting the Electricity Values Survey on behalf of the Yukon Energy Corporation. The purpose of this survey is to collect your input on how to meet Yukon’s future electricity needs. Your responses will be used in YEC’s project planning.

Your household has been randomly selected to complete the survey. Participation in this survey is voluntary and your responses are confidential. Information collected through this survey is protected in accordance with the Statistics Act.

**Questionnaire**

**Q1.** To help Yukon Energy choose new projects, please rank the following four factors in order of importance.

[Interviewer: please read all factors, then ask respondent for 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>]

<b>Factor</b>	<b>Ranking</b>
a. Environmental Protection (i.e. healthy planet and environment)	
b. Cost (i.e. affordable bills, rates and fees)	
c. Reliability (i.e. uninterrupted power supply, reduced power outages)	
d. Social Responsibility (i.e. healthy communities, strong economy)	

- Don’t know                       Refuse

**Q2.** For environmental protection, please rank which statement you consider more important.

[Interviewer: please restate the agreement scale after each statement]

<b>Statement</b>	<b>Ranking</b>
a. Reduce impacts on Earth’s atmosphere (i.e. minimize greenhouse gas emissions)	
b. Reduce risk of pollution to land, water and air, other than greenhouse gas emissions	
c. Reduce impact on species’ habitats and wildlife populations at risk (e.g. Chinook salmon)	
d. Minimize the amount of land affected by a new energy project (i.e. smaller projects have a lower footprint)	

- Don’t know                       Refuse

**Q3.** Is your current electricity bill affordable?

- Yes                       No                       Don’t know                       Refuse

Q4. Do you think that the current electricity rate in Yukon is reasonable?  
 Yes       No       Don't know       Refuse

Q5. Do you make efforts to reduce your energy use?  
 Yes       No       Don't know       Refuse

Q6. Any new project initiative of Yukon Energy would likely involve costs and therefore, may affect electricity rates. Even with a potential increase to electricity rates, would you support:  
[Interviewer: please ask respondent yes or no after each question]

Question	Yes	No	Don't Know	Refuse
a. Yukon Energy's effort to enhance economic growth for Yukon?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Yukon Energy's effort to create local jobs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Yukon Energy's effort to reduce power outages in your area?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Yukon Energy's effort to reduce GHG emissions in energy production?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Yukon Energy's effort to reduce impact on species' habitats and wildlife populations at risk?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Yukon Energy's effort to not compromise traditional pursuits (e.g. trapping, hunting and fishing)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Yukon Energy's effort to maintain access to wilderness recreation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Yukon Energy's effort to conserve historical sites to protect Yukon culture?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Yukon Energy's decision to supply electricity to mines?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. Did you experience power outages in 2015?  
 Yes       No → Go to Q9       Don't know → Go to Q9  
 Refuse → Go to Q9

Q8. Approximately how many power outages did you experience in 2015 that lasted more than one hour?  
\_\_\_\_\_ outages in 2015  
 Don't Know       Refuse

Q9. Do you feel it is necessary to have back-up heating and/or a generator at your home in case of power outages?  
 Yes       No       Don't know       Refuse

Q10. With respect to social responsibility, please rank the statements in order of importance.  
 [Interviewer: please read all types, then ask respondent for 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> choice]

Statement	Ranking
a. Enhance economic growth and create jobs	
b. Do not compromise traditional pursuits (e.g. trapping, hunting and fishing)	
c. Maintain access to wilderness recreation	
d. Conservation of historical sites to protect Yukon culture	

Don't know                       Refuse

Q11. Please rank the next three energy sources for Yukon's future in terms of preference.  
 [Interviewer: please read all types, then ask respondent for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> choice]

Energy source	Ranking
a. Fossil fuels (such as diesel, natural gas).	
b. Renewable energy (such as hydro, wind, solar).	
c. Energy conservation (such as savings measures, efficiency) preferred over new energy production.	

Don't know                       Refuse

Q12. When you purchase a new appliance or electronic device, how often do you consider the product's energy efficiency rating?

- Always
- Frequently
- Occasionally
- Rarely
- Never
- Don't Know                       Refuse

Q13. What is the primary heating source in your home as listed on your home insurance?  
 [Interviewer: check only one]

- Electric (Baseboard, furnace or boiler)
- Fuel Oil
- Propane
- Wood
- Other (specify): \_\_\_\_\_
- Don't Know                       Refuse

Q14. What additional heating sources exist in your home? [Interviewer: check all that apply]

- Electric (Baseboard, furnace or boiler)
- Fuel Oil
- Propane
- Wood
- Other (specify): \_\_\_\_\_
- Don't Know                       Refuse

Q15. If you heat with oil or propane, have you considered switching to electric heat?  
 Yes       No     Don't know       Refuse

Q16. Please rank how the following five factors influence your home heating system selection.  
[Interviewer: please read all factors, then ask respondent to choose 1<sup>st</sup>, 2<sup>nd</sup>, etc. choice]

Factor	Ranking
a. Cost	
b. Comfort (such as dampness, perception of warmth, ease of controlling temperature)	
c. Safety (such as carbon monoxide, oil/gas tank placement)	
d. Environmental concerns (such as greenhouse gas emissions, fuel spills)	
e. Ease of maintenance	

Q17. If Yukon Energy is required to choose a fossil fuel for future back-up generation, which fuel do you prefer?  
 Natural Gas       Diesel Fuel       Don't know       Refuse

Q18. Do you have confidence in Yukon Energy to plan and develop sustainable energy sources to meet future needs?  
 Yes       No       Don't know       Refuse

Q19. You identify yourself as a:  
 Male  
 Female  
 Other  
 Prefer not to say

Q20. Is your age between:  
 18-29 years old  
 30-39 years old  
 40-49 years old  
 50-59 years old  
 60 years old or more  
 Prefer not to say

Q21. What is your highest level of education?

<input type="checkbox"/> High School diploma or certificate	<input type="checkbox"/> Bachelor's degree
<input type="checkbox"/> GED (General Education Diploma)	<input type="checkbox"/> Master's degree
<input type="checkbox"/> College/University Certificate/Diploma	<input type="checkbox"/> Doctorate
<input type="checkbox"/> Trades or technical training/apprenticeship	<input type="checkbox"/> Professional degree (medicine, law)
<input type="checkbox"/> Trades or technical diploma/certificate	<input type="checkbox"/> None of the above
	<input type="checkbox"/> Prefer not to say

Q22. What is your annual household income range before tax?

- Under \$10,000
- \$10,000 to less than \$25,000
- \$25,000 to less than \$50,000
- \$50,000 to less than \$100,000
- \$100,000 to less than \$250,000
- \$250,000 or more
- Prefer not to say

Q23. Do you identify yourself as an Aboriginal person (First Nations, Metis or Inuit)?

- Yes →Go to Q24
- No →Go to Q25
- Prefer not to say →Go to Q25

Q24. In which Aboriginal group do you associate?

- |  |   |
|--|---|
| <input type="checkbox"/> Carcross/Tagish First Nation        | <input type="checkbox"/> Ta'an Kwach'an First Nation    |
| <input type="checkbox"/> Champagne/Aishihik First Nation     | <input type="checkbox"/> Teslin Tlingit First Nation    |
| <input type="checkbox"/> Kluane First Nation                 | <input type="checkbox"/> Tr'ondek Hwech'in First Nation |
| <input type="checkbox"/> Kwanlin Dun First Nation            | <input type="checkbox"/> Vuntut Gwitchin First Nation   |
| <input type="checkbox"/> Liard First Nation                  | <input type="checkbox"/> White River First Nation       |
| <input type="checkbox"/> Little Salmon Carmacks First Nation | <input type="checkbox"/> Non-Yukon First Nation         |
| <input type="checkbox"/> Na-cho Nyak Dun First Nation        | <input type="checkbox"/> Metis                          |
| <input type="checkbox"/> Ross River Dena First Nation        | <input type="checkbox"/> Inuit                          |
| <input type="checkbox"/> Selkirk First Nation                | <input type="checkbox"/> Prefer not to say              |

Q25. In which Yukon community do you live?

- |  |   |
|--|---|
| <input type="checkbox"/> Beaver Creek    | <input type="checkbox"/> Mayo                   |
| <input type="checkbox"/> Burwash         | <input type="checkbox"/> Old Crow               |
| <input type="checkbox"/> Carmacks        | <input type="checkbox"/> Pelly Crossing         |
| <input type="checkbox"/> Carcross        | <input type="checkbox"/> Ross River             |
| <input type="checkbox"/> Dawson City     | <input type="checkbox"/> Tagish                 |
| <input type="checkbox"/> Destruction Bay | <input type="checkbox"/> Teslin                 |
| <input type="checkbox"/> Faro            | <input type="checkbox"/> Watson Lake            |
| <input type="checkbox"/> Haines Junction | <input type="checkbox"/> Whitehorse             |
| <input type="checkbox"/> Keno            | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Marsh Lake      | <input type="checkbox"/> I don't live in Yukon  |
|  | <input type="checkbox"/> Prefer not to say      |

**“Thank you for your time!”**