

ONTARIO ENERGY BOARD

IN THE MATTER OF *the Ontario Energy Board Act, 1998*,
S.O.1998, c. 15, (Schedule B);

AND IN THE MATTER OF an Application by Hydro One
Networks Inc. for an order or orders made pursuant to section 78 of
the *Ontario Energy Board Act, 1998* approving rates for the
transmission of electricity.

**COMPENDIUM OF THE SCHOOL ENERGY COALITION
(Panel 3 – Customer Engagement)**

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The OEB finds that Hydro One should continue to make improvements to its planning process addressing the issues that have been identified in this proceeding as well as those identified in Hydro One's internal audit, and to report on the progress made in this area in its next transmission rate application. Some of the elements that require more focus include a consistent, comprehensive asset condition assessment process which directly links to the TSP and the capital investment plan; an appropriate pacing of capital expenditures that achieves a proper balance of need and rate impact; and Hydro One's ability to execute the proposed capital program in a timely fashion.

The OEB requires Hydro One to complete an independent third-party assessment of its TSP and to file this assessment with its next transmission rate application. This assessment should include Hydro One's asset condition assessment and capital investment planning processes. While this type of assessment is not a standard requirement in similar rate cases, the OEB finds on a case-by-case basis that such an assessment could be beneficial in providing confidence to both the OEB and the applicant going forward. This assessment was suggested by the OEB in Hydro One's last transmission rate application. Hydro One's reason for not doing so, as articulated in the current proceeding, is that it had to forego this assessment in favour of conducting a customer engagement process prior to developing its capital investment plan.²⁵

In the OEB's view, this demonstrates inadequate planning on the part of Hydro One given that a third-party review would have best been completed long before the investment plans were finalized and would have given more confidence to Hydro One's customers in the customer engagement process.

4.2 CUSTOMER ENGAGEMENT AND RELIABILITY RISK MODEL

Hydro One's evidence on customer engagement was summarized in its Argument-in-Chief²⁶, where Hydro One maintained that its TSP was consistent with the RRF and 2016 Rate Handbook requirements, and was informed by a customer engagement process appropriately structured to identify customer needs and preferences.

Hydro One indicated that its goal was to engage with customers consistently and proactively to better understand customers and enhance its ability to provide services that meet their needs and improve customers' overall satisfaction with the service they receive.

²⁵ Exhibit I/Tab1/Schedule 8

²⁶ Hydro One Argument-in-Chief, p. 23

One critical element of achieving this goal is the development of an investment plan that is outcome-focused and designed to meet customers' needs and preferences.²⁷

Hydro One maintained that it has engaged in an intense and focused level of customer engagement in preparing this application,²⁸ and provided a detailed listing of all the sources it uses to determine customer needs; including routine communications, customer forums, working groups, advisory boards and conferences, and ongoing customer survey research.

For this particular application, Hydro One undertook a further customer engagement initiative, with the purpose of identifying the needs and preferences of customers related to the formulation of a five-year transmission system plan. This initiative was structured to identify customer needs and preferences and allow for the consideration of those customer needs and preferences in preparing the TSP as submitted in this application.

Hydro One engaged Ipsos Reid, a global market research company, to assist in the design, execution, facilitation, and documentation of the customer engagement initiative. Ipsos Reid also undertook analysis of the feedback received during the consultations.

Hydro One indicated that it found the feedback from these sessions to be critical in understanding customer preferences and being better able to identify customer needs. Customers indicated that the consultations were valuable to them in understanding Hydro One's operations and investment process.

Hydro One also indicated that it expects to continue to engage customers in the future, not only to receive input to consider in the development of future investment plans, but also to receive feedback and communicate key information about the system and investments that have or are likely to impact transmission system reliability risk and actual system performance.

In general, based on the customer engagement process, Hydro One submitted that it believes that any deterioration in current service levels is unacceptable to customers and that the maintenance of current reliability levels is a customer priority.

Timing of the Engagement

²⁷ Exhibit A/Tab 3/Schedule 1, p. 5

²⁸ Exhibit B1/Tab 2/Schedule 2

Many intervenors and OEB staff submitted that the customer engagement event took place too close to the filing date of the application to allow any real change to be made if it was warranted by the results of the engagement exercise. Indeed, very little change was made to the TSP as a result of customer engagement.

Some parties also pointed out that poor participation was likely due in part to short timeframe for engagement and questioned whether the results were representative given the poor participation levels.

Selection of the Participants

The entities invited to participate in Hydro One's focused customer engagement process were directly connected transmission customers and registered intervenors from the last two rate applications. Given the requirements in Chapter 2 of the OEB's Filing Requirements for Electricity Transmission Applications, staff submitted that this approach was reasonable. However, OEB staff recommended that Hydro One, in its ongoing efforts at customer engagement, remind local distribution company (LDC) participants that they are the source for the transmitter's knowledge of small end-use customers' views and preferences. Hydro One could have asked the LDC participants to specifically present the results of their own customer engagement exercises to inform the transmitter of the concerns of these customers.

In light of the Anwaatin evidence, staff also encouraged Hydro One to obtain information about the needs of these customers through the participation of Hydro One Distribution, Hydro One Remotes, other distributors that serve First Nations, and the Anwaatin First Nations and other First Nations organizations, in Hydro One transmission's ongoing customer engagement exercise.

Both Anwaatin and the Society submitted that Hydro One should more specifically engage First Nations and Métis groups prior to its next application. In addition, a number of parties stated that Hydro One should have engaged more with end-use customers.

Consideration of Costs

Staff submitted that the main conclusion drawn by Hydro One from the engagement sessions was that reliability was important to customers, and that they were willing to accept increased capital spending to ensure no diminution of reliability. This conclusion supported a slight increase in the proposed capital expenditures, and Hydro One argues that the resulting revenue requirement increases are "consistent with the expressed customer preferences and tolerances regarding reliability risk".²⁹

Staff pointed out that it appears that the material presented to customers assumed that customers would tolerate some cost increases above historic levels. The lowest cost scenario presented to customers proposed a spending increase 1.6% higher than historic spending increases, and Hydro One indicated this spending level would result in a 10% increase in "reliability risk". Customers who enquired about a "zero" scenario that presumed a cost increase consistent with historic cost increases were told that "reliability risk" would increase by 20% under such a scenario. A true "zero" scenario which involved no cost increase was not entertained by Hydro One, as the company believed the consequent deterioration of reliability was not acceptable. Staff submitted that the customer engagement exercise emphasised potential threats to reliability at the expense of a discussion probing customers' views on and tolerance of cost increases.

Many parties criticized the scenarios presented to customers as limited and designed to push customers to Hydro One's preferred outcome and providing insufficient detail for customers to understand what was being presented. A number of intervenors also submitted that Hydro One had omitted pertinent information such as the fact that the reliability of Hydro One's transmission system has been improving. They highlighted that Hydro One focused on the dramatic increases in equipment outage hours instead of the dramatic improvement in customer interruption hours between 2011 and 2015.

Reliability Risk Model

OEB staff's main criticism of Hydro One's customer engagement process is that the choices presented to customers were based on a model for "reliability risk" that was not predictive of real-world reliability, was not used by Hydro One in planning its investments, and exaggerated the benefit of capital investments.

Hydro One's Reliability Risk Model (RRM) was developed for two purposes: to provide a method for demonstrating the value of sustaining investments to customers, and to provide a directional indicator to assess the effect on reliability of an investment portfolio. Staff saw the value in quantifying the benefits of capital spending in a way that

²⁹ Hydro One Argument-in-Chief, p. 33

will resonate with customers. However, staff submitted that the RRM does not achieve this goal.

Most parties stated that the reliability risk model had several flaws beyond those conceded by Hydro One. Some parties supported the approach but stated that the model requires additional work to provide meaningful results.

A number of parties also pointed out that the conclusions drawn by Ipsos Reid did not appear to be supported by the data presented in its report, in particular the customer preference for an outcome between Scenarios 2 and 3.

Most parties concluded that there was not sufficient information from the engagement and the reliability risk model to clearly establish customer needs and preferences as a justification for Hydro One's capital expenditures.

Findings

Although Hydro One made a good effort to engage its customers prior to filing its application, the customer engagement process was started only two months before the application was filed. In fact, the final Ipsos Reid report was submitted about one month before the application was filed. Little change was made to Hydro One's TSP as a result of these customer consultations. Given the complexity of the TSP, the OEB does not agree with Hydro One's assertion in its reply submission that such a very short elapsed time did not detract from the quality of the TSP evidence.

In addition, given the practical limitations of the RRM described below, it is not obvious that the customers were able to relate the various levels of capital investment to actual system reliability since that relationship does not exist. All they would have been able to learn from this exercise is that the higher the level of capital investment, the lower the system reliability risk (not actual reliability).

The OEB agrees with some of the submissions that some of the information presented to the participants may have been misleading (e.g. not making a distinction between planned and unplanned outages³⁰, not clearly communicating the historical improvements in actual system reliability³¹, and using the "without investment" scenario as a base case.³²)

The selection of the participants was a topic of discussion throughout this proceeding, particularly the lack of input from First Nations as well as direct or indirect input from

³⁰ AMPCO submission, p. 33 and BOMA submission, p. 14

³¹ AMPCO submission, p.34

³² AMPCO submission, p. 28

customers of LDC representatives. Regarding First Nations' input, Hydro One indicated that since a number of First Nations did participate in the current proceeding (the Anwaatin First Nations), First Nations would be invited to participate in future customer engagement processes. Regarding LDC end-use customers, who represent 92% of Hydro One's revenue, a number of suggestions were made to get their feedback in a practical fashion since direct involvement of all those customers in Hydro One's engagement process is obviously impractical and does not fall within Hydro One's direct accountability. Suggestions included Hydro One seeking input from LDC participants about the relevant outcome of their own customer engagement exercises.

The RRM is a new tool that Hydro One started using in early 2016. Although the model is not used to develop Hydro One's investment program, it is used to demonstrate, on a relative or directional basis, the change in system reliability risk as a result of a certain incremental level of investment. The model uses hazard curves which are based on asset demographics, not condition, and focuses on three investment categories; lines, transformers and breakers. As described above, the model results were a key focus in Hydro One's communication with its customers to demonstrate the benefits of its proposed investments.

There was considerable discussion during the oral hearing about the use of the model results. Hydro One explained that the model cannot be "back-tested" or calibrated using historical system reliability data, even if this data is weather-normalized. As a result, according to Hydro One, the model results cannot be expressed in terms of impact on actual system reliability.

In its Reply Argument, Hydro One stated that "The fact that this tool is not used to specifically pick and choose investments, but only provides a way to communicate relative outcomes does not mean that the tool does not have a valid purpose."³³

The OEB agrees with this statement in that the model provides an estimate of the percentage reduction in reliability risk which corresponds to a certain incremental amount of capital investment. What the model does not tell us is whether this percentage reduction in reliability risk is worth the incremental capital investment. As a hypothetical example, would spending an incremental \$100 million to achieve a 1% reduction in reliability risk be a good business proposition, particularly given that this 1% reduction in reliability risk cannot be translated into any measurable result such as system reliability? According to Hydro One, establishing a relationship between

³³ Hydro One Reply Argument, p. 49

reliability risk and actual reliability performance is not possible because actual reliability performance is also influenced by other external factors such as weather conditions.³⁴

In summary, without some form of correlation between the model results and actual system reliability, it would be impossible to determine whether a certain reduction in reliability risk is worth a certain level of capital investment. The model may be used to directionally compare investment scenarios, but it cannot be used to predict the benefit of any given scenario in terms of reliability.

The OEB finds that Hydro One's customer engagement process was adequate in general. However, some improvements can be made in the following areas:

- The process should be started sufficiently in advance of filing the application to allow for timely input to be incorporated in a meaningful way and to improve the level of customer attendance.
- Hydro One should have discussions with LDCs to determine practical ways to seek some input from their end users to inform Hydro One's application.
- Hydro One should seek timely and meaningful input from First Nations representatives.
- The information presented to the customers should be unambiguous and easy to understand.

Regarding the RRM, the OEB finds that the model needs further refinement and testing if it is to be used to convey to customers information about the value of capital investments in terms of system reliability. As expected, the Ipsos Reid report indicated that customers expect to see an improvement in actual reliability performance, not necessarily only a reduced reliability risk for the proposed level of investment.

Based on the above-noted shortcomings of both the customer engagement process and the RRM, the OEB does not place significant weight on the evidence associated with these elements and, therefore, will not rely on the outcome as reported by Hydro One as compelling evidence of customer support for the proposed level of capital expenditures.

4.3 CAPITAL EXPENDITURES

Hydro One's TSP describes the processes developed and employed by Hydro One to create its capital investment plans for its transmission business. The plan results in

³⁴ TR Vol. 5, p. 128

19.0 CONCLUSION

The following list is a summary of directions for filing and other matters contained in this Decision. Where any discrepancies exist between this list and the text of the Decision, the text in the Decision governs.

Hydro One must:

- Continue to make improvements to its planning process addressing the issues that have been identified in this proceeding as well those identified in Hydro One's internal audit, and to report on the progress made in this area in its next transmission rates application (p. 18)
- Complete an independent third-party assessment of its TSP and to file this assessment with its next rate application (p. 18)
- Begin the customer engagement process sufficiently in advance of filing the application, include LDCs (to determine practical ways to seek some input from their end users), incorporate timely and meaningful input from First Nations representatives, and ensure that information presented to customers is unambiguous and easy to understand (p. 24)
- Provide a report detailing its overall performance in the execution of the capital program relative to plan showing the performance at the program level in terms of overall expenditures and in-service additions compared to the approved plan. In addition, for major projects or programs with total budgeted cost greater than \$3 million which are planned to be completed during the test years, the report should show the status of each project and an explanation of any variances regarding scope, cost or schedule (p. 30)
- Work jointly with the IESO to explore cost effective opportunities for line loss reduction, explore opportunities for economically reducing line losses and report on these initiatives as part of its next rate application (p. 32)
- Report on its implementation of the recommendations from the benchmarking study in future proceedings and consider the shortcomings identified in this proceeding in undertaking future benchmarking studies (p. 34)
- Establish firm short and long term targets for productivity improvements and associated reduction in revenue requirements as a means to drive continuous improvement and improve its internal and external benchmarking standings. Put more emphasis on including performance metrics in the scorecard that provide objective year-over-year unit cost measures of productivity, safety, reliability and quality of service improvements. Consider the merits of implementing measures that reflect outcomes of its overall business such as gross fixed assets/unit of

APPENDIX 1: CUSTOMER ENGAGEMENT PROCESS AND TIMING

Managers and Executives from Hydro One's Customer Service, Planning and Regulatory groups met in February 2017 to plan and prepare for the 2017 Transmission Customer Engagement Survey process, with a view to using the results of this initiative to guide and inform the investment planning process as part of this Application.

Hydro One determined that all of its transmission-connected customers would be invited to participate in this process and that, given the discrete number of transmission customers (in comparison to the number of customers that need to be engaged with to support preparation of a Distribution System Plan), this effort would be qualitative rather than quantitative (i.e., it would provide guidance directionally, but not statistically, due to the limited population size of the transmission customer base). The survey was also developed based on the engagement sessions with stakeholders from the 2017/2018 application.

The 2017 Transmission Customer Engagement Survey process was implemented based on the following schedule.

Description	Date
Final Survey Submitted	03-May-17
Survey In Field	11-May-17 – 15-Jun-17
Interim Report	31-May-17
Survey Concluded	09-Jun-17
Final Report	02-Jul-17

Findings were used to inform the plan as it was iteratively developed through the planning and feedback process.

Detailed results of the 2017 process are set out in the IRG Customer Engagement Report provided in Attachment 1.

Witness: Spencer Gill/Bruno Jesus

1 **APPENDIX 2: INCORPORATING FEEDBACK INTO THE CUSTOMER**
2 **ENGAGEMENT SURVEY**

3 Hydro One's approach to engaging transmission customers has evolved, and continues to
4 evolve, in response to the OEB's recommended areas for improvement as set out in its
5 September 28, 2017 Decision and Order in proceeding EB-2016-0160. In particular, the
6 OEB found that Hydro One should (i) begin its customer engagement process sufficiently
7 in advance of filing the application to allow for timely input to be incorporated in a
8 meaningful way and to improve the level of customer attendance; (ii) include LDCs so as
9 to determine practical ways to seek some input from their end users; (iii) incorporate
10 timely and meaningful input from First Nations representatives; (iv) ensure that
11 information presented to customers is unambiguous and easy to understand.³

12
13 The 2017 Transmission Customer Engagement Survey was designed to be responsive to
14 feedback heard from OEB staff and intervenors in the EB-2016-0160 proceeding and is
15 consistent with the Board's findings in its Decision and Order. Hydro One made a
16 number of improvements that address the Board's findings.

17
18 **FINDING 1: TIMING OF CUSTOMER ENGAGEMENT SURVEY**

19 The 2017 engagement survey was completed prior to the Investment Planning Context
20 phase of the Investment Planning Process outlined in Section 2.1 of Transmission System
21 Plan.

22 **FINDING 2: INCLUDE FEEDBACK FROM LDC END-USERS**

23 Hydro One's transmission system is the upstream supplier of electricity to LDCs across
24 the Province of Ontario. Electricity is transmitted over the Hydro One transmission
25 system to Delivery Points ("DPs") with the LDCs. DPs are boundaries between the
26 electricity systems of Hydro One and the LDCs. Each LDC has significant power

³ See OEB, Decision and Order in EB-2016-0160, September 28, 2017, pp. 24 and 117.

1 requirements, unique needs, a diverse group of end-use customers, and most importantly,
2 distribution systems designed to meet their requirements and needs, to service their end-
3 use customers. There is no direct link between the Hydro One transmission system and
4 the LDC's end-use customers.

5
6 In Hydro One's 2017 Transmission Customer Engagement Survey, Hydro One asked
7 LDCs to identify whether their responses to the survey were informed by their own
8 customer engagement activities for the purposes of their own rate applications, or by any
9 other customer research. Of the 28 respondents, 11 answered "yes" to this question.
10 Additionally, Hydro One's Account Executives interact with the LDCs, and engage the
11 LDCs in discussion regarding the needs of their ultimate end-use customers, as described
12 above. Results from these inputs were considered by Hydro One during its investment
13 planning process. In addition, Hydro One noted that in customer surveys conducted by
14 other LDCs, residential customers, small business customers (general service<50 kW),
15 and mid-market customers (general service>50 kW) consider price their number one
16 priority and reliability their number two priority whereas larger demand key accounts
17 prioritize reliability over price. These results demonstrate the importance of keeping costs
18 as low as possible while maintaining system integrity to ensure reliable service to
19 businesses in the province.

20
21 Subsequent to the issuance of the OEB's decision, Hydro One contacted some LDCs to
22 solicit further approaches it could use to solicit feedback from LDC end-users, in the
23 future. The feedback from LDCs included: (i) suggestions to continue using the account
24 executive model to serve the needs of LDC customers, a program Hydro One has
25 expanded as described above; (ii) that Hydro One meet with the large industrial
26 customers of other LDCs, with Hydro One executives responding to customer concerns.
27 Hydro One executed this suggestion and will facilitate future meetings as requested by
28 LDCs; and (iii) that Hydro One may review LDC survey information. As indicated

Witness: Spencer Gill/Bruno Jesus

1 above, Hydro One considered the results of other LDCs customer surveys during its
2 investment planning process.

3
4 **FINDING 3: INCORPORATE INPUT FROM FIRST NATION**
5 **REPRESENTATIVES**

6 As noted, one message that Hydro One heard in the last transmission rate proceeding was
7 that First Nations customers were not effectively represented in Hydro One's
8 transmission customer engagement process, nor was any particular process in place to
9 specifically engage with these customers. To respond to this concern, Hydro One asked
10 LDC customers who serve First Nations communities whether there was anything in
11 particular they felt Hydro One could do to better serve the specific needs of First Nations
12 and Métis communities. Hydro One also leveraged its ongoing engagement activities
13 with First Nations and Metis communities to identify customer needs and preferences for
14 these customers. Details of Hydro One's ongoing initiatives can be found in Exhibit A,
15 Tab 7, Schedule 2.

16
17 **FINDING 4: ENSURE INFORMATION PRESENTED TO CUSTOMERS IS**
18 **EASY TO UNDERSTAND**

19 Finally, the design of the 2017 engagement survey included information that was
20 purposefully written to ensure the content was unambiguous, sufficiently informative for
21 customers to respond to, and easy for customers to understand. To gauge the quality and
22 clarity of the information, the survey included a post-survey question asking "Did Hydro
23 One provide too much information, not enough or just the right amount?" The result was
24 that 76% of respondents believed the survey contained just the right amount of
25 information.

26 **Stakeholder Session**

27 A stakeholder session, which included OEB staff and interveners who participated in
28 prior Hydro One transmission rate proceedings, was held on March 22, 2017. The

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session aimed at gathering thoughts and insights from stakeholders on Hydro One's prior customer engagement activities. The feedback provided during this session was addressed as part of the 2017 Transmission Customer Engagement Survey process, as summarized in Table 1 below.

Table 1 - Summary of Feedback Received by OEB Staff and Interveners and Hydro One's Actions Taken

Feedback Received	Action Taken
Consultation did not take place early enough to have impacted business decisions.	The 2017 Transmission Customer Engagement report was released to Hydro One planners in 2017 and was incorporated into the iterative planning process undertaking in 2018.
Participation rates were low in the 2016 Transmission Customer Engagement effort, and did not represent the ones who will feel the impact of an increase (i.e., end-users of LDCs).	Hydro One invited all transmission customers to participate in the survey via a variety of channels. For the 2017 survey, 103 of 153 customers, or 66% of Hydro One transmission-connected customers, participated in the survey including a large number of LDCs.
A subset of the majority of attendees does not pay transmission rates directly and, therefore, Hydro One addressed the wrong audience.	A section for LDCs was added to the survey to address this concern, asking for the LDC's feedback to be provided on behalf of their customer base.
The costs of improved reliability and top quartile status were not fully explained to participants, impacting customer perception and whether they were willing to approve increased spending approvals.	A broader spectrum of options and enhanced details about each option were provided as part of investment outcomes.
There was a perceived endorsement of the middle investment scenario option and survey participants did not have enough options with 3 scenarios presented.	Customers were provided 4 detailed scenarios (as referenced in Attachment 1) and, when indicating their preference, were not constrained to choose one of the four scenarios, but rather respondents were asked to choose a point on a continuum (a total of 17 possible responses).
There was a perception that risks were exaggerated impacting customer perception to approve increased spending	IRG was asked to correct any wording used as part of the survey that could be perceived as 'leading' and additional information was provided in supplementary

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Feedback Received	Action Taken
<p>approvals, and that the risk model was not mature or predictive.</p>	<p>materials to better explain how and when the Hydro One Reliability Risk Model⁴ is used. A broader spectrum of outcomes beyond reliability risk was provided to customers for each investment scenario to allow for more informed selections.</p>
<p>First Nations Customers were not represented and no consultation process was in place.</p>	<p>Hydro One engages with First Nation customers on a regular basis through a variety of channels (as outlined in Exhibit A, Tab 7, Schedule 2). Although Hydro One has no First Nation transmission customers, LDCs who serve First Nations and Métis Nation customers were asked specifically to provide feedback on how Hydro One could improve service to these customer segments. Of the LDC customers served by Hydro One who self-identified as serving First Nations and Métis communities, two provided a response. One indicated that Hydro One did not need to do anything else. The other stated that, “The northern single circuit communities deserve more attention as they are more vulnerable in terms of supply and outage response.” This feedback was considered when assessing the overall pool of investments addressing lower performing sections of the transmission system. Hydro One actively monitors all customer delivery point performance and invests in the system to address customer power quality concerns. Significant investment is planned in wood pole replacements, where the majority of the asset population is located in northern Ontario, along with transmission line refurbishments to address poor condition assets that pose a high risk to customer reliability.</p>
<p>Customers may not have fully understood what was being asked of them.</p>	<p>Links were included in the survey that took customers to a second document with more contextual information and definitions of terms used in support of the survey.</p>
<p>Confusing terms were used by Hydro One as part of the survey with terms used interchangeably, confusing customers (outage, interruption, end of useful life, expected service life, etc.).</p>	<p>The survey was carefully developed to be consistent with the use of terms throughout the survey process. Clarity on terms was provided in the supporting materials described above.</p>

⁴ Further details regarding the reliability risk model are provided in Attachment 4.

- 1 An additional discussion on end-user customers is presented in TSP Section 1.5.2,
- 2 *Responses to OEB Directions from EB-2016-0160, LCD End-User Satisfaction.*
- 3
- 4 The presentation slides and summary notes from this stakeholder session are provided as
- 5 Attachments 2 and 3 to this section of the TSP.

Current Performance



[asked of all respondents, n=103]



INNOVATIVE
RESEARCH GROUP

NOTE: Total is greater than 103 due to responses being coded into multiple categories

Customer Outcomes



Customer Outcomes: Summary

At the start of the survey, respondents were asked an open-ended question designed to elicit customer outcomes. Reliability - reduction of interruptions and good communication top the list of mentions. Looking at respondent segments, there are few differences, however, LDCs and those in the North are more likely to mention customer service in terms of availability than other customer segments.

Respondents were asked to rate seven customer outcomes on a scale of 0 (not at all important) to 10 (extremely important), and then to rank them in order of priority. The first exercise gives an idea of perceived importance of each individual outcome, while the ranking shows how customers perceive the outcomes in relation to each other. When asked to rate the *importance* of an outcome, safety and reliability receive the highest ratings. When asked to rank in order of *priority*, two stories emerge. Through the lens of first priority ranking, safety and reliability come out on top. When looking at the first, second, and third rank combined, a slightly different story appears. Reliability is ranked highest, followed by safety, and outage restoration becomes the third highest ranked outcome. Power quality and customer service land in the middle, and productivity and environmental stewardship are the bottom two.

At the overall level, 79 out of 103 survey participants rate safety “extremely important”. In fact, across all customer segments, most consider safety to be “extremely important”. Among Generators, there is not a single respondent who rates safety lower than a nine.

Reliability is second only to safety, with 71 of 103 rating it “extremely important”. Looking at the various customer segments, while there are some who rate reliability as low as a six, at least half consider reliability to be “extremely important”.

With 60 of 103 rating it “extremely important”, outage restoration rounds out the top three customer outcomes. In the North, no one rated outage restoration any lower than an eight, but in the rest of the province, a handful rated it seven or lower.

Fewer than half (44 of 103) rate power quality as “extremely important”. LDC customers do not give power quality a rating lower than a six, but there are customers in all other segments who consider power quality to rate somewhere between a zero and five on importance.

Looking at the bottom three, customer service is considered “extremely important” by 41 out of 103. Proportionately, Generators and transmission customers in the North are most likely to rate customer service a 10.

About a third (37 of 103) rate productivity at a 10. Generators do not rate productivity any lower than a six, but there is at least one customer in all other segments who rates it somewhere between a zero and five.

Rounding out the bottom three with 31 of 103 rating it “extremely important” is environmental stewardship. LDC customers tend to rate this outcome lower than End Users or Generators. Customers with a single-circuit connection consider it more important than those with a multi-circuit connection.

Asked if any customer outcomes were missing from the list of seven included in the survey, some customers were able to suggest additional customer outcomes, using phrases like “system capacity”, “value for money”, “response” and “customer service”. None of the suggested outcomes were ranked as being more of a priority than the original seven.

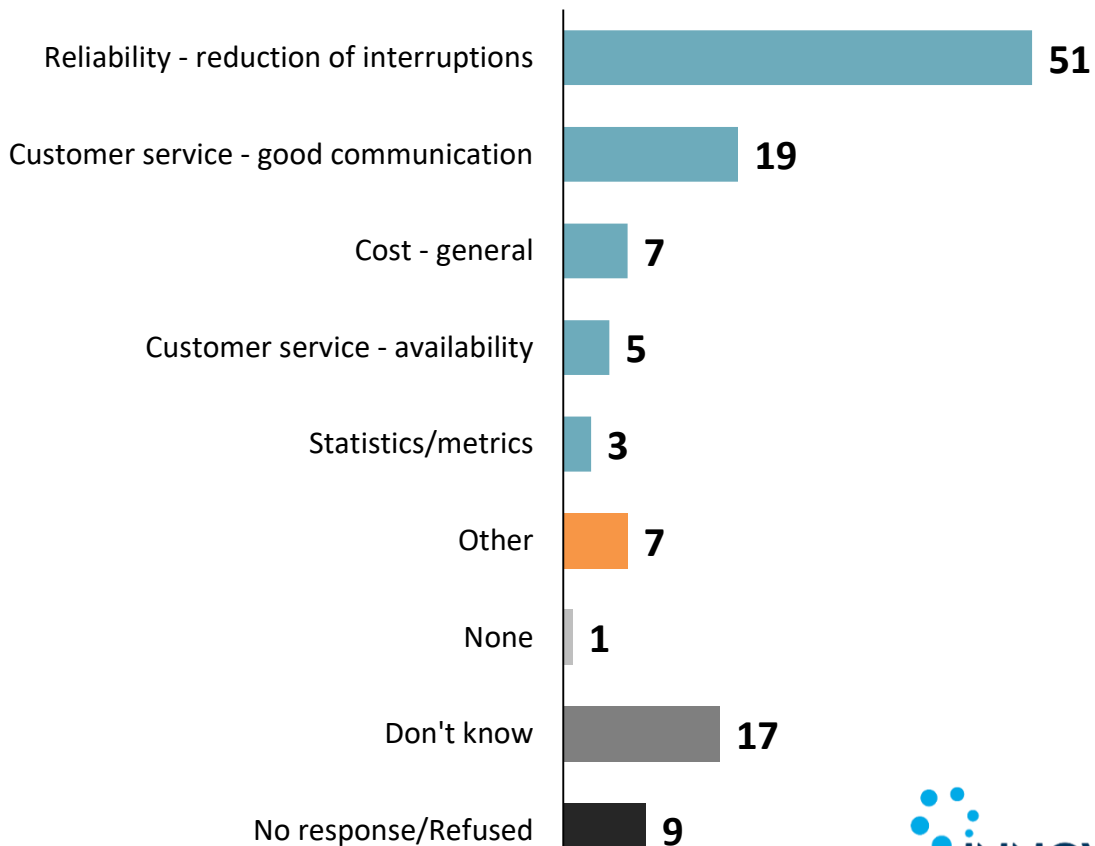
Performance Criteria:

Reduction in outages and interruptions, power supply, and customer service in terms of communication are top mentions for performance metrics



How do you know if Hydro One is doing a good job for your business?

[asked of all respondents, n=103]

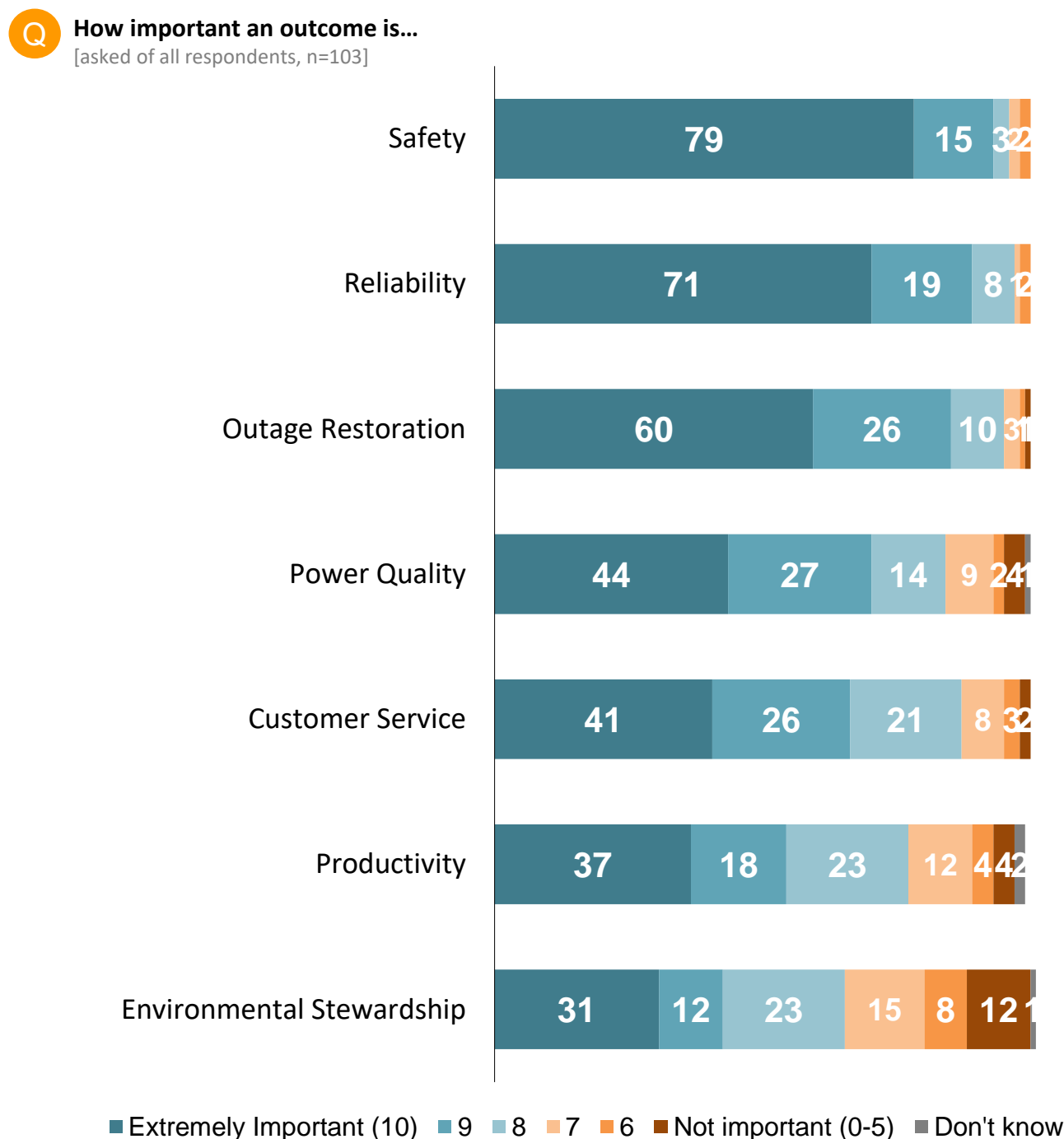


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21

Customer Outcomes:

Safety, reliability, and outage restoration are ranked as most important



Top Priorities:

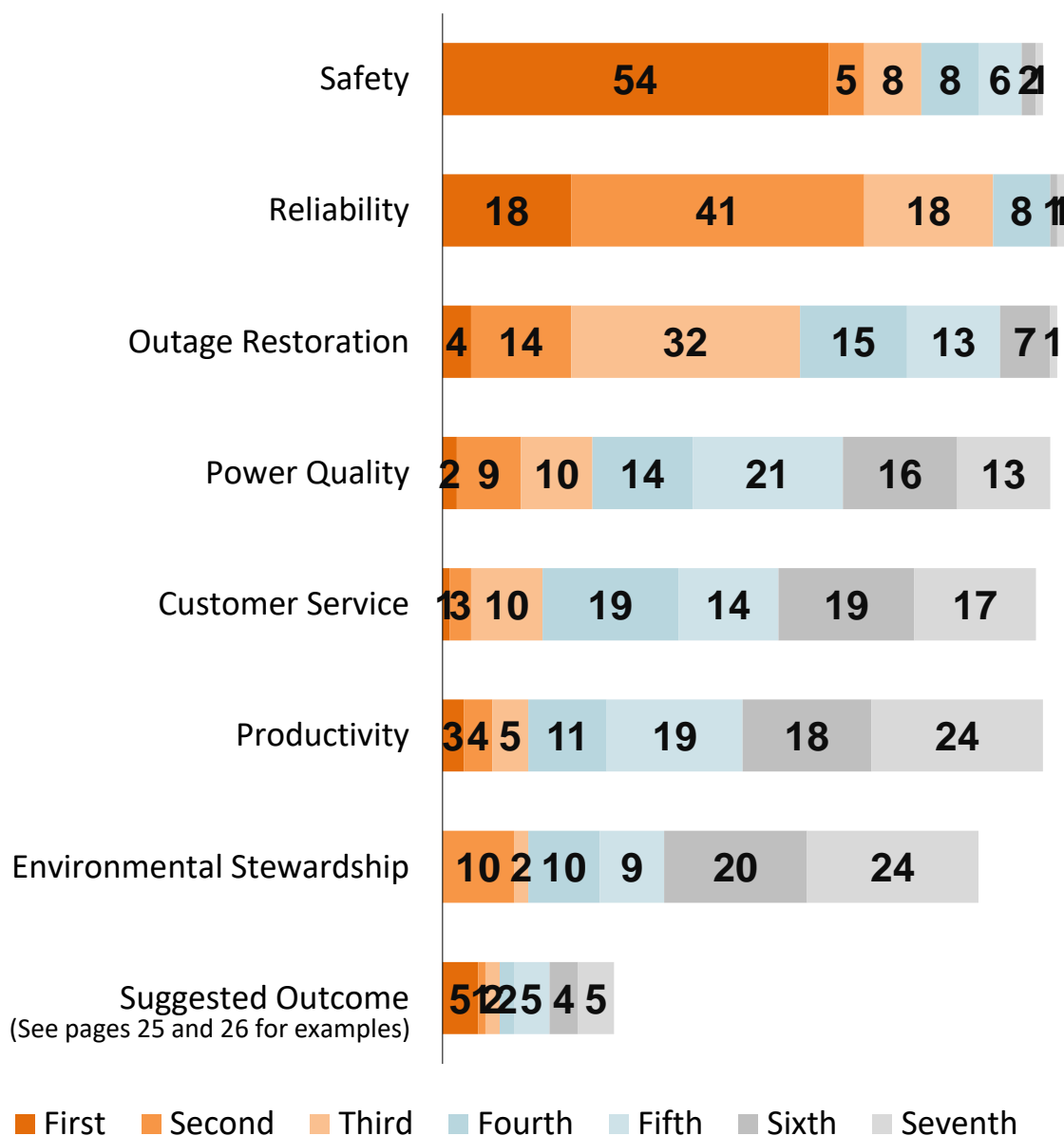
More than half rank safety as *first* priority. Rolling top 3 priorities together, reliability and outage restoration increase as priorities

Q

While all the outcomes listed are important to many customers, planners set priorities among different outcomes. The purpose of this section is to help Hydro One set priorities as it prepares its business plan. Which priorities should they focus on first?

Please rank your top priorities from the list below.

[asked of all respondents, n=103]



Investment Scenarios



Questions for LDCs



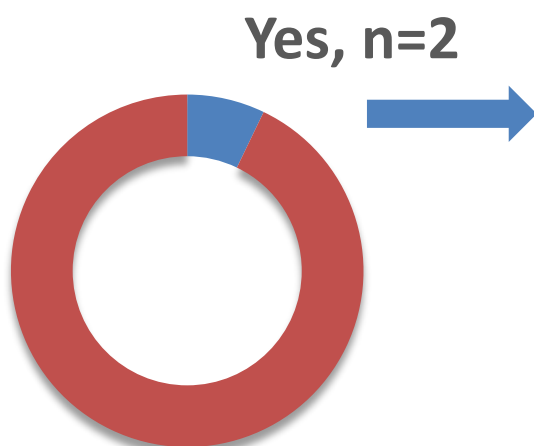
Questions for LDCs (2):

About a third report that their responses were informed by prior research

Q

Does your company provide electricity to First Nations and/or Métis communities?

[asked of all LDC respondents, n=28]



No, n=26

Q

Is there anything in particular you feel Hydro One can do to better serve the specific needs of First Nations and/or Métis communities?

[asked of all LDC respondents who serve First Nations and/or Metis communities, n=2]

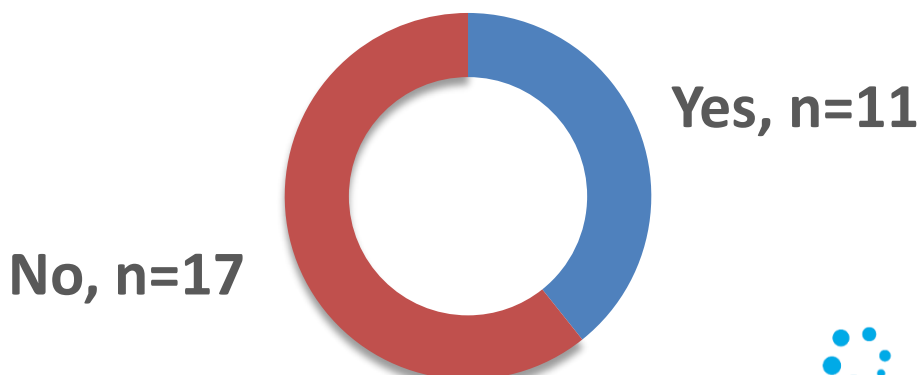
No.

The northern single circuit communities deserve more attention as they are more vulnerable in terms of supply and outage response.

Q

Were your responses to this survey informed by your own customer engagement activities for the purposes of a rate application, or by any other customer research?

[asked of all respondents, n=28]



Appendix 1.2

The Survey



Customer Outcomes

Hydro One has to make choices in its planning, and it needs to know what is most important to you. Hydro One is responsible to the Ontario Energy Board to show how its plans provide the cost effective delivery of outcomes that customers value. **To learn more about the customer engagement process and the Ontario Energy Board's requirements, See the "Additional Information" document.**

In reviewing its previous customer engagement research and in discussions with customer-facing Hydro One staff including its Key Account Managers, Hydro One has developed a tentative list of outcomes for your review. This survey is going to ask you if anything is missing from that list, how important each outcome is to you, and which outcomes are most important compared to the others.

This section will ask you to rate how important the outcomes are to you and to share your thoughts on how Hydro One could do better. You will also have an opportunity to add any outcomes you feel are missing.

We will be asking you about the following seven outcomes:

- Customer Service
- Environmental Stewardship
- Outage Restoration
- Power Quality
- Productivity
- Reliability
- Safety

To rate the importance of an outcome, please select a point on the slider below each description. If there are areas that you don't have an opinion on, please select the "don't know" option.

Safety

Eliminating and mitigating risk to public and employee safety in the operation of the transmission system. [For additional information on Hydro One's performance to date, See the "Additional Information" document.](#)

4. How important an outcome is safety?

Not at all important Extremely important
0 10
☐ Not sure / Don't know


Productivity

Implementation of new technologies and processes to enable operational efficiencies in the planning and execution of work programs aimed at reducing costs and more efficient use of resources. Hydro One understands that customers expect it to look first for internal savings before asking for any additional rates.

5. How important an outcome is productivity?

Not at all important Extremely important
0 10
☐ Not sure / Don't know


Reliability

Maintaining the uninterrupted operation of the transmission system for all customers by sustaining the existing assets, replacing assets that are in poor condition and addressing transmission system performance outliers . [For additional information on Hydro One's performance to date, See the "Additional Information" document.](#)


6. How important an outcome is reliability?

Not at all important Extremely important
0 10
☐ Not sure / Don't know


Outage Restoration

Provisions to ensure timely and efficient response to failures, unplanned outages , or imminent risks to the transmission system to minimize customer interruption and prompt restoration to normal operating conditions.


7. How important an outcome is outage restoration?

Not at all important Extremely important
 0  10
☐ Not sure / Don't know

Power Quality

Delivering electricity within established voltage and frequency tolerances with a smooth voltage curve waveform . Assessing customer concerns and implementing mitigation plans to address and rectify power quality issues for transmission connected customers.


8. How important an outcome is power quality?

Not at all important Extremely important
 0  10
☐ Not sure / Don't know

Customer Service

Enhancements to the transmission customer experience such as outage planning and operational communications, timely estimates and project execution for transmission connected customers. **For additional information on Hydro One's performance to date, See the "Additional Information" document.**

9. How important an outcome is customer service?

Not at all important Extremely important
 0  10
☐ Not sure / Don't know

Environmental Stewardship

Identifying potential risks to the environment as a result of emissions from Hydro One's own operations, and investing in mitigation strategies to ensure compliance with all applicable environmental regulations consistent with the Government of Ontario and the Government of Canada. |

10. How important an outcome is environmental stewardship?

Not at all important Extremely important
0 10
☐ Not sure / Don't know

Additional Outcomes

Are there any outcomes we missed? Please use the boxes below to add them, and then the slider to rate their importance.

11a. Suggested Outcome 1:

11b. How important is this outcome to you?

Not at all important Extremely important
0 10
☐ Not sure / Don't know

12a. Suggested Outcome 2:

12b. How important is this outcome to you?

Not at all important Extremely important
0 10
☐ Not sure / Don't know

Comments

13. Do you have any specific comments or suggestions regarding any of the seven outcomes that you just rated or any additional outcomes you added?

- Customer Service
- Environmental Stewardship
- Outage Restoration
- Power Quality
- Productivity
- Reliability
- Safety

Please fill in your response below:

Customer Outcomes

Top Priorities

While all the outcomes listed are important to many customers, planners set priorities among different outcomes. The purpose of this section is to help Hydro One set priorities as it prepares its business plan. Which priorities should they focus on first?

For a list of outcome definitions, See the "Additional Information" document

Please rank your top priorities from the list below.

Drag and drop the priorities in order, starting with the priority most important to you, followed by the second most important, then the third most important, and so on. Please try to rank all listed priorities:

Priorities	Top Priorities
Safety	
Productivity	
Reliability	
Outage Restoration	
Power Quality	
Customer Service	
Environmental Stewardship	

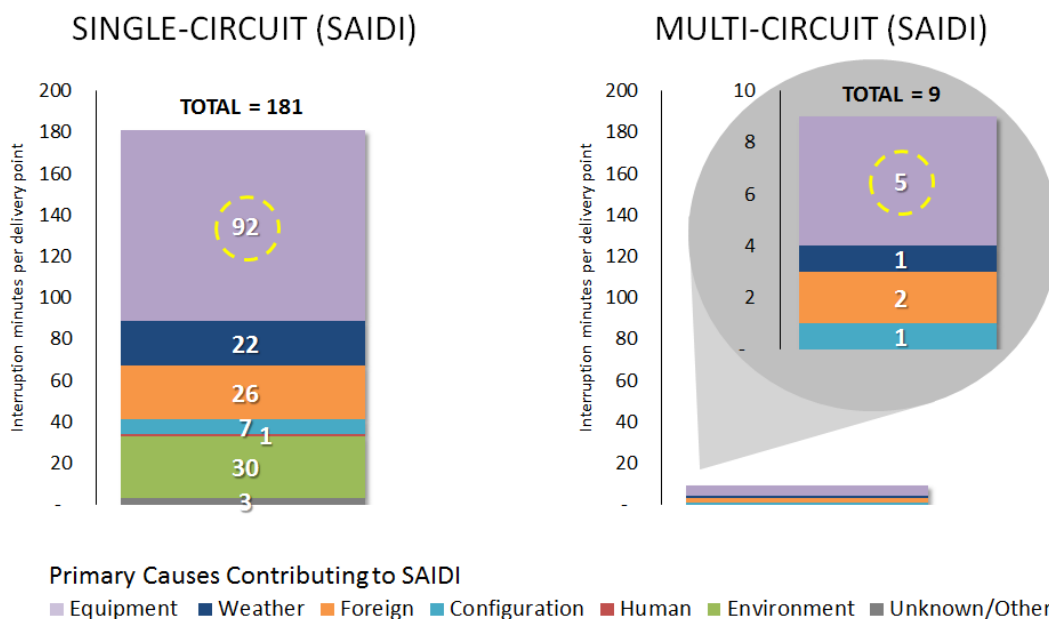
Comments:

Making Choices: Reliability Trade-Offs

Understanding reliability is important when assessing the trade-offs facing Hydro One. To help understand the impact of investment decisions on reliability, Hydro One as developed a metric called “reliability risk”. No one knows for sure when a specific piece of equipment will fail, but we do know how likely asset failure is for groups of equipment in specific conditions. This means we can project a likely risk of failure for a given pool of assets.

When it comes to transmission reliability, Hydro One has performed well compared to Canadian peers. The key strategy employed to avoid customer interruption in the transmission system is redundancy 📖. Most of the transmission system has been built with at least one redundant circuit for every operating circuit. The chart below shows the benefit of redundancy as customers on single circuit 📖 systems experience much more time (shown below as System Average Interruption Duration Index or SAIDI) 📖 without power than customers on multi-circuit systems 📖.

RELIABILITY PERFORMANCE 2012-2016



See the "Additional Information" document to read the definitions of these categories

Delaying capital spending will, in time, result in more and more equipment failures. While redundancy often prevents these failures from leading to customer interruptions, equipment failures will leave multi-circuit customers at risk of the single-circuit reliability experience. Reliability risk provides a leading indicator of the expected impact of allowing the condition of equipment in the transmission system to decline.


Making Choices: Illustrative Scenarios

Now we would like to take one last look at the core trade-offs Hydro One must make as it begins its business planning for 2019 to 2023:

- the balance between the level of investment and system reliability, and
- the timing of those investments.





To help understand your priorities, Hydro One has developed four illustrative scenarios. The specific priority of investment items in these scenarios is based on the priorities used in Hydro One's proposal currently before the Ontario Energy Board. While those priorities may change based on your earlier feedback, these scenarios are illustrative of the impacts of various spending levels.

In considering these scenarios, please be advised that all figures are intended as approximate, and are not intended to be relied upon as exact.




These scenarios focus on the trade-offs between the pace of investment, reliability, and future rate increases. The higher the level of investment, the lower the reliability risk , and vice-versa. As you consider these illustrative scenarios, please bear in mind that your rates can also be impacted by changes in load forecast and electricity prices. All scenarios assume an Operations, Maintenance, and Administration (OM&A) expense percentage increase that is held to less than inflation.

By preparing and providing these illustrations, Hydro One makes no representation that it will select one as its plan before the Ontario Energy Board.





Please read each scenario to understand how different investment levels impact key outcomes. You can choose one of these scenarios, a point between these scenarios or a point above or below these scenarios. There is a follow-up question that allows you to discuss the factors that you considered in making your choice. Your comments will help us better understand the outcomes you value.

These descriptions refer to "key assets"  which are conductors , circuit breakers  and transformers , as their failure is most likely to impact system reliability.




Scenario A: Limited investment

- Capital investment  focused on regulatory requirements and customer demand projects, such as new connections
- Sustainment capital  limited to replacing assets subject to imminent failure; no proactive sustainment investment
- The percentage of key assets beyond Expected Service Life  will increase from 21% in 2019 to 29% in 2023, increasing expected future investment requirements
- Total 5 year Capital Investment Plan: \$1.8 B
- Average Annual Transmission Rate Increase: 1.3%

Scenario B: Decrease in current level of investment






- Capital investment  reduced compared to plan filed with the Ontario Energy Board in May 2016
- Spending on sustainment  of key assets deferred to future years
- Contains lower levels of investment in productivity and fewer strategic investments designed to mitigate future rate impacts (e.g., tower coating)
- The percentage of key assets beyond Expected Service Life  increases from 21% in 2019 to 26% in 2023, increasing expected future investment requirements and expenses
- Additional capital in Scenario B as compared to Scenario A focuses on replacing assets in poorest condition, resulting in a significant reduction in reliability risk 
- Total 5 year Capital Investment Plan: \$4.3 B
- Average Annual Transmission Rate Increase: 3.3%

Scenario C: Maintain current level of investment

- Extends investment plan in rate application currently before the Ontario Energy Board to 2023
- Maintains current level of sustainment capital  investments affecting key assets
- Percentage of key assets beyond Expected Service Life  decreases from 21% in 2019 to 19% in 2023, decreasing expected future investment requirements
- Incorporates strategic investments that mitigate future rate impacts, such as tower coating
- Total 5 year Capital Investment  Plan: \$6.6 B
- Average Annual Transmission Rate Increase: 5.1%

Scenario D: Increase beyond the current level of investment

This plan contains all investments in Scenario C, with addition of:

- Additional sustainment capital  focused on key assets
- As a result, the percentage of key assets beyond Expected Service Life  decreases from 21% in 2019 to 17% in 2023, decreasing expected future investment requirements
- While the above investments benefit all customers to some degree, this scenario also increases capital to add redundancy  to worst performing single circuits  in system, benefiting a very small portion of customers in a significant way
- Total 5 year Capital Investment  Plan: \$7.4 B
- Average Annual Transmission Rate Increase: 5.6%

Exploring Trade-offs Using Illustrative Scenarios

Below is a chart summarizing all the scenarios from the previous page and their implications. As we mentioned these examples are meant to illustrate the impacts of different levels of investment on current and future rate increases and system reliability.

You will note that the two middle scenarios, B and C, offer a relatively small change in reliability risk, but moving from B to C offers significant improvements in long-term reliability. The key difference between B and C is that B has larger future increases, while C has level future rate increases. The big differences in reliability are in scenarios A and D. Moving from A to B creates a significant decline in reliability risk. Moving from scenario C to D generates both a long term reliability benefit and targeted reliability improvements for a small group of customers.

As noted earlier, by offering these illustrative scenarios, Hydro One is not committing to any of them; their purpose is to help Hydro One understand what you as a customer value. When Hydro One makes its Ontario Energy Board filing, Hydro One will incorporate feedback received through this process, but does not commit to pursuing any one of these illustrative scenarios.

Below the chart is a slider which represents the range of potential approaches Hydro One can take. On the far left is lower investment, lower short-term rates, lower reliability, and higher anticipated future increases. On the far right is higher investment, higher short-term rates, higher reliability, and lower anticipated future increases. Please use the slider to indicate what approach you think Hydro One should take. Hydro One will use the results of this exercise as a directional indicator of the route customers want to go.

NB: The location on the slider does not correlate directly with potential rate increases. (For example, while the physical distance between scenarios B and C is the same as between C and D, the impact on reliability, rates and other outcomes is very different).

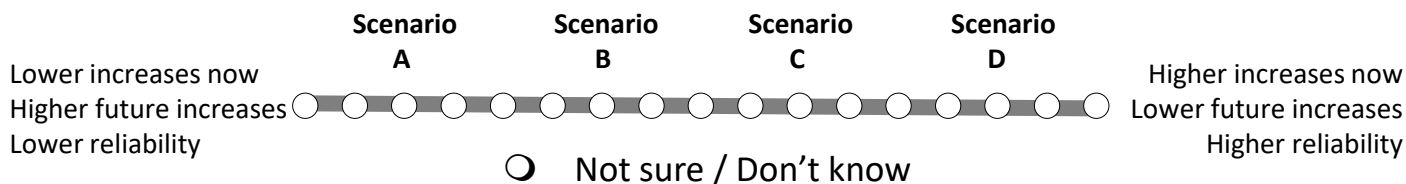
See the "Additional Information" document to view a larger and more detailed version of this table.

Illustrative Scenarios

	A: Limited investment	B: Decrease in current level of investment	C: Maintain current level of investment	D: Increase beyond the current level of investment
5 Year Capital Investment 📖	\$1.8 B	\$4.3 B	\$6.6 B	\$7.4 B
Reliability Risk 📖	Increase in risk ~30%	Increase in risk ~10%	Decrease in risk ~10%	Decrease in risk ~15%
Long-term Reliability Impact	↓	↓	↑	↑*
Average Percentage of Key Assets Beyond Expected Service Life 📖 by end of 2023 (21% in 2019)	29%	26%	19%	17%
Impact on Future rates	Significantly higher future rate increases	Higher future rate increases	Level future rate increases.	Slightly lower future rate increases.
Average Annual Total Bill Impact – Transmission Connected Customer	0.11%	0.27%	0.42%	0.46%
Average Annual Transmission Rate Increase	1.30%	3.30%	5.10%	5.60%

* Improvement in overall long term reliability and significant performance improvement for small number of customers connected to the worst performing circuits.

Thinking of all the considerations outlined, please choose a point along the line below that you believe strikes the right balance between rates and outcomes. (Remember you can choose a point located between scenarios or directly aligned with them).



Comments: Please use this space to tell us why you placed the slider where you did.

SEC INTERROGATORY #12

Reference:

TSP-01-03

Interrogatory:

With respect to customer engagement:

- a) What percentage of the proposed 2020-22 revenue requirement is expected to be recovered from, i) LDCs, ii) transmission connected end-use customers, iii) generators, iv) others.
- b) The Board in its EB-2016-0160 Decision stated that “Hydro One should have discussions with LDCs to determine practical ways to seek some input from their end users to inform Hydro One’s application.” (p.24). Please explain how Hydro One has met this direction.
- c) Please explain why Hydro One did not engage with non-transmission connect end-use customers (i.e. customers of LDCs).

Response:

- a) Based on the charge determinants forecast by customer type, it is expected that 92% of the rates revenue requirement will be recovered from LDCs, 7% from transmission connected end-use customers and 1% from generators.
- b) This information is summarized in Exhibit B-1-1, TSP Section 1.3 pages 28 to 30 under the heading: “Finding 2: Include Feedback from LDC End-Users”.
- c) There are two primary reasons why Hydro One did not directly engage further with customers of LDCs. First, we do not maintain customer information of other LDC’s customers, and could not readily obtain it, without first seeking the consent of each individual customer. Second, Hydro One does not have a direct relationship with these customers, and it would likely be confusing to the customer. Our survey had supplementary questions that can be found in Exhibit B-1-1, TSP Section 1.3, Attachment 1, pages 54-56. These supplementary questions were viewed as an opportunity for LDCs to express the needs of their direct customers.

Witness: Henry Andre, Spencer Gill



DISTRIBUTION CUSTOMER ENGAGEMENT REPORT

DEVELOPMENT OF DISTRIBUTION INVESTMENT PLAN AUGUST 2016

Prepared for:
Hydro One Networks Inc.
483 Bay Street
Toronto, ON
M5G 2P5



3. The final factor is that for some customers, electricity costs represent a financial challenge, and are approaching being unaffordable. These customers feel that they simply can't afford an increase in rates. The reference to rates is in relation to the overall bill, rather than a specific comment about the distribution delivery rate charge. This was heard primarily in focus groups and in Workshop feedback from C&I customers, rather than arising from survey responses.

"...some months, I have problems paying my hydro bills. So, because of the rates of hydro and all the additional delivery charges and all of that other stuff that comes on your bill, I actually had to go to equal billing in order to be able to pay my hydro, and that's crazy."

"...electricity prices are certainly surpassing my wage [increases]. So, I always think of it that way that I'm definitely paying more out of pocket in proportion to my income."

2. CUSTOMER PRIORITIES

For those who identify cost as their top priority, maintaining reliable electricity service is consistently their second priority. Many Large Customers, particularly C&I businesses, are facing reliability challenges. For many of them, power quality events and unplanned momentary power interruptions of less than one minute, rather than sustained interruptions of one minute or more, is their primary concern and many express that improvements are needed for their businesses to remain competitive and grow. Other customers are facing capacity challenges and want more access to power in order to grow their enterprises.

Customer service improvements, while desired particularly among Large Customers, are not something for which customers are willing to pay higher rates. However, it is clear that customer service issues for C&I and Small Business customers need to be better addressed for these customers to feel heard. The customer service issues raised by these customers during the customer engagement range from those with relatively specific and potentially simple solutions,

such as improving the way in which Hydro One communicates with Large Customers during outages/interruptions and doing a better job explaining the charges (such as Global Adjustment) on the bill, as well as correcting outstanding billing errors, to more complex issues such as the need for greater and more prompt support for capacity expansion applications, as well as for incentive programs.

The sentiments expressed by customers indicate that there is a significant opportunity for Hydro One to improve its communication and overall interaction with Large Customers, specifically C&I customers. The customer engagement activities also exposed several areas where customers, both large and small, lack a sufficient level of awareness or have misconceptions of what is within Hydro One's purview, what is mandated by the OEB, what is the responsibility of the Independent Electricity System Operator (IESO), and what is the role of government in setting policy and directing the IESO on the province's fuel mix, the price of electricity, and cost attribution.

CUSTOMER PRIORITIES

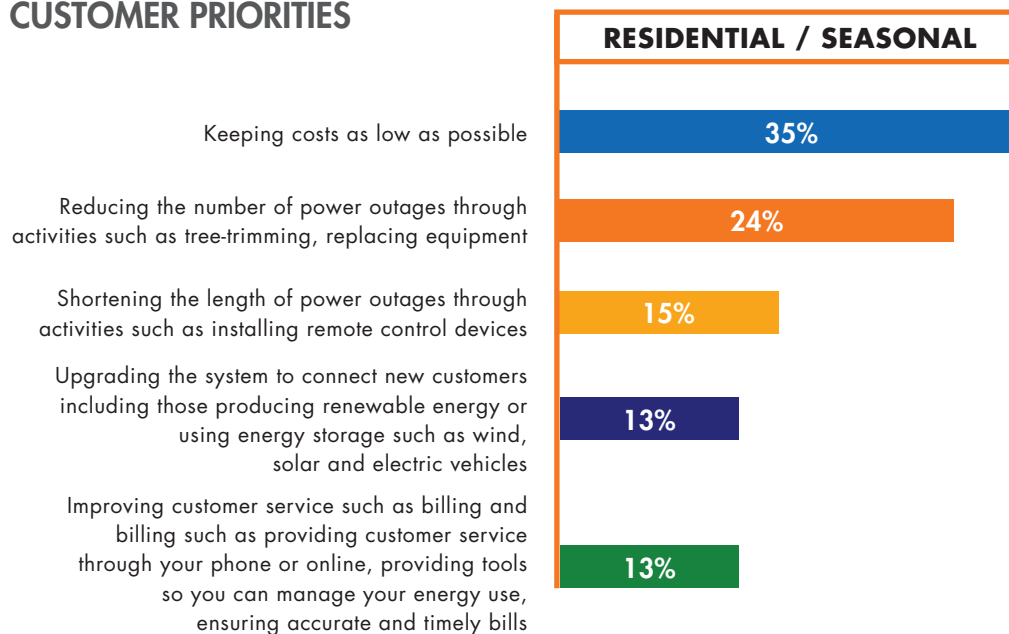
A paired-choice exercise was used to identify customer priorities in order to help Hydro One better tailor its services. Paired-choice is an analytical technique designed to draw out the extent to which respondents prefer each option in relation to every other option. It works by pairing options off so that they are essentially 'competing' against one another. A series of these pairs are presented to respondents, who are asked to choose which of the two options they prefer. Respondents are forced to choose an option and cannot give a 'don't know' answer.

In our survey, there were 10 possible pairs of the five options being evaluated, and each respondent was shown five separate pairs. The rotational design was built by Ipsos' research science team. The results of the exercise are presented as relative preference scores. Relative preference scores reflect the share of total preference each option has, which means we have to imagine that there is a pool of total preference to be allocated across each of the options. Essentially, relative preference reflects a collective strength of feeling towards a particular option in relation to the others – the higher the percentage, the more strongly it is preferred among respondents. For more information on paired-choice, refer to the Appendix.



The chart below shows that keeping costs as low as possible has a relative preference score of 35% among Residential and Seasonal customers, and that this is the largest preference score of the options presented. This indicates that customers prioritize keeping costs as low as possible above the other options (reducing the number of outages, improving restoration times, improving customer service, or upgrading the system to connect new customers). It is more than twice as important to customers as the latter three options (restoration times, customer service and connecting new customers). Reducing the number of outages is the next more preferred option.

TELEPHONE SURVEY CUSTOMER PRIORITIES

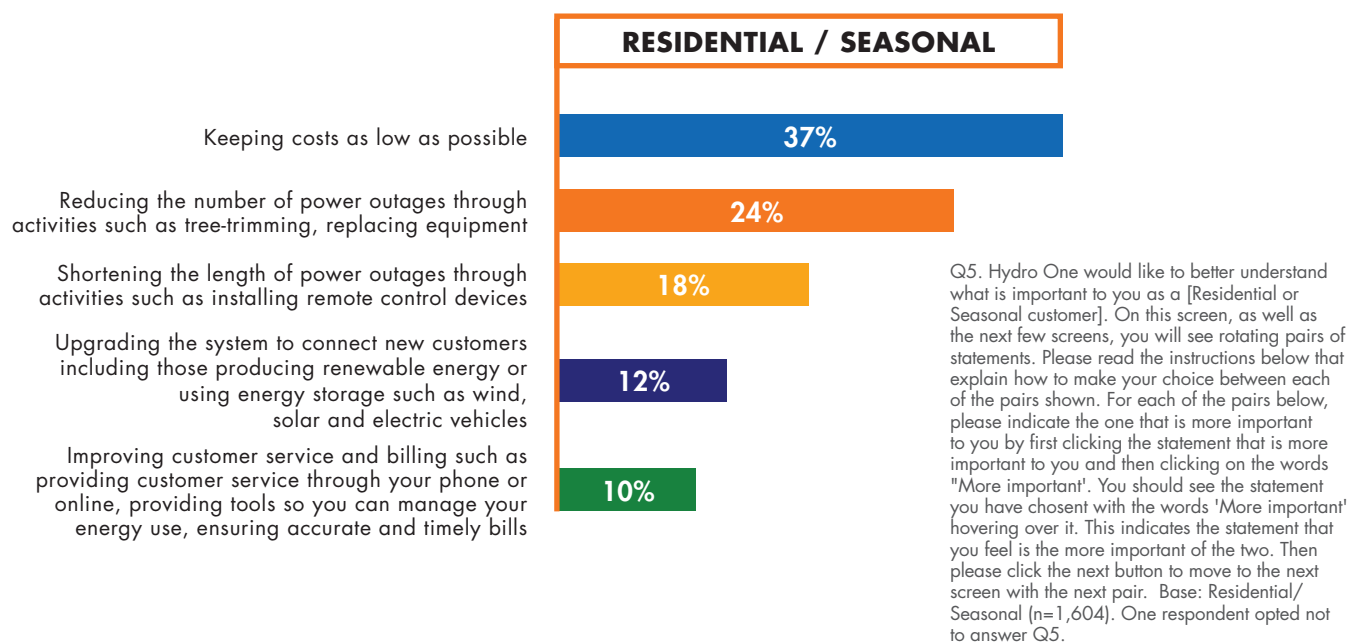


Q5. Hydro One would like to better understand what is important to you as a [Residential or Seasonal customer]. I am going to read Hydro One's major expenditures in pairs and for each pair please tell me which one is more important to you. Paired-choice preferences relative to other options. Base: Residential/Seasonal (n=499) One respondent opted not to answer Q5.

CUSTOMER PRIORITIES

As noted in earlier sections, a paired-choice exercise was used to identify customer priorities in order to help Hydro One better tailor its services. For more information on paired-choice refer to the Appendix.

ONLINE WORKBOOK: REPRESENTATIVE SAMPLE CUSTOMER PRIORITIES



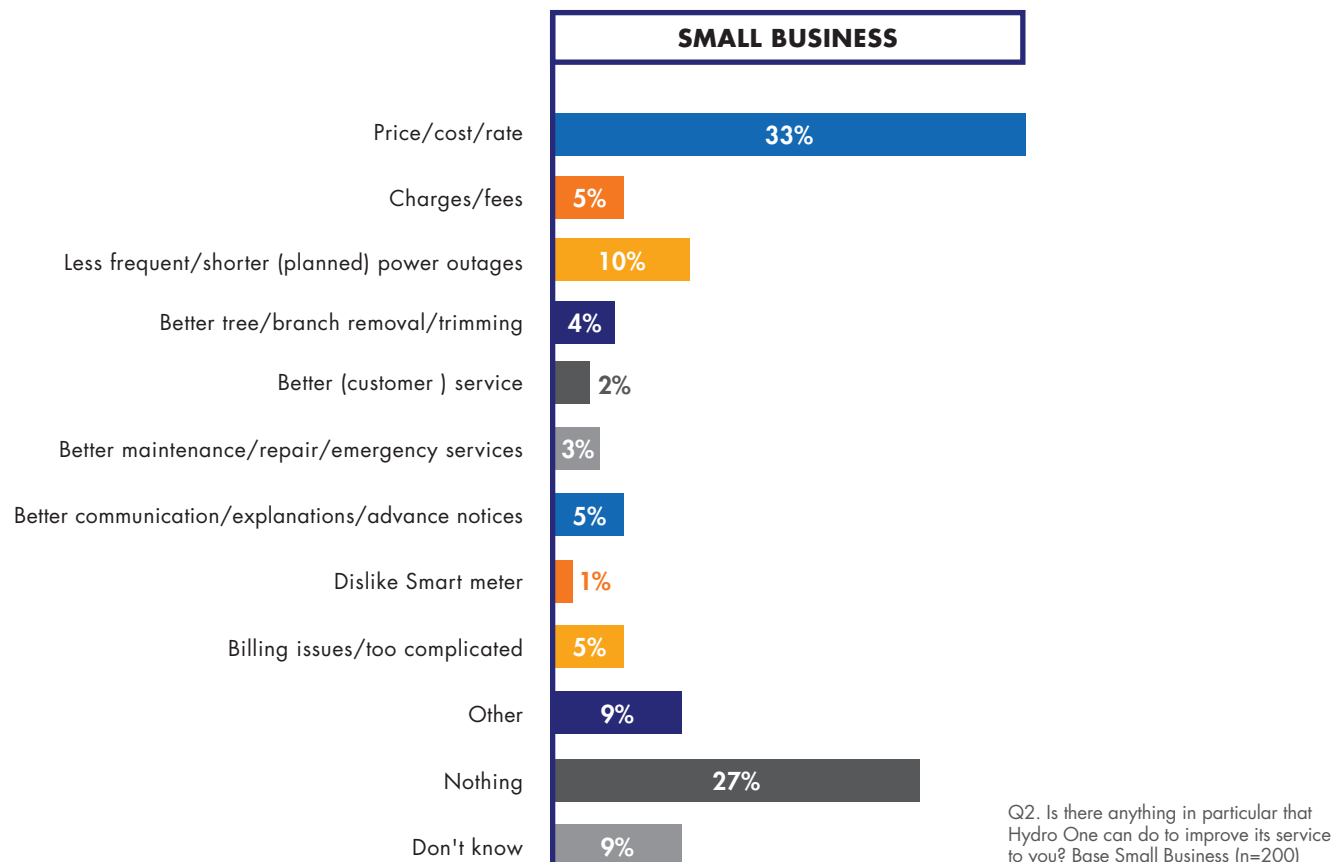
The chart above shows that keeping costs as low as possible has a relative preference score of 37% among Residential and Seasonal customers, and that this is the largest preference score of the options presented. This indicates that customers prioritize keeping costs as low as possible above the other options – reducing the number of outages, improving restoration times, improving customer service, or upgrading the system to connect new customers. It is more than twice as important to customers as the latter three options (restoration times, customer service and connecting new customers). Reducing the number of outages is next more preferred option.

THE LEVEL OF RELIABILITY THAT CUSTOMERS EXPECT

Most customers indicate that the level of reliability they currently experience is in line with their expectations. Residential customers report experiencing an average of roughly 4.4 outages of at least one minute in duration in the past 12 months, Seasonal customers average about the same at 4.4 outages. The largest share of customers – 52% of Residential and 42% of Seasonal – indicate that this level of reliability (number of outages they experienced) is about what they expect. One-quarter of Residential and 35% of Seasonal customers who experienced at least one outage, say it is worse than they expect, comparatively two-in-ten of both Residential and Seasonal customers say it is better than they expect.

TELEPHONE SURVEY

HOW HYDRO ONE CAN IMPROVE ITS SERVICE



Given the opportunity to review a rough breakdown of what Hydro One currently spends on each of its major electricity distribution investments, that is, how the distribution delivery rate is allocated, the majority (60%) indicate that they would not change how the money is currently allocated. Sixteen percent of customers indicate that they would change how the money is allocated. In general, these customers allocate more money to restoring power after outages (increasing the current amount by about two-thirds) and money for upgrading the system to connect new customers including those producing renewable energy (by about 50%) and less money to keeping the system reliable (about 20% less).

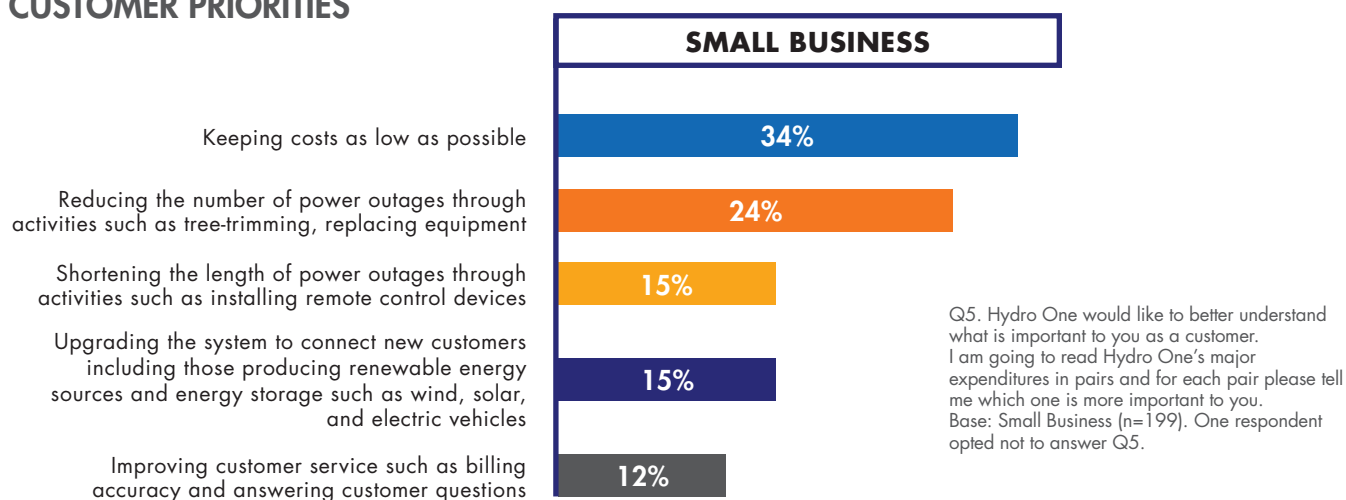
CUSTOMER PRIORITIES

A paired-choice exercise was used to identify customer priorities in order to help Hydro One better tailor its services.

The chart below shows that keeping costs as low as possible has a relative preference score of 34% among Small Business customers, which is the largest preference score of the options presented. This indicates that customers prioritize keeping costs as low as possible above the other options – reducing the number of outages, improving restoration times, improving customer service, or upgrading the system to connect new customers. It is more than twice as important to customers as the latter three options (restoration times, customer service and connecting new customers). Reducing the number of outages is the next most preferred option.

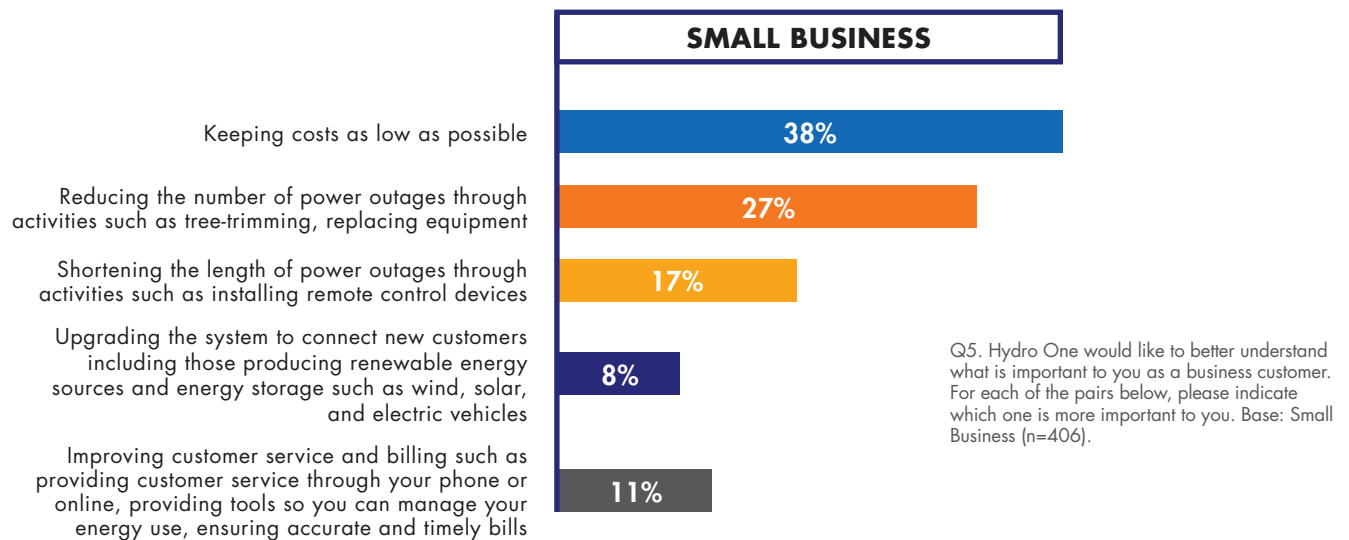
TELEPHONE SURVEY

CUSTOMER PRIORITIES



ONLINE WORKBOOK OPEN-LINK CUSTOMER PRIORITIES

As noted in earlier sections, a paired-choice exercise was used to identify customer priorities in order to help Hydro One better tailor its services. For more information on paired-choice refer to the Appendix.



The chart above shows that keeping costs as low as possible has a relative preference score of 38% among Small Business customers, and is the largest preference score of the options presented. This indicates that customers prioritize keeping costs as low as possible above the other options – reducing the number of outages, improving restoration times, improving customer service, or upgrading the system to connect new customers.

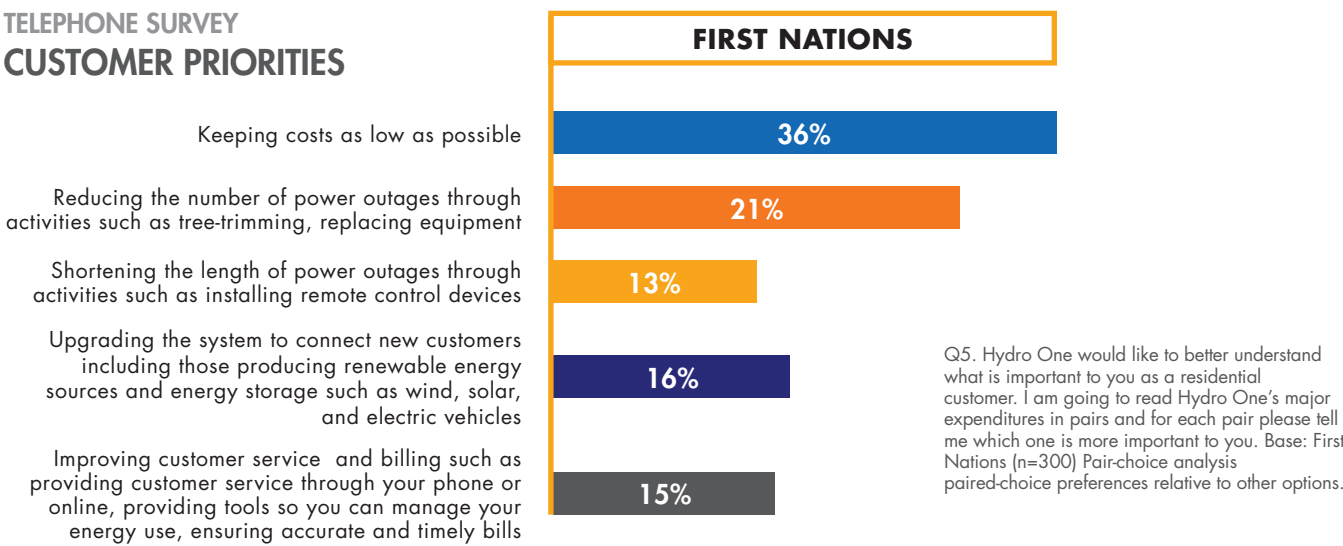
It is more than twice as important to customers as the latter three options (restoration times, customer service, and connecting new customers). Reducing the number of outages is the next most preferred option.

CUSTOMER PRIORITIES

The chart below shows that keeping costs as low as possible has a relative preference score of 36% among First Nations customers, which is the largest preference score of the options presented.

This indicates that customers prioritize keeping costs as low as possible above the other options – reducing the number of outages, improving restoration times, improving customers service, or upgrading the system to connect new customers. It is more than twice as important to customers as the latter three options (restoration times, customer service and connecting new customers). Reducing the number of outages is the next more preferred option.

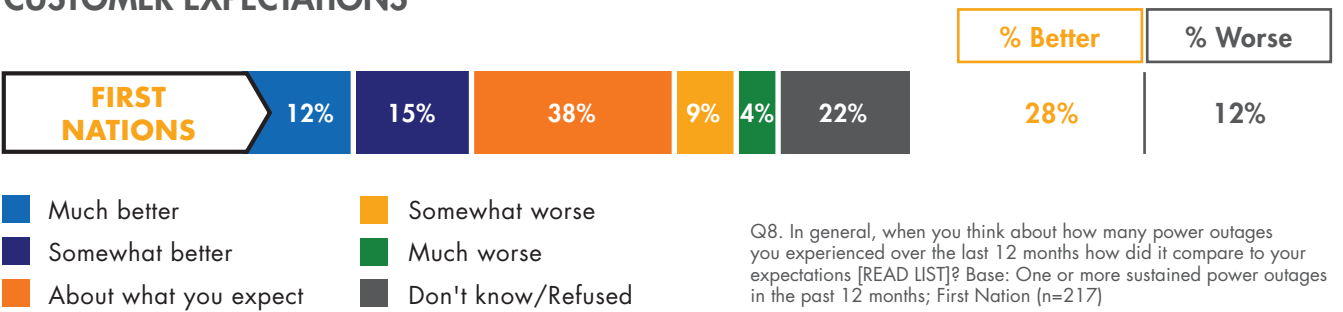
TELEPHONE SURVEY
CUSTOMER PRIORITIES



THE LEVEL OF RELIABILITY THAT CUSTOMERS EXPECT

Most customers indicate the level of reliability they currently experience is at least in line with their expectations. First Nations customers report experiencing an average of roughly three outages of at least one minute in length in the past 12 months. The largest share of customers (38%) indicate that this level of reliability (number of outages they experienced) is about what they expect. Only 12% of customers who experienced at least one outage indicate the number of outages they experienced is worse than they expect.

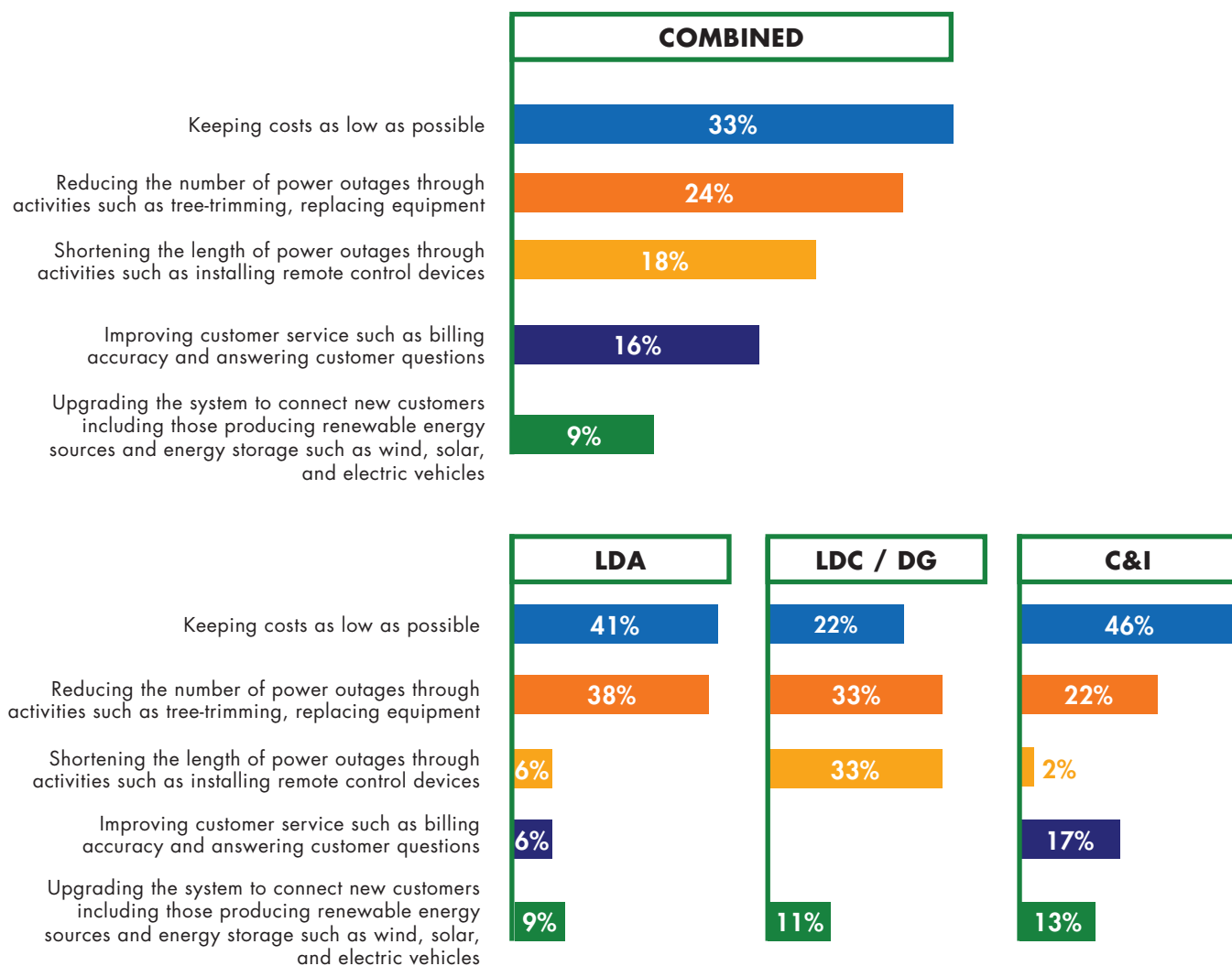
TELEPHONE SURVEY
CUSTOMER EXPECTATIONS



CUSTOMER PRIORITIES

Large Customers, with the exception of LDC/DG customers, also prioritize keeping costs as low as possible over improved reliability, customer service or upgrades to the system to connect new customers including those producing renewable energy. LDC/DG customers prioritize better reliability, as well as both fewer and shorter outages ahead of all else.

ONLINE WORKBOOK/ WORKSHOP SURVEY BOOKLET CUSTOMER PRIORITIES



Q3. Hydro One would like to better understand what is important to you as a large customer. From the following list, which would you say is most important to your organization? (select one only) Base: Excludes don't know/refused. LDA (n=34), LDC/DG (n=18), C&I (n=46) Note: the online workbook asked this question in the form of a paired-choice and the analysis was conducted on the combined response (due to smaller base sizes) Base: LDA/LDC/DG/C&I (n=87).



Appendix C

Customer Engagement

Alectra Utilities

Distribution System Plan (2020-2024)

Customer Engagement Planning Placemat

Identifying Customer Needs & Preferences

Customer Engagement Methodologies				
Rate Zone	Residential	Small Business	Mid-Market	Large Use
The clear majority of Alctra Utilities' customers in all rate zones are satisfied with the current service they receive. When asked how Alctra Utilities can improve service, top responses were either "nothing" or "lower rates."				
Enersource RZ	1. Lower rates 2. Nothing	1. Lower rates 2. Nothing	1. Nothing 2. Lower rates	Nothing/Don't know (4 of 9)
PowerStream RZ	1. Lower rates 2. Nothing	1. Lower rates 2. Nothing	1. Nothing 2. Lower rates	Nothing/Don't know (8 of 13)
Brampton RZ	1. Lower rates 2. Nothing	1. Lower rates 2. Nothing	1. Nothing 1. Lower rates	Nothing/Don't know (8 of 11)
Horizon RZ	1. Lower rates 2. Nothing	1. Lower rates 2. Nothing	1. Nothing 2. Lower rates	Nothing/Don't know (6 of 12)
Overall, what outcomes do customer prioritize? The top two priorities for Alctra Utilities as identified by the three smaller customer classes in both the Enersource and PowerStream rate zones are: 1. Delivering reasonable distribution rates; and 2. Ensuring reliable electrical service. These are also the top two priorities for large use customers, however, these customers rank reliability over price. Residential and GS-50kW customers rank minimizing the impact on the environment as their third priority, GS-50kW and Large Use customers are split on their third priority, with some focusing on helping customers to reduce or manage consumption and others on safety or customer service.				
Enersource RZ	1. Price 2. Reliability 3. Environmental impact	1. Price 2. Reliability 3. Environmental impact	1. Price 2. Reliability 3. Reduce/manage consumption	1. Reliability 2. Price 3. Safety
PowerStream RZ	1. Price 2. Reliability 3. Environmental impact	1. Price 2. Reliability 3. Environmental impact	1. Price 2. Reliability 3. Reduce/manage consumption	1. Reliability 2. Price 3. Reduce/manage consumption
Brampton RZ	1. Price 2. Reliability 3. Reduce/manage consumption	1. Price 2. Reliability 3. Reduce/manage consumption	1. Price 2. Reliability 3. Customer service	1. Reliability 1. Price 3. Reduce/manage consumption
Horizon RZ	1. Price 2. Reliability 3. Environmental impact	1. Price 2. Reliability 3. Reduce/manage consumption	1. Price 2. Reliability 3. Reduce/manage consumption	1. Reliability 2. Price 3. Safety
What reliability outcomes do customers prioritize? The top reliability concern for customers is the overall number of outages. Five out of 8 GS-50kW and Large Use groups rank this as their number one priority, while residential customers place it second. The second concern is reducing the length of outages during extreme events. This is the top concern for the residential customers and a top three concern for all small and mid-market businesses. The third concern is the overall length of day-to-day outages, with the majority of customers ranking it as their third priority. Large Use customers generally rank power quality as their second or third most important priority.				
Enersource RZ	1. Extreme weather restoration 2. SAIFI 3. SAIDI	1. SAIFI 2. Extreme weather restoration 3. SAIDI	1. SAIFI 2. SAIDI 3. Extreme weather restoration	1. SAIFI 2. SAIDI 3. Power quality
PowerStream RZ	1. Extreme weather restoration 2. SAIFI 3. SAIDI	1. SAIFI 2. Extreme weather restoration 3. SAIDI	1. SAIFI 2. Extreme weather restoration 3. SAIDI	1. SAIFI 2. Power quality 3. SAIDI
Brampton RZ	1. Extreme weather restoration 2. SAIFI 3. SAIDI	1. SAIFI 2. SAIDI 3. Extreme weather restoration	1. SAIDI 2. Extreme weather restoration 3. SAIFI	1. SAIFI 2. Power quality 3. SAIDI
Horizon RZ	1. Extreme weather restoration 2. SAIFI 3. SAIDI	1. Extreme weather restoration 2. SAIFI 3. SAIDI	1. SAIDI 2. SAIFI 3. Extreme weather restoration	1. SAIDI 1. SAIFI 3. Power quality
What investment trade offs do customers value most? Despite price concerns, customers are generally willing to consider paying more to maintain a reliable system. System Renewal: The majority of Alctra Utilities customers believe that the utility should invest in renewal now, rather than defer to the future. <i>% of customers who say Alctra Utilities "should invest what it takes to replace the system's aging infrastructure to maintain system reliability"</i>				
Enersource RZ	61%	60%	74%	7/9
PowerStream RZ	50%	62%	66%	6/13
Brampton RZ	53%	52%	72%	9/11
Horizon RZ	59%	58%	56%	8/12
General Plant: Residential customers and most business customers support investing in general plant now, rather than finding ways to make do with existing equipment and tools. Large Use customers are more evenly divided <i>% of customers who say Alctra Utilities "should make the investments necessary to ensure its staff have the equipment and IT systems they need to manage the system efficiently and reliably"</i>				
Enersource RZ	69%	55%	64%	4/9
PowerStream RZ	63%	59%	61%	4/13
Brampton RZ	61%	54%	65%	5/11
Horizon RZ	68%	61%	64%	6/12
System Service: The clear majority of customers support investments in system service. Support for these investments is highest among the large use customers in the Enersource, PowerStream and Brampton RZs. <i>% of customers who say Alctra Utilities "should proactively invest in system capacity infrastructure to ensure customers in high growth areas do not experience a decrease in customer bills."</i>				
Enersource RZ	58%	57%	73%	8/9
PowerStream RZ	57%	56%	64%	6/13
Brampton RZ	51%	54%	61%	7/11
Horizon RZ	58%	55%	60%	4/12
Modernization: Customers generally agree that modernization can wait for the normal renewal process. There is no immediate pressure to proactively invest in modernization, however, support for specific programs could exceed general support. <i>% of customers who say Alctra Utilities "should invest in the benefits of modernization now, even if that means customers will have to pay bit more on their distribution rates in the near future."</i>				
Enersource RZ	34%	34%	41%	3/9
PowerStream RZ	31%	37%	32%	4/13
Brampton RZ	30%	38%	36%	4/11
Horizon RZ	33%	41%	28%	3/12
Legend				
Above average support within category				
Average support within category				
Below average support within category				

Customer Engagement Methodologies				
Alctra Utilities Corporation (Alctra Utilities) engaged Innovative Research Group Inc. (INNOVATIVE) to assist in meeting Alctra Utilities' customer engagement commitments under the renewed Regulatory Framework for Electricity Distributors. Below is a summary of those customer engagement efforts. For detailed survey methodologies, please consult complete Customer Engagement Reports.	Rate Zone	Methodology	Field	n-size
	Enersource RZ Residential	Telephone	May 2018	n=501
	Enersource RZ Small Business (GS < 50 kW)	Telephone	May 2018	n=302
	Enersource RZ Mid-Market (GS > 50 kW)	Telephone	May 2018	n=300
	Enersource RZ Large Use	Online	May 2018	9 of 36
	PowerStream RZ Residential	Telephone	May 2018	n=505
	PowerStream RZ Small Business (GS < 50 kW)	Telephone	May 2018	n=303
	PowerStream RZ Mid-Market (GS > 50 kW)	Telephone	May 2018	n=300
	PowerStream RZ Large Use	Online	May 2018	13 of 47
	Horizon RZ Residential	Telephone	August 2018	n=508
	Horizon RZ Small Business (GS < 50 kW)	Telephone	August 2018	n=303
Horizon RZ Mid-Market (GS > 50 kW)	Telephone	Aug-Sept 2018	n=53	
Horizon RZ Large Use	Online	Aug-Sept 2018	12 of 28	
Brampton RZ Residential Telephone	Telephone	August 2018	n=508	
Brampton RZ Small Business (GS < 50 kW)	Telephone	August 2018	n=300	
Brampton RZ Mid-Market (GS > 50 kW)	Telephone	Aug-Oct 2018	n=45	
Brampton RZ Large Use	Online	Aug-Sept 2018	11 of 22	
Additional Information				
For more information on using this document or customer engagement results, please contact:				
Indy J. Butany-DeSouza, Vice President, Regulatory Affairs T: 905-821-5777 E: indy.butany@alctraultilities.com				
Natalie Yeates, Regulatory Affairs T: 416-617-1959 E: natalie.yeates@alctraultilities.com				
Julian Garas, Senior Consultant, Innovative Research Group T: 416-640-4133 E: jgaras@innovativeresearch.ca				
Legend				
Above average support within category				
Average support within category				
Below average support within category				

Source: Innovative Research Group (Customer Engagement Research - May & August - October 2018)



CUSTOMER ENGAGEMENT

2020 CIR Application

June 15, 2018

Prepared for:

Toronto Hydro
14 Carlton Street
Toronto, Ontario M5B 1K5



2. Executive Summary

The customer engagement as part of this Application took a two phased approach to identify customer needs and preferences. The first phase focused on identifying the outcomes THESL customer value and priorities among those outcomes. The second phase focused on generating feedback on Toronto Hydro's proposed plans.

While customer engagement continues to be an ongoing process, the engagement as part of this Application found the following:

Toronto Hydro is generally seen to be meeting the needs of most customers effectively.

THESL customers are generally satisfied with the services they receive. When customers are asked how THESL can improve its service, most customers either have no suggestions or are looking for lower rates.

Price and reliability dominate as customers' top outcome priorities.

Customers consistently, across rate classes value price and reliability above other priorities, with price constantly at the top priority for non-large use customers.

Customers generally support THESL's propose plan.

After reviewing the key choices in THESL's plan, majorities of residential, small business, mid-market and key account customers say THESL should stick with its proposed plan or do more. Even the most economically vulnerable customers support the plan.

While customers began reviewing Toronto Hydro's plan skeptically, they were strongly supportive of programs aimed to improve parts of the system experiencing below average performance or where spending more now can avoid greater disruption and higher costs in the future.

Customers are less supportive of innovation. They support investments in control equipment that would improve performance but do not support paying more for increased storage and microgrids.

2.1 Phase I Customer Engagement

The first phase of THESL's customer engagement dedicated to this application took place at the beginning of the planning process. The goal of this phase was to provide THESL with input on customer needs and preferences at the start of the planning process.

At that time, the OEB had just released the *Handbook for Utility Rate Applications* with a clear focus on outcomes. THESL's existing work had explored needs and a wide variety of trade-offs but had not explicitly addressed outcomes. Phase I focused on filling that gap by developing a list of outcomes important to customers and then establishing customer priorities among those outcomes. As part of that exercise, information on customer needs was also updated.

2.1.1 Understanding Customer Needs and Preferred Outcomes

To identify customer needs and preferences, INNOVATIVE conducted a series of customer engagements, designed to help uncover priorities for the utility that customers' value and their relative importance against each other.

Before engaging directly with THESL customers, INNOVATIVE and THESL discussed existing research related to customer needs, preferences and outcomes to understand the potential issues THESL customer care about and what they want and need from their utility.

Building on previous research, INNOVATIVE conducted exploratory focus groups to better understand and identify the outcomes that THESL customers' value, and the criteria they use to measure successful delivery of these outcomes. The focus groups included mapping the customer journey, expectations of THESL today and in the future as a way of uncovering outcomes and measurement criteria.

Based on customer feedback from the focus groups, a series of outcomes were developed and evaluated through a representative low-volume customer survey. The survey was designed to assess the importance of identified outcomes and rank them by relative importance.

In addition to a low-volume customer survey, INNOVATIVE also surveyed Key Account customers to better understand how THESL could deliver valued services and set outcomes among competing priorities.

This section of the report details the iterative research process of identifying and ultimately quantifying the THESL outcomes as valued and prioritized by its customers.

Phase I Customer Engagement Summary

	Methodology	Dates	Quantity	
Qualitative Research				
Residential	Focus Groups	Dec. 5 & 6, 2016	2 groups	
Small Business (GS < 50 kW)	Focus Groups	Dec. 5 & 6, 2016	2 groups	
Mid-Market (GS > 50 kW)	Focus Groups	Feb. 28 – Mar. 1, 2017	4 groups	
Stakeholders (NGOs, Industry Associations)	In-depth Interviews	June 12-30, 2017	10 interviews	
	Methodology	Field Dates	Targeted Sample Size	Final Completes
Low-Volume Telephone Survey				
Residential	Telephone	Dec. 7-14, 2016	n=400	n=416
Small Business (GS < 50 kW)			n=200	n=211
Total Low-Volume Customer Completes			n=600	n=627
Key Accounts				
Large Use Customers (2MW+)	Online	Feb. 23 – Mar. 24, 2017	N/A	n=63

Summary of Customer Priorities

Priorities	Residential*	GS < 50 kW*	GS > 50 kW**	Key Accounts ^β
1 st	Prices	Prices	Price	Reliability
2 nd	Reliability	Reliability	Reliability	Price
3 rd	Safety	Safety	ETOR / Communications	Environmental Risk Mitigation (Reliability)

* Feedback from **residential** and **GS < 50 kW** customers obtained through both focus groups and telephone surveys.

** Feedback from **GS > 50 kW** customers obtained through focus groups.

^β Feedback from **Key Account** customers obtained through an online survey.

Customer and stakeholder feedback from Phase I can be summarized by the following key points:

1. Keeping distribution price increases as low as possible;
2. Maintaining long-term performance for customers experiencing average or better service;
3. Improve service levels for customers experiencing below average service or who have special reliability needs (e.g. hospitals); and,
4. Balancing other customer priorities (e.g. customer service) with the need to contain rate increases.

Phase I customer feedback informed THESL's business planning, including the penultimate DSP. THESL's plans were later refined based on feedback from the Phase II customer engagement.

An overview of customer priorities can be found below in the ***Phase I: Toronto Hydro Customer Priorities*** table. At the conclusion of Phase I, INNOVATIVE provided a two-page summary with the overview table and the key results of the low volume and Key Accounts surveys for reference

Phase I: Toronto Hydro Customer Priorities

PRIORITIES	Residential & GS <50 KW	GS >50 KW	Key Accounts (Large Users)	Stakeholder Groups (Key Issues)
Price	HIGH (1st Priority) <ul style="list-style-type: none"> Containing price increases is the top priority for most residential and small business customers. Increasing rates must be justified (i.e. there is a clear need and ratepayers dollars will be spent efficiently). 	HIGH (1st Priority) <ul style="list-style-type: none"> Containing price and providing short-term rate predictability is the top priority. 	HIGH (2nd Priority) <ul style="list-style-type: none"> Prioritizing reliability over price is of high importance (i.e. cost of power interruptions outweighs the cost of rate increases). 	Housing & Social Services <ul style="list-style-type: none"> Reliability outweighs cost Quality and consistency of power is a key need Incentive programs need to be more accessible and may not be targeted at greatest returns Conservation efforts constrained by bulk meter buildings Building renewal and retrofitting are priorities
Reliability	HIGH (2nd Priority) <ul style="list-style-type: none"> Maintaining current “good” level of reliability is a key priority. 	HIGH (2nd Priority) <ul style="list-style-type: none"> Maintaining current level of reliability is a key priority for this group of customers. Providing outage communications and responsive service is valued more highly among this rate class (than others). 	HIGH (1st and 3rd Priority) <ul style="list-style-type: none"> #1 Maintaining reliability (including power quality) is the top priority. #3 Implementing strategies to mitigate outages caused by extreme weather is a top 3 priority. 	
Safety	HIGH (3rd Priority) <ul style="list-style-type: none"> Setting public safety as a top priority is assumed and expected. 	<ul style="list-style-type: none"> Setting public safety as a top priority is assumed and expected. 	<ul style="list-style-type: none"> Setting public safety as a top priority is expected. 	Large Commercial <ul style="list-style-type: none"> Reliability is needed 24/7 Reliability is a competitive advantage System resilience is a concern Cybersecurity is a priority Behind the meter innovation is a need Cost is <u>not</u> a significant factor
Customer Service	<ul style="list-style-type: none"> Provide accurate ETOR, proactive information on CDM programs and energy management. Provide tools to make billing, account management, and usage information easily accessible. 	HIGH (3rd Priority) <ul style="list-style-type: none"> Providing accurate ETOR and proactive communications is a key priority. Enhance customer service to match emerging technological capabilities and needs (e.g. allow customers to get bills by emails, create master accounts to manage multiple bills). 	<ul style="list-style-type: none"> Maintaining current “very good” levels is expected. Helping customers take advantage of CDM programs is seen as a valued priority. 	Small Commercial <ul style="list-style-type: none"> Reliability is needed 24/7 Customer service is the key need – lampposts, local development, outages Cost is primarily a concern among local, micro businesses
Public Policy Response	<ul style="list-style-type: none"> Incentivize adoption of innovative technologies that enable conservation and consumption management. 	<ul style="list-style-type: none"> Pursue value-for-money investments where long-term cost savings can be realized (e.g. spend now to save later). Avoid premature investments in unproven or untested technologies that impact customer rates. 	<ul style="list-style-type: none"> Investing in technology that helps customers save money is valued. 	Small / Mid-sized Manufacturing <ul style="list-style-type: none"> Cost is a significant factor Reliability seen as less of a concern ICI program ineligible Global adjustment is a friction point, impairs budgeting
Environmental	<ul style="list-style-type: none"> Make programs combatting climate change known to customers. Show customers how such programs impact their bills. 	<ul style="list-style-type: none"> Maintain equipment and infrastructure in adverse weather. 	<ul style="list-style-type: none"> Actualize other priorities, before focusing on environmental concerns. 	
Methodology ▶▶	Quantitative and Qualitative	Qualitative	Quantitative	Qualitative

Source: Innovative Research Group (Customer Research - December 2016, March 2017, June 2017)

Customer Needs	Telephone Surveys		
	Residential	Small Business	Mid-Market
Familiarity with Toronto Hydro			
Familiar	84%	81%	87%
Not familiar	11%	13%	10%
Satisfaction with Services			
Satisfied	74%	79%	78%
Dissatisfied	12%	8%	7%
Suggestions for Improved Services			
None	34%	41%	28%
"Reduce the price"	32%	31%	30%

A key part of the engagement is to ensure all participants have a basic understanding of key facts about Toronto Hydro and its role in Ontario's electricity system. Following that background information, INNOVATIVE asked customers about familiarity with both the amount of their bill that is remitted to Toronto Hydro, as well as the OEB. Familiarity with both measures is quite low, and it is observed that a majority of customers have no level of awareness regarding the OEB.

Familiarity with Electricity System	Telephone Surveys		
	Residential	Small Business	Mid-Market
Familiarity with Amount of Bill Retained by Toronto Hydro			
Familiar	35%	26%	30%
Not familiar	62%	64%	63%
Familiarity with Ontario Energy Board			
Familiar	45%	33%	43%
Not familiar	54%	62%	54%

2.2.2 Re-confirming Customer Outcome Priorities

Using the customer priorities identified in Phase 1 of the consultation, in Phase 2, customers were again asked to rank which priority was most important to them personally, or their organization. Consistent with Phase 1, it was found that customers prioritize price and reliability above all else. Ensuring the safety of electricity infrastructure was also consistently seen as an important priority that Toronto Hydro should focus on.

Customer Priorities	Residential		Small Business		Mid-Market	
	Phase 1 (July 2017)	Phase 2 (May 2018)	Phase 1 (July 2017)	Phase 2 (May 2018)	Phase 1 (July 2017) [†]	Phase 2 (May 2018)
1st	Prices	Prices*	Prices	Prices*	Prices	Prices*
2nd	Reliability	Reliability**	Reliability	Reliability**	Reliability	Reliability**
3rd	Safety	Safety***	Safety	Safety***	ETOR / Communications	Safety***

* Delivering reasonable electricity prices

** Ensuring reliable electricity service

*** Ensuring the safety of electricity infrastructure

[†] In Phase 1, Mid-Market customer views were gathered through qualitative focus group research.

Customer Engagement

PRIVILEGED AND CONFIDENTIAL **2019 Rate Application**

Prepared for:

EnWin Utilities Ltd.
787 Ouellette Avenue
Windsor, Ontario
N9A 5T7



Customer Priorities

Residential and small business (<50kW) see cost, reliability and safety as EnWin's top priorities

The sentiments expressed above were echoed across the groups given a more structured exercise in priority ranking. Customers were provided a list of areas to which EnWin could allocate resources and attention, and were asked to rank their top three of six measures. The top priority, consistent across groups, was the need to *deliver electricity at a reasonable price*. There is some acknowledgment that EnWin is responsible for only part of the bill as less than half of customers reported being familiar with the portion of their bills remitted to EnWin (telephone survey – residential: 43%; small business: 36%). Further, the impact electricity bills have on customers' finances persists as a top of mind concern, with those most significantly affected least likely to support investments that may increase their bills.

That said, maintaining reliability is the second most important priority to customers across the board.

Finally, safety is the third top priority. It is an almost unspoken expectation that the system is operating safely for all EnWin staff and customers.

Top 3 Customer Priorities	Online	Telephone	
	Residential	Residential	Small Business (<50kW)
1 st	Price	Price	Price
2 nd	Reliability	Reliability	Reliability
3 rd	Safety	Safety	Safety

Customer Preferences

Customers expect EnWin to maintain a proactive capital investment program that either improves or maintains system reliability.

Proactive Investment: The telephone surveys reveal that a majority of low-volume customers want EnWin to spend what is needed to either *maintain* or *improve* system reliability related to fewer and shorter outages.

System Service Investment: Technologies, such as automated switches, that can improve reliability and manage outages more efficiently, are seen to have comparatively the most value in terms of investment. In the telephone survey about 7-in-10 respondents (residential: 69%; small business: 73%) feel that it is important to invest now in modernizing the grid. This sentiment was shared by 47% of residential online respondents, who felt that *technology will save money in the long run*.



File Number: EB-2019-0049

Exhibit: 1

Filed: April 30, 2019

Appendix 1-27: KWHI Customer Engagement Final Report

CUSTOMER ENGAGEMENT REPORT

Cost of Service Rate Application

December 14, 2018

Prepared for:

Kitchener-Wilmot Hydro Inc.

301 Victoria St S

Kitchener, ON N2G 4L2



3.1.2.2 Customer Reliability Priorities

With regards to system reliability priorities, low-volume customers rank “reducing extreme weather restoration times”, the overall “number of outages” and the “length of outages” as their top three priorities. In terms of total priority, extreme weather restoration times is the top priority for residential customers (55%), while reducing the overall length of outages is number one for small business customers (51%).

That said, reducing the overall number of outages is the top priority for a plurality of low-volume customers – 26% of residential and 23% of small business customers.

For mid-market and large business customers, outages and power quality issues can be significant, both in terms of lost productivity and potential equipment failure or damage. Proactive communications during outages is seen to be an important priority for larger business customers, as it allows them to prepare and make important operational decisions.

Overall, low-volume customers are consistent on priorities related to reliability – reducing the number and length of outages, and improving restoration times during extreme weather. Mid-market and large business customers appear to prioritize reliability over price, with a focus on power quality and communications during outages in order to assist with operational planning.

3.1.3 Planning Principles and Approach to Pacing Investments

Based on initial and ongoing customer feedback, legal and regulatory obligations, and internal business planning, KW Hydro developed a plan with three core aims: to improve reliability and customer service; to implement a new customer information system; and to ensure new customers are accommodated.

This approach was explained to customers throughout the customer engagement, along with proposed rate impacts which totaled **\$2.36** for residential customers and **\$11.01** for small business customers over the course of the proposed 5-year plan.

In the telephone surveys, when asked if this was seen to be the right approach, 68% of residential customers agreed, while a plurality (37%) of small business customers felt the same. One-in-three small business customers feel that they don’t know whether KW Hydro’s proposed approach is the right approach to planning for the next five years, and 29% do not support the proposed approach.

With regards to planning, mid-market and large business customers generally trust KW Hydro. Many of these customers feel that the utility is an expert in the field, and trust them to make prudent investment decisions, especially given the utility’s track record as a cost-effective utility.

In terms of KW Hydro’s approach to pacing investments, the majority of low-volume customers believe that the utility should keep spending levels consistent year-over-year, even if that means deferring investments to other years, in order to lessen the impact of any bill increase. This preferred approach to pacing investments is most strongly held by residential customers who are LEAP qualified, as well as small businesses whose bottom line is significantly impacted by their electricity bill.

Overall, residential and small business customers are generally split on KW Hydro's approach to planning for the next five years, however, are consistent in supporting the utility's approach to pacing investments, including keeping spending consistent year-over-year to lessen bill impacts.

3.1.4 Capital Plan Priorities

Another element in understanding customer preferences is in relation to trade-offs, as illustrated by choices regarding specific programs and the pacing of investments.

Throughout KW Hydro's initial planning, the utility identified four areas where it could accelerate investments. A significant portion of this customer engagement focused on soliciting feedback on these investments, and whether customers valued them – acknowledging that there is a tradeoff between customer costs and the value delivered by these specific investments.

Overall, when it comes to capital plan priorities and a willingness or desire to spend beyond what is currently being proposed, opinions differ somewhat based on rate class. In general, residential customers are more supportive of an approach that spends beyond what is currently being proposed than small business customers.

That said, a majority of customers in both rate classes support a capital investment approach that either sticks to what is currently being proposed or accelerates investment at an incremental rate increase.

Unlike low-volume customers, many mid-market and large business customers want to understand how specific investments and grid upgrades will impact their organizations' service, especially power quality and reliability. It's less about stewardship of the electricity grid, and more about individual value.

Overall, low-volume customers are strongly supportive of accelerating the speed in which poles and power transformers are replaced, as well as the installation of more automated switches and software. Mid-market and large business customers appear to be more supportive of investments that directly improve services for their organization, rather than system-wide improvements.

4.1.1.3 Customer Engagement

The core of KW Hydro's customer engagement encompassed five elements, covering every type of customer across the service territory – from residential to large business.

Customer Engagement Activity	Customers Engaged	Timeframe (2018)
Low-volume focus groups	14	Sep. 19
Mid-market and large business workshops	37	Sep. 20
Low-volume online workbook	1,749	Oct. 12 – Nov. 11
Low-volume telephone surveys	715	Oct. 31 – Nov. 14

1. The **low-volume focus groups** provided customers an opportunity to “colour outside the lines” through qualitative feedback. This qualitative phase of the customer engagement was designed to provide customers with some education about KW Hydro's distribution system, and then to gather their feedback on KW Hydro's proposed investment and spending plan going forward. The focus groups were formatted around the themes in the customer engagement workbook and were led by a professional moderator. The feedback gleaned from these focus groups helped inform the subsequent phases of the customer engagement, including the online workbook and telephone surveys.
2. The **mid-market and large business workshops** provided a unique opportunity to directly engage with larger business customers in small groups, to better understand their needs and preferences as they relate generally to KW Hydro, as well as the current proposed plan. The workshops were structured in two phases; the first portion was a presentation from KW Hydro's senior management, followed by smaller breakout sessions led by INNOVATIVE staff. This format allowed customers to both ask questions directly of KW Hydro staff, as well as provide anonymous feedback on the utility and their proposed plans.
3. The **low-volume online workbook** created an open, voluntary process that allowed any low-volume KW Hydro customer who wanted to be heard an opportunity to express themselves. This online workbook, which was based on the earlier developed workbook, was accessible for one month (between October 12th and November 11th, 2018), and provided customers with an interactive platform to both educate and provide their detailed feedback on a wide-range of topics, focusing on KW Hydro's proposed plans. KW Hydro effectively promoted the online workbook using a comprehensive approach, which resulted in **1,749** unique respondents. Feedback gleaned from the online workbook helped inform the design of the telephone surveys
4. The **low-volume telephone surveys** used a random-sampling approach to ensure a representative sample of KW Hydro customers were engaged ensuring the generalizability of the findings. The telephone surveys followed a stratified random sampling methodology. This is a method of sampling that involves the division of a “population” (in this case, the entire KW Hydro customer base) into smaller groups known as strata. In stratified random sampling, the strata are formed based on members' shared attributes or characteristics (in this case: customer

Customer Priorities



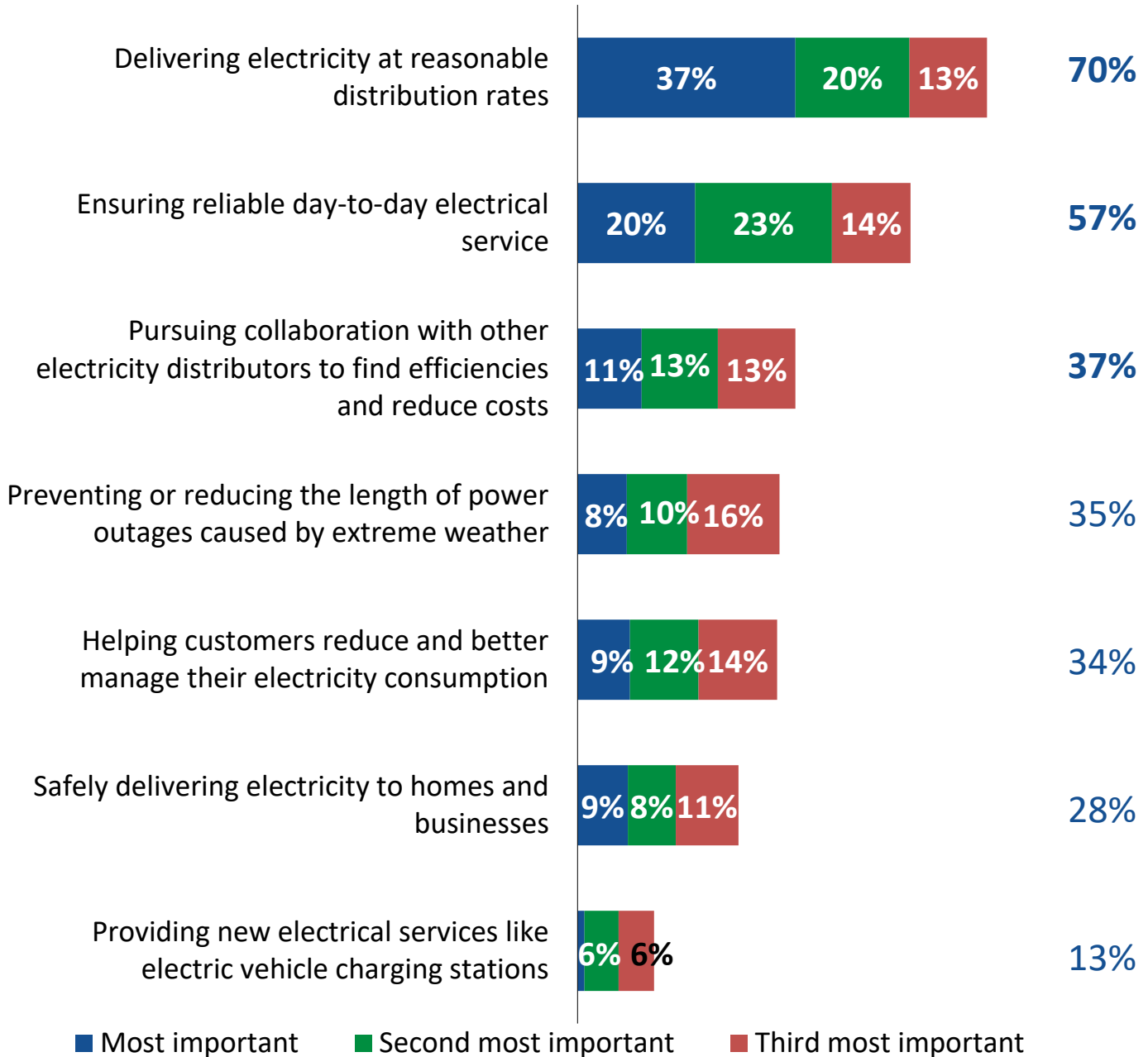
Residential

Q

KW Hydro wants to better understand customer priorities. Among the following **KW Hydro** priorities, please tell me which one is most important to you.

[asked all respondents, n=511, percentages are calculated based on the full sample]

Top 3 Priorities



Note: 'Don't Know' and 'Refused' not shown.

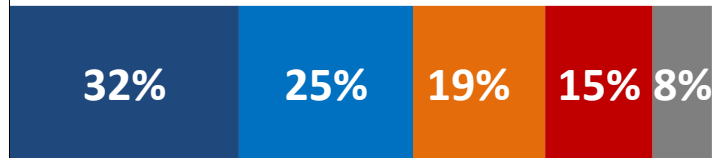
Segmentation & Demographics



Environmental Controls

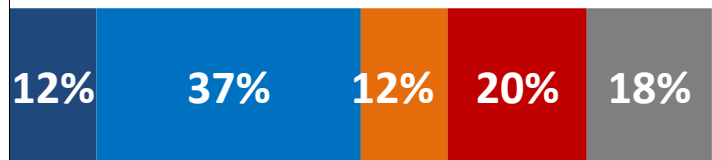
Total Agree

The cost of my electricity bill has a major impact on the bottom line of my organization and results in some important spending priorities and investments being put off.



57%

Consumers are well-protected with respect to prices and the reliability and quality of electricity service in Ontario.

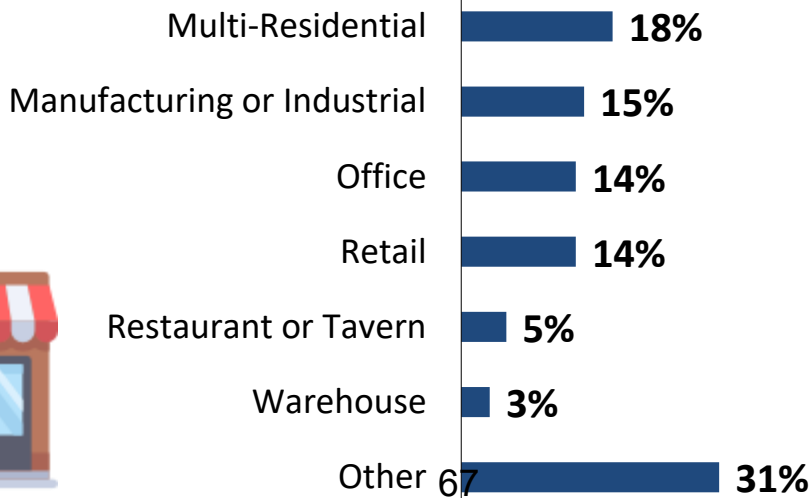


50%

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree
- Don't know/No opinion

Note: 'Refused' not shown.

Business Type





CUSTOMER ENGAGEMENT

Priorities, Needs and Preferences

2019 Rate Application

February 2, 2018

Updated Phase 2, April 5, 2018

Prepared for:

Energy+ Inc.

1500 Bishop Street, PO 1060

Cambridge, Ontario N1R 5X6



Customer Priorities

Low-volume customers in both the County of Brant and Cambridge and North Dumfries value ***delivering reasonable distribution rates*** above all else.

Ensuring reliable day-to-day electrical service is also important across the Energy+ service territory.

Top 3 Residential Priorities

Telephone & Online Results Top 3 Customer Priorities	Telephone		Online	
	County of Brant	Cambridge and North Dumfries	County of Brant	Cambridge and North Dumfries
1 st	Distribution Rates*	Distribution Rates*	Distribution Rates*	Distribution Rates*
2 nd	Reliability**	Collaboration***	Reliability**	Reliability**
3 rd	Weather related outages****	Reliability**	Customer Service****	Helping reduce consumption*****

Top 3 Small Business Priorities

Telephone Results Top 3 Customer Priorities	Telephone	
	County of Brant	Cambridge and North Dumfries
1 st	Distribution Rates*	Distribution Rates*
2 nd	Collaboration***	Reliability**
3 rd	Weather related outages****	Collaboration***

* Delivering reasonable distribution rates.

** Ensuring reliable day-to-day electrical service.

*** Continuing to pursue collaboration with other utilities, or other innovative solutions to reduce costs.

**** Providing dependable and responsive customer service.

***** Helping customers reduce and better manage their electricity consumption.

Overview

For most part, GS 50-999 kW customers who attended the workshop are generally satisfied with the level of reliability and services they receive from Energy+. Most feel that Energy+ is relatively cost-effectively managed and does a good job at delivering services. Seven out of 10 participants either support the rate change or don't like it, but find it necessary.

Overall, participants found the presentation genuine and enlightening, positive step-forward for on-going customer engagement. That said, some would have liked to understand more about the specific investments within each of the capital categories.

Top Priorities

In terms of ranking priorities, **price**, **reliability**, and **outages caused by extreme weather** were seen as the top three areas among a list of presented options.

- 1) Delivering reasonable distribution rates.
- 2) Ensuring reliable day-to-day electrical service.
- 3) Preventing or reducing the length of power outages caused by extreme weather (e.g. high winds, floods and ice storms).

Following the top three, listed priorities were ranked as follows:

- 4) Providing dependable and responsive customer service.
- 5) Helping customers reduce and better manage their electricity consumption.
- 6) Continuing to pursue mergers and acquisitions to find cost savings and efficiencies.
- 7) Providing new types of electrical services (e.g. electricity storage, electric vehicle charging stations, or distributed generation such as solar panel installations to sell power back to the grid).
- 8) Continuing to pursue collaboration with other utilities, or other innovative solutions to reduce costs.
- 9) Protecting customer information and company operating systems by investing in cyber security

Electricity Costs an Issue

Almost all said that electricity costs of their bill has a major impact on bottom line for their organization. These customers want Energy+ to better understand how they are being impacted. Customers expect Energy+ to be their advocate with government on price (particularly Global Adjustment), and want help to save money through the delivery of conservation and incentive programs.

Reliability

Most participants expressed high levels of satisfaction with reliability and Energy+'s response to unplanned outages.

A key concern expressed was **predictability and communication**, specifically advanced notification of scheduled outages, and the ability to obtain information on the estimated duration or restoration time. Some customers suggested Energy+ use technology to enhance service offering such as SMS text notifications.

1.3.3 Customer Outcomes

Identifying and responding to customer priorities and expectations is an ongoing process. Before engaging with customers, INNOVATIVE undertook a literature and research review and conducted internal staff interviews with Energy+ customer-facing employees, to better understand what the utility already knows about its customers and their expectations of Energy+.

These pre-existing inputs helped inform the overall engagement structure, and provided a head start on customer stated needs and the outcomes that are valued most.

Throughout the background literature, research review and subsequent augmented customer engagement activities, **delivering reasonable distribution rates was the most important priority for low-volume customers.** In the representative telephone surveys undertaken by INNOVATIVE, low-volume customers were asked to rank six outcomes relative to one another. Building on previous research, internal staff interviews and the qualitative component of this engagement, customers were provided with the following six outcomes:

1. *Delivering reasonable distribution rates.*
2. *Ensuring reliable day-to-day electrical service.*
3. *Providing dependable and responsive customer service.*
4. *Helping customers reduce and better manage their electricity consumption.*
5. *Continuing to pursue collaboration with other utilities, or other innovative solutions to reduce costs.*
6. *Preventing or reducing the length of power outages caused by extreme weather – such as high winds, floods and ice storms.*

The telephone surveys found that low volume customers prioritize distribution rates above all else. **Beyond delivering reasonable rates, low volume customers prioritize reliability, collaborating to reduce costs and preventing outages caused by extreme weather.**

Telephone Results Customer Priorities	Residential		Small Business	
	County of Brant	Cambridge and North Dumfries	County of Brant	Cambridge and North Dumfries
Top 3 Customer Priorities				
1st	Distribution Rates*	Distribution Rates*	Distribution Rates*	Distribution Rates*
2nd	Reliability**	Collaboration***	Collaboration***	Reliability**
3rd	Weather related outages****	Reliability**	Weather related outages****	Collaboration***

One of the foundations of this customer engagement process was to provide customers the opportunity to “colour outside the lines” and raise issues that were not covered by the survey questions. As such, participants were encouraged, both in the online workbook and telephone surveys and focus groups, to identify if any priorities were missing that Energy+ should be focusing on. Consistently, the most common answer given by customers was “nothing”. *Price and enabling green energy solutions and innovation* were the other two most common answers provided in both phases of the engagement.

In the telephone surveys, between 76% and 83% of low-volume customers felt that the list of customer priorities was not missing anything. This finding demonstrates that the customer priorities which were identified through qualitative research are aligned with those of importance to Energy+ customers.