

CUSTOMER ENGAGEMENT OVERVIEW

1. INTRODUCTION

The main drivers of transformation in energy and related matters are cost, technology, and public policy. These three drivers of change are combining in ways that position customers to be much more active participants in the power system and the power market. Electricity consumers are poised to become the most influential actors in a new energy landscape – a dramatic break from the passive role consumers have traditionally played in electricity markets. This transformation to a more customer-driven and customer-centric model of electricity will present opportunities for energy providers that are able to anticipate and meet the changing needs and expectations of customers for energy-related services.

Customer centrality represents the single most important change in the fundamentals of the utility business. It has been the key driver of Hydro Ottawa's business strategy over the past several years, and will continue to be the focus over the next five years. The customer value Hydro Ottawa provides "up to and beyond the meter" will drive its financial strength and business growth, its operational efficiency and effectiveness, and its contributions to the well-being of its community.

This new reality underscores the criticality of customer engagement by considering customer impacts in the decision-making process.

The key groups within Hydro Ottawa that are responsible for customer outreach include Customer Service, Communications and Public Affairs, and Distribution Engineering and Asset Management. The core customer engagement activities of these groups, and the benefits thereof, are summarized in detail below.

2. ONGOING CUSTOMER ENGAGEMENT

2.1. DISTRIBUTION ENGINEERING AND ASSET MANAGEMENT

2.1.1. System Planning Activities

With respect to distribution operations and management of the physical system, Hydro Ottawa strives to understand the customer's priorities, ranging from reliability and servicing needs, to meeting expectations during construction activities. As discussed in section 2.2.1 below, the annual customer satisfaction survey provides customer feedback and insight regarding reliability, duration of outages and willingness to spend more for increased service levels. The related survey measures and results are outlined in sections 3.1.10 and 3.2.4 of Exhibit 2-4-3: Distribution System Plan. The insights gained from customer feedback have informed the development of Hydro Ottawa's system planning and servicing activities.

2.1.2. Major Project Customer Consultations

Hydro Ottawa regularly consults customers with regards to major projects designed to improve infrastructure and service to customers and their community. These consultations include project-specific open houses, which are typically conducted for large, complex cable replacement, pole replacement, voltage conversion, and substation build/rebuild projects. Hydro Ottawa conducted 38 such public open houses between 2016 and 2019. Utility attendance at these events typically include the project manager, planning engineers, a design supervisor, additional technical support as required, and conservation and demand management and communications support.

During these open houses, customers are provided information on the following:

- Project timeline;
- Scope of work;
- Expected outcomes;
- Equipment and processes involved;
- Site restoration plans; and

- Expectations of the customer if some work is required on their part to allow Hydro Ottawa employees safe and unobstructed access to infrastructure located within the utility's easements and/or on the City of Ottawa's road Right-of-Way ("ROW").

Figure 1 – Hydro Ottawa Crew Member at Work



These open houses provide a venue for customers to ask questions and share their feedback one-on-one with the Hydro Ottawa employees directly involved in the project. By engaging customers early on in the process in an informal and personalized setting, customers have the opportunity to positively influence the project. In many instances, these dialogues have led to design and scheduling improvements.

Specific examples of positive customer interactions, and the subsequent incorporation of customer feedback, include the following:

- **Glen Cairn Cable Replacement Project** – During the open house session, several customers expressed concern with the proposed location of equipment. The design team took these comments under advisement and evaluated additional design options. By analyzing the various options and re-thinking ways to accommodate affected

1 customers in the area, a modified design was created using less impactful equipment
2 locations.

3

4 • **Woodroffe Substation Pre-Cast Walls Replacement** – As part of a larger project to
5 replace switchgear equipment and construct new protection and control structures at a
6 major substation, it was determined that precast walls forming the perimeter of the
7 substation required demolition and replacement. Hydro Ottawa worked collaboratively
8 with senior personnel at the elementary school located directly adjacent to the
9 substation, with respect to establishing a mutually agreeable timeline for project
10 completion. In order to avoid disruption to normal school operations and to mitigate
11 concerns associated with student drop-off/pick-up in close proximity to a worksite with an
12 exposed substation, Hydro Ottawa undertook an accelerated work schedule and
13 successfully completed construction prior to the beginning of the school year. In addition,
14 the utility partnered with school staff and students on painting a mural on the
15 school-facing side of the newly completed wall.

16

17 • **Elgin Street Renewal** – a significant municipal infrastructure renewal effort in which
18 Hydro Ottawa played a key support role was an integrated road, sewer, water, and utility
19 project for a major north-south artery in downtown Ottawa. Initial working group
20 meetings for the Elgin Street Renewal project were hosted by the City of Ottawa
21 beginning in Q4 2017, enabling all key stakeholders – especially the Elgin Street
22 business association – the opportunity to ask questions and suggest recommendations
23 to Hydro Ottawa's proposed designs for relocation and underground burial of its
24 distribution infrastructure.

25

26 Continuing into 2018, Hydro Ottawa and the City held public drop-in sessions to receive
27 input from members of the public on the proposed work. This gave Hydro Ottawa the
28 opportunity to engage numerous business owners and residents on a face-to-face basis,
29 which helped foster a strong working relationship with the local community. Based on the
30 needs and preferences communicated by stakeholders, Hydro Ottawa relocated

1 padmounted transformer equipment away from originally proposed locations and
2 coordinated with City officials and local business improvement area associations to
3 ensure power is available to their future deployment of public WiFi in the area. The utility
4 also worked with a local museum to identify decorative options for the padmount
5 equipment set to be installed at its facility, located at the southern tip of the project area.
6 The museum ultimately opted for a decorative blind, to obscure the padmount devices
7 while maintaining the required operational clearances.

8
9 The beginning of construction was not scheduled until Q4 2018, so as to avoid disruption
10 of local commerce and events during seasons of peak activity. In addition, to the
11 maximum extent possible, Hydro Ottawa and its contractors arranged work times around
12 business hours over the course of the year, in order to avoid impeding access for
13 patrons to local businesses. What's more, Hydro Ottawa erected temporary trench
14 crossing bridges (all of which were compliant with the *Accessibility for Ontarians with*
15 *Disabilities Act*) that allowed for uninterrupted pedestrian access to local businesses.

16
17 Alongside the City of Ottawa, the utility distributed customer notification letters to almost
18 10,000 customers in the area, sharing critical information related to traffic management,
19 road closures, and pending construction. Hydro Ottawa also created a specific page on
20 its website dedicated to the project.

21
22 Feedback from stakeholders, especially the local business association, on Hydro
23 Ottawa's engagement efforts was quite positive overall.

- 24
25 • **Power South Nepean Project** – This project consists of two distinct components: (1)
26 the Cambrian Municipal Transformer Station ("MTS") set to be constructed by Hydro
27 Ottawa; and (2) upgrades to existing transmission facilities, as well as construction of a
28 segment of new transmission line, by Hydro One Networks Inc. ("HONI").¹ As a result of

¹ The original project name for Cambrian MTS was South Nepean MTS.

customer consultation, a number of actions were taken by Hydro Ottawa and HONI in response, including the following:

- Relocation of transmission towers (where possible) to other locations for landowners;
- Maintaining existing easement widths by changing the transmission tower type to accommodate existing easements;
- Keeping new easements within areas that are prohibited for aggregate extraction (within 30 metres adjacent to a road allowance) to limit the impact of the transmission line to quarry/aggregate owners;
- Conducting additional species at risk studies over and above what was required;
- Accommodating local business owners' peak season to avoid conflicts with the construction schedule; and
- Scheduling the purchase and sale of the substation property to allow landowners to complete their crop harvest.

In addition to the above, it is important to emphasize the reciprocal nature of Hydro Ottawa's positive interactions with customers. For example, many customers allow Hydro Ottawa to utilize their properties for better access to distribution infrastructure and equipment, seeing as a common practice of the utility is to re-landscape the area after the planned work project is complete.

Further, customer inquiries and escalations related to major infrastructure projects have been reduced. The aforementioned engagement initiatives reinforce how Hydro Ottawa views effective community outreach as essential to earning and retaining customers' confidence and trust, and in turn, to enabling the utility's success.

For a listing of planned work open houses that Hydro Ottawa hosted over the course of 2016-2019, please see Tables 1, 2, 3, and 4 below.

1

Table 1 – 2019 Planned Work Open Houses

Project	Date	Location	Description
Richmond	October 16	6095 Perth Street	Pole replacement
Stittsville	October 15	10 Warner-Colpitts Lane	Pole replacement
Centretown West	October 8	180 Percy Street	Pole replacement
Nepean	October 7	165 Woodroffe Avenue	Pole replacement
Casselman	October 3	758 Brebeuf Street	Pole replacement
Pinecrest	October 2	2250 Torquay Avenue	Pole replacement
Westboro	September 30	407 Hilson Avenue	Pole replacement
Centretown	September 23	180 Percy Street	Pole replacement
Britannia Bay	September 18	2599 Regina Street	Pole replacement
Orleans	September 17	7859 Decarie Drive	Cable replacement
Glen Cairn	September 11	190 Morrena Road	Cable replacement
South Keys	September 10	3320 Paul Anka Drive	Cable replacement
Kanata	September 9	100 Charlie Rogers Place	Cable replacement
Orleans	April 30	7859 Decarie Drive	Cable replacement

2

1

Table 2 – 2018 Planned Work Open Houses

Project	Date	Location	Description
Orleans	November 20	1585 Tenth Line Road	Cable replacement
Fringewood	November 14	14 Fringewood Drive	Pole replacement
Power South Nepean	November 14	15 Steeple Hill Crescent	Based on feedback from the August 2018 open house, Hydro Ottawa presented its preferred site option for the Municipal Transformer Station and route for Hydro One's transmission line.
Trend Village	November 13	2681 Innes Road	Cable replacement
Laurentian View	November 12	345 Ravenhill Avenue	Pole replacement
Barrhaven	October 10	100 Malvern Drive	Transformer replacement
Blackburn Hamlet	September 20	2681 Innes Road	Cable replacement
Elmvale Acres	September 19	1895 Russell Road	Pole replacement
Britannia Bay	September 18	574 Broadview Avenue	Pole replacement
Power South Nepean	August 28	15 Steeple Hill Crescent	Public input on potential sites for the new Municipal Transformer Station and Hydro One's transmission line route.
Power South Nepean	May 2018	Newsletter Mail-Out	In an effort to keep residents in the South Nepean area as informed as possible about the project's progress, Hydro Ottawa and Hydro One developed a bilingual newsletter that was mailed to local residents and businesses in the study area.

2

Table 3 – 2017 Planned Work Open Houses

Project	Date	Location	Description
Power South Nepean	November 23	3500 Cambrian Road	Project introduction and overview of a proposal to construct a new Municipal Transformer Station in South Nepean and a rebuild to an existing Hydro One transmission line.
Power South Nepean	November 22	2784 Cedarview Road	Project introduction and overview of a proposal to construct a new Municipal Transformer Station in South Nepean and a rebuild to an existing Hydro One transmission line.
Bells Corners	November 9	3770 Old Richmond Road	Cable replacement
Beacon Hill	November 2	2381 Ogilvie Road	Cable replacement
Elmvale Acres	October 25	1895 Russell Road	Pole replacement
Blackburn Hamlet	October 18	199 Glen Park Drive	Voltage conversion
Glen Cairn	October 11	100 Charlie Rogers Place	Voltage conversion
Pinecrest	October 4	2250 Torquay Avenue	Pole replacement

Table 4 – 2016 Planned Work Open Houses

Project	Date	Location	Description
Stittsville	November 16	10 Warner-Colpitts	New underground duct structure and manholes
Beacon Hill	November 3	4355 Halmont Drive	Cable replacement
Richmond	October 26	6095 Perth Street	Pole replacement
Glen Cairn	October 20	100 Charlie Rogers Place	Cable replacement
Elmvale Acres	October 12	2185 Arch Street	Pole replacement

2.1.3. Participation with Electrical Contractors Association

Hydro Ottawa actively engages with the Electrical Contractors Association (“ECA”) of Ottawa to ensure timely and effective communication and collaboration are maintained between the utility and the thousands of electrical contractors who work in the City of Ottawa and the Village of Cassleman. Hydro Ottawa ensures all ECA inquiries are responded to in a timely manner. In

1 addition, new information is routinely and expeditiously shared. As an example, matters of
2 mutual interest, such as revisions to Hydro Ottawa's Conditions of Service ("COS"), are
3 summarized and shared to ensure related standards, requirements, and processes are clearly
4 understood.

6 **2.1.4. Consultations with Contractors and Developers**

7 Hydro Ottawa's interaction with contractors and developers has a direct impact on customer
8 service delivery outcomes, costs, and satisfaction levels. Customer research and insights,
9 including the utility's customer persona research that segmented customers into categories, has
10 revealed that these stakeholders are looking for the following from Hydro Ottawa:

- 12 ● Effective project communications, including technical specifications;
- 13 ● Project costs, including price guarantees, and other related expenses;
- 14 ● Availability of Hydro Ottawa crews, including after hours;
- 15 ● Ability to support peak demands for service (specifically, engineering and field
16 inspectors);
- 17 ● Information on unplanned changes to work plans;
- 18 ● Improved scheduling and strategies to decrease lag times;
- 19 ● Simplification of easement registration process; and
- 20 ● More information online.

21
22 To help guide business planning and customer centricity, in late 2017 and early 2018 Hydro
23 Ottawa's Distribution Design team visited 14 local electrical contractors who work closely with
24 the utility on commercial services. The outreach focused on Hydro Ottawa's COS, processes,
25 standards, and specifications. The goal was to initiate a conversation and solicit feedback on
26 their customer experience with Hydro Ottawa in order to align expectations and strengthen
27 these relationships. This effort was well received by all contractors and the outcome has been a
28 smoother project intake process.

1 Customer outreach has also been expanded to local architects. In 2017, Hydro Ottawa's
2 Distribution Design team was asked to attend a meeting of local architects to inform the group of
3 required building clearances from overhead power lines to manage public and worker safety.
4 Meter-base location considerations for new home design were also reviewed.

5
6 Hydro Ottawa is an active member of the Greater Ottawa Home Builders' Association
7 ("GOHBA"), the voice of the building, land development, and professional renovation industry.
8 Monthly meeting attendance provides Hydro Ottawa with the opportunity to update the GOHBA
9 on changes to the utility's COS, processes, technical standards, and specifications. Through
10 these meetings, Hydro Ottawa solicits feedback, provides guidance, and addresses
11 opportunities for improvement.

12
13 Since 2016, Hydro Ottawa has been hosting a Developer Forum open to all residential
14 developers. This Forum serves as another channel to keep lines of communication open with
15 these customers and keep them apprised of changes in personnel, policy, costing models, and
16 service level agreements.

17 18 **2.1.5. City of Ottawa**

19 Communications with the City of Ottawa, the sole shareholder of the utility's parent company
20 (Hydro Ottawa Holding Inc.) and one of the utility's largest Key Account customers, is a regular
21 business activity. Interactions include the following:

- 22
23 • 2016 to present – Hydro Ottawa engages with the City of Ottawa's ROW Management
24 on a quarterly basis. This forms the platform to discuss current and future year capital
25 programs, municipal consent guidelines and circulation status, and road cut permits for
26 new local, collector, and arterial roads. Outcomes include improved communications, the
27 sharing of lessons learned and opportunities for improvement, relationship building, and
28 the enhanced coordination and planning of work that facilitates issue avoidance.

- 1 • 2016 to present – Hydro Ottawa participates in the Utility Coordinating Committee
2 ("UCC") monthly meetings in which any issues or concerns are tabled with both the City
3 and other utilities.
- 4 • 2017 – Hydro Ottawa's Distribution Design team presented to City of Ottawa employees,
5 along with their consultants and road contractors, on plant relocation considerations.
6 Topics covered included the project intake, design, technical considerations, deposits,
7 and scheduling requirements.
- 8 • 2017 – Hydro Ottawa worked closely with the City of Ottawa to coordinate project work
9 around the "Canada 150" sesquicentennial celebrations and to minimize traffic impacts
10 on arterial roads. This collaboration resulted in the avoidance of any disruption to the
11 organization of public events, while ensuring smooth delivery of Hydro Ottawa's capital
12 program projects.
- 13 • 2017 to present – Hydro Ottawa meets annually with the City of Ottawa Building
14 Department. These meetings provide an avenue to discuss changes in the Ontario
15 Building Code that impact new residential subdivision servicing, issues with overhead
16 clearances between buildings and overhead power lines, and exploration of
17 opportunities for improvement. These interactions have strengthened Hydro Ottawa's
18 relationship with the Building Department and supported the smooth implementation of
19 changes to electric vehicle ("EV") servicing requirements on new homes.
- 20 • 2019 to present – Hydro Ottawa began meeting with the City of Ottawa Planning Group
21 on an annual basis. The purpose of these meetings is to review new site plan circulation
22 and receive updates on City of Ottawa standards and planning requirements. These
23 meetings have resulted in the exploration of opportunities for improvement and the
24 strengthening of the working relationship between Hydro Ottawa and City planners.
25 Going forward, Hydro Ottawa will continue to inform the City of its standards and
26 requirements, providing a better understanding of its distribution system.

28 **2.1.6. Conditions of Service Stakeholder Outreach**

29 Hydro Ottawa revises its COS every two years. Version updates are facilitated by the Conditions
30 of Service Working Group ("COSWG"), an internal, cross-functional team with representation

1 from the corporate Divisions that deliver and/or are impacted by the services described in the
2 utility's COS. COSWG representation includes Distribution Operations, Customer Service,
3 Finance, Legal, Regulatory Affairs, Communications, and Public Affairs. In addition to updating
4 COS content, and in keeping with Hydro Ottawa's strategic priorities, the COSWG continually
5 strives to make the COS more customer-centric, making it easier for customers to do business
6 with Hydro Ottawa. This includes examining new service options and offers for customers. The
7 utility recognizes the important role of the COS with respect to delivering services and meeting
8 customer expectations.

9
10 The COSWG gathers feedback and compiles edits on an ongoing basis as a regular business
11 activity, as opposed to the previous practice of reviewing and revising content as part of a
12 special project every few years. These changes are informed by customer feedback received by
13 employees through channels that include telephone, website, email, and in the field.

14
15 Prior to the filing of a revised COS, Hydro Ottawa solicits customer comments online through its
16 website and social media channels. All customers receive notification of this review period
17 through an on-bill message. In addition, contractors, City of Ottawa contacts, and Key Accounts
18 are notified of the review period by letter. A hard copy of the proposed COS is also available for
19 customer review.

20
21 Hydro Ottawa's most current COS, Version 7, came into effect on April 1, 2019 at the end of the
22 public consultation period. Version 7 replaced the previous version released on April 1, 2017.
23 Hydro Ottawa intends to publish Version 8 in 2021.

24 25 **2.1.7. Long-Term Load Transfers**

26 Hydro Ottawa was party (along with HONI) to the first joint application submitted by a pair of
27 local distribution companies ("LDCs") to the OEB to eliminate long-term load transfer ("LTLT")
28 arrangements. In a LTLT, one LDC is called the geographic distributor and the other is the
29 physical distributor. While a "load transfer customer" is located in the licensed service area of
30 the geographic distributor, this customer is connected to the physical distributor's system. As

1 such, the physical distributor delivers electricity to these customers, but the customers pay their
2 electricity bill to the geographic distributor.

3
4 In accordance with amendments to the *Distribution System Code* from 2015, a June 21, 2017
5 deadline was established for the elimination of all LTLTs in the province. In April 2016, Hydro
6 Ottawa and HONI filed an application to transfer 309 HONI customers to Hydro Ottawa, and to
7 transfer 44 Hydro Ottawa customers to HONI.

8
9 The utility worked collaboratively with HONI to coordinate proactive communications to
10 customers and to make the transition as seamless as possible. Communications included a
11 series of three letters that covered pre-transfer, application approval, and confirmation of
12 transfer status. Hydro Ottawa also developed a Welcome Brochure that provided customers
13 with an introduction to the utility's services and important information.

14 15 **2.2. CUSTOMER SERVICE**

16 Hydro Ottawa continuously surveys its customers to measure customer service satisfaction
17 levels, and to benchmark its performance against Ontario and Canadian utilities. Several
18 platforms are used to collect and report on the satisfaction level of the customer experience.

19
20 Customer Care handles written inquiries and telephone calls pertaining to inquiries about
21 payment options, electricity consumption, collections, and a range of other topics. Hydro
22 Ottawa's performance in responding to account-related issues is tracked by the OEB.
23 Management and resolution of escalations from stakeholders, including the OEB, are also
24 handled by this team. In 2018, 186 escalations and inquiries were received with 95%
25 successfully resolved within 10 business days.

26
27 Customer Experience manages research and work that provide insights to customers' views on
28 current services, processes and communications, and identify opportunities for continuous
29 improvement. Customer escalations requiring more complex or lengthy analysis are also
30 handled by this team.

2.2.1. Annual Electric Utility Customer Satisfaction Survey

For over a decade, Hydro Ottawa has engaged a third party to conduct annual customer satisfaction surveys. The annual survey is conducted by telephone and engages more than 600 customers (85% residential and 15% small commercial). Based on the size of the customer sample, results can be considered accurate plus or minus 4%, 19 times out of 20. The survey questions cover a wide variety of relevant topics, including overall satisfaction with Hydro Ottawa, reliability, customer service, power outages, billing, cost of electricity, and corporate image. As of 2017, 250 large commercial customers are also surveyed on an annual basis to gain insight into this segment.

Survey results provide Hydro Ottawa with an understanding of customers' expectations and behaviour that guide decisions and approach. This insight is incorporated into Hydro Ottawa's planning process, and ultimately forms the basis of plans which address customer needs and service offerings. A final report is produced which confirms customer satisfaction levels and also identifies areas for improvement. Customer satisfaction surveys also help to identify the most effective means of communication with customers. As an example, Hydro Ottawa decided not to extend its Customer Contact Centre offering to 24 hours as survey results indicated that customers were not looking for that level of service and that their preference is to engage with the utility online.

Most recently, for the second consecutive year, Hydro Ottawa experienced an appreciable uptick in overall customer satisfaction – from 90% in 2017 to 93% in 2018. Multiple macro-level ratings placed Hydro Ottawa in the top quartile amongst its peers: Credibility & Trust Index of 85%, Customer Experience Performance Rating of 87%, Customer Centric Engagement Index of 84%, and an overall grade of "A" on the survey's report card (while the Ontario-wide averages were 80%, 83%, 80%, and "B+", respectively).

According to the survey results, Hydro Ottawa scored above the provincial benchmark in numerous core responsibility categories, such as the following (Hydro Ottawa's score is listed first, followed by the Ontario average):

- 1 • Provides consistent reliable power (93% vs. 90%)
- 2 • Quickly handles outages and restores power (91% vs. 86%)
- 3 • Electricity safety is a top priority (91% vs. 86%)
- 4 • Delivers on its service commitments (88% vs. 86%)

5

6 The survey likewise drew attention to areas requiring more proactive communication and

7 attention from Hydro Ottawa. Nevertheless, in these categories as well, the utility's scores still

8 exceeded the Ontario benchmark (similar to the list above, Hydro Ottawa's score is listed first,

9 followed by the provincial average):

- 10
- 11 • Adapts well to changes in customer expectations (75% vs. 72%)
 - 12 • Operates a cost-effective electricity distribution system (76% vs. 71%)
 - 13 • Provides good value for money (75% vs. 71%)
 - 14 • Cost of electricity is reasonable when compared to other utilities (65% vs. 61%)
 - 15 • Provides information to help customers reduce their costs (82% vs. 78%)

16

17 And in specific categories related to customer service satisfaction, Hydro Ottawa once again

18 ranked above the provincial benchmark, in all but one metric:

- 19
- 20 • Deals professionally with customers' problems (88% vs. 82%)
 - 21 • Is "easy to do business with" (85% vs. 82%)
 - 22 • Customer-focused and treats customers as if they're valued (83% vs. 79%)
 - 23 • The time it took to contact someone (73% vs. 64%)
 - 24 • The time it took someone to deal with your problem (70% vs. 65%)
 - 25 • The helpfulness of the staff who dealt with you (65% vs. 64%)
 - 26 • The knowledge of the staff who dealt with you (62% vs. 64%)
 - 27 • The level of courtesy of the staff who dealt with you (74% vs. 70%)
 - 28 • The quality of information provided by the staff who dealt with you (65% vs. 61%)
 - 29 • The 24/7 availability of call-centre staff Monday to Friday (82% vs. 76%)

Results of the most recent large customer survey, conducted in 2018, established Hydro Ottawa's satisfaction score at 93%, two points higher than 2017 (91%) and 10 points higher than 2016 (83%). The success of Hydro Ottawa's Key Account management strategy for supporting large customers was reflected in a satisfaction score of 94%. What has not changed for these customers over the years are the two major concerns of cost impact and reliability. However, effective communications – especially during emergency situations – is becoming more important than in previous years. Responses received from large customers ranked the following as top priority initiatives for the next five years:

- Maintaining and upgrading equipment
- Reducing response time to outages
- Investing more in the electricity grid to reduce outages
- Providing expertise to commercial customers regarding changes in energy technology
- Educating the public as it relates to electricity safety

Consistent with findings from the Fall 2017 Large Commercial Customer Survey, the Fall 2018 survey indicated that energy storage remains an area of strong interest on the part of many customers in this segment.

Survey results illustrate that Hydro Ottawa remains an influential brand utility that delivers safe, reliable electricity to homes and businesses, and is credible, trusted, and cares about its customers, safety, corporate citizenship, and the environment.

Copies of the surveys conducted by Hydro Ottawa and its third-party vendor in 2018 for residential, small commercial, and large commercial customers are appended to this Schedule as Attachment 1-2-1(C) and Attachment 1-2-1(D).

2.2.2. National Electricity Customer Satisfaction Survey

The Canadian Electricity Association's ("CEA") 2018 Annual National Electricity Customer Satisfaction Survey was conducted between October 4 and 29, 2018 among 7,192 Canadian

adults (18 years or older). A targeted oversample provided a total of 464 interviews with respondents who report receiving their electricity bill from Hydro Ottawa. Tracking results are drawn from the previous 2017 CEA National Survey.²

Of note, Hydro Ottawa had the highest Customer Satisfaction Index amongst utilities in Ontario and the second highest nation-wide. Hydro Ottawa scored well with results indicating the following:

- A majority of customers are satisfied with the reliability of Hydro Ottawa's service and Hydro Ottawa runs ahead of all national averages (75%).
- Of those who have experienced a planned outage, most (76%) reported proactive communication from Hydro Ottawa, and most of them (86%) were satisfied with the communication they received.
- Hydro Ottawa runs ahead of the provincial average on billing and payment measures.
- Hydro Ottawa outperforms Ontario-wide net satisfaction on website and outage notifications.
- Most customers (52%) feel customer experience with Hydro Ottawa is on par with other service providers and 35% think it is better.
- A majority of customers are likely to seek out information or already have from Hydro Ottawa, ranking above the national average.
- Two in three (65%) support infrastructure investment, on par with the national average.
- A majority of customers would support an increase to the price of electricity investments, which is higher than the Ontario and national averages.
- Hydro Ottawa customers are marginally ahead of the provincial average on feeling that they are getting good value for what they pay for electricity.

² For additional information on the CEA survey and Hydro Ottawa's results, please see Attachment 1-2-1(E): 2018 National Electricity Customer Satisfaction Report.

2.2.3. Transactional Surveys

Hydro Ottawa has embarked on a Voice of the Customer (“VOC”) initiative that utilizes three channels to facilitate opportunities to enhance customers’ experience when they contact Customer Service.

2.2.3.1. Telephone Inquiries Feedback

For two days each month, each customer that telephones Hydro Ottawa is contacted through an outbound phone survey and prompted to rate their experience with Hydro Ottawa’s customer service. As of January 2019, this initiative has evolved to send surveys on a weekly basis to all customers who phoned Hydro Ottawa the week prior.

Of the four survey questions, the customer is first asked if the agent was able to assist with the reason for their call, in order to capture first call resolution efficiency. The subsequent three questions request a rating of one through five, with five being the highest level of satisfaction regarding the phone call interaction. These questions ask the customer to rate the agent according to level of courtesy, knowledgeability, and overall satisfaction.

This survey enables Hydro Ottawa to collect customer feedback that is relevant to the initial phone interaction. The weekly customer call list is filtered so that customers who have made multiple inquiries are only surveyed once. As of the end of 2019, a total of 32,024 surveys have been sent with a response rate of 9.78%.

2.2.3.2. Email and Web Chat Feedback

Hydro Ottawa’s customer satisfaction ratings are also measured across email and Web Chat platforms. Customers can now indicate their satisfaction relating to their most recent interaction through an email exchange or a Web Chat conversation. As of the end of 2019, customer feedback on email interactions has translated into a response rate of 16.5%. Beginning in May 2019, feedback has been collected as a last step immediately after a Web Chat has ended. The customer is prompted to select a satisfaction rating (thumb’s up for “good” or thumb’s down for

“bad”), as well as the option to provide additional feedback in an open comment field. The rate of customer response to requests has been 20%.

From the survey results, the customer satisfaction level for each platform is as follows:

- Phone: 87% (January - December 31, 2019)
- Email: 89% (March - December 31, 2019)
- Web Chat: 95% (May - December 31, 2019)

Feedback through these channels has helped to identify areas of opportunity and has resulted in the implementation of such improvements as empathy workshops for all agents and an increase in coaching opportunities for individual agents.

2.2.3.3. MyAccount and Voice ID

VOC has also been used to identify opportunities to enhance and promote self-serve options through MyAccount and the Voice ID initiative. Process improvements have been implemented that include the enhancement of Hydro Ottawa’s online Move-In/Move-Out form, the simplification of pre-authorized payment plan forms and online registration, and updates to MyAccount to improve visibility to critical information, such as the full 20-digit account number for easy payment processing, previously only located on the bill.

Improvements which are currently underway as a result of the VOC initiative include enhancing online billing notification and confirmation emails, updating correspondence displays on MyAccount, converting PDF forms into fillable online forms, and adding account status and alerts to MyAccount. Hydro Ottawa is also exploring additional survey options such as email and SMS to help decrease costs, increase response rates, and collect valuable insight from customers.

Through analysis and monitoring of these results, Hydro Ottawa is able to focus on the identified areas, seeking ways to improve and enhance the customer experience when they contact

1 Customer Service. The VOC enables Hydro Ottawa to adapt processes and procedures in a
2 timely manner in response to changing customer needs and expectations.

3 4 **2.2.4. Bill Redesign**

5 In response to customer feedback, Hydro Ottawa initiated a project in November 2015 to
6 improve the format and design of customer bills, with the goal of developing a bill that would
7 better fulfill customers' expectations for clarity and personalized communications.

8
9 The second phase of the project, completed in 2016, was an online customer survey that was
10 prefaced by external and internal stakeholder research. Based on these preliminary findings,
11 Hydro Ottawa surveyed customers using a customized, online tool through which respondents
12 were able to "design" their ideal bill. This approach enabled Hydro Ottawa to identify (i) what
13 information customers deemed to be most important, and (ii) how customers prefer to view this
14 content on their bill. The original goal targeted for the number of completed surveys was 400.
15 Ultimately, almost 3,000 surveys were submitted, with approximately 850 including substantive
16 feedback for consideration.

17
18 Survey results clearly identified customer preference for "amount due" and "due date" as the
19 most important elements on a bill. With regards to on-bill messaging, rate change information
20 ranked first followed by conservation messaging. In terms of format, the general consensus was
21 a need to keep the number of pages to a minimum, and simple is best.

22
23 This initiative was put on hold in early 2017 in order to prioritize the implementation of
24 requirements associated with the Ontario Fair Hydro Plan ("FHP"). Thereafter, this project was
25 again delayed, following the receipt of notification from the Ministry of Energy in June 2017 that
26 the Ministry would be launching a Redesign Action Plan ("RAP") to simplify the regulatory
27 framework governing bill presentment for electricity invoices.

28
29 In order to ensure successful implementation of the modified bill presentment framework
30 (including requirements for a "dynamic message" on customer invoices to indicate savings

1 achieved as a result of the FHP), Hydro Ottawa deferred the execution of its bill redesign project
2 until a new bill print provider had been selected through a competitive procurement process in
3 2018. In 2019, Hydro Ottawa focused on implementing bill presentment changes mandated by
4 the Ministry of Energy, Northern Development and Mines ("ENDM"), foremost of which were the
5 changes associated with the Ontario Electricity Rebate.

6
7 Regardless of the delays, the results of the survey proved informative and provided insight into
8 areas that are important to the utility's customers.

9 10 **2.2.5. Language Preference Campaign**

11 Providing service to customers in their language of choice (English or French) is an important
12 element in Hydro Ottawa's strategic goal to put the customer at the centre of its business. This
13 opportunity is predicated by the need to ensure that all customer accounts have a language
14 preference on file.

15
16 In 2018, Hydro Ottawa launched a Language Preference campaign that encouraged customers
17 to log-in to MyAccount to confirm their language preference and, for added measure, to provide
18 up-to-date contact information that included a primary telephone number and an email address.

19
20 Based on customer information on file, Hydro Ottawa disseminates information, whenever
21 possible, based on language preference. Currently all e-communications are delivered in
22 English or French, offering customers a more personalized experience with the added benefit to
23 Hydro Ottawa of operational savings.

24 25 **2.2.6. Low-Income Customer Support**

26 Between 2016 and 2019, Hydro Ottawa customers collectively received \$27.8M in financial
27 assistance through the Ontario Electricity Support Program ("OESP"), \$513K in emergency
28 relief through the Low-Income Energy Assistance Program ("LEAP"), \$1.1M through the Home

1 Assistance Program (“HAP”)³, and assistance valued at \$331K through the Affordability Fund
2 Trust.⁴

3
4 Prior to the launch of the OESP in 2016, Hydro Ottawa coordinated and hosted training for local
5 social service intake agencies and their staff. A program overview was also presented to Hydro
6 Ottawa employees, Board members, and City Councillors and their staff. Two Hydro Ottawa
7 employees also participated in the OEB’s Financial Assistance Working Group (“FAWG”)
8 implementation working group.

9
10 In 2016, Hydro Ottawa supported the roll-out of the OESP program by reaching out to
11 customers in a number of ways:

- 12
13
 - Sending a letter to 1,300 customers who were 2015 LEAP recipients, informing them of
 - 14 the availability of OESP funding; and
 - 15 • Distributing a letter, posters, and brochures detailing the LEAP and OESP opportunities
 - 16 to 12 City of Ottawa community centres and six post-secondary institutions.

17
18 In 2017, Hydro Ottawa developed a financial assistance brochure for customers that covered
19 the entire range of programs available. This brochure was distributed to Ottawa Community
20 Housing, City of Ottawa community centres and Client Service Centres, social service agencies,
21 and post-secondary institutions. It was also included with a full bill cycle of collection letters in
22 early 2018 once the Disconnection Moratorium had ended. This brochure is also in hand when
23 field collections activity involves a visit to a premise. Hydro Ottawa adheres to the OESP
24 guidelines by sending timely personalized letters to OESP recipients to remind them when they
25 need to re-apply to the program to continue without interruption.

26
27 Hydro Ottawa continues to raise customer awareness of these programs through such actions
28 as the inclusion of information for low-income customers on the home page of its public website

³ HAP results represent funds dispersed between 2015 and 2017, prior to the program management being led by the IESO.

⁴ AFT results are from the program introduction in 2017 to the end of 2019.

1 and a page specific to low-income programs, on-bill and on-hold messaging, and outreach
2 through social media. During bill payment and collection interactions with customers, including
3 collection field visits, the utility makes every attempt to inform customers of available
4 low-income support programs and encourages customers to apply.

5
6 Hydro Ottawa continues to meet with local Community Health and Resource Centers to educate
7 them on financial assistance programs. It also meets with the Ontario Disability Support
8 Program and Ontario Works to discuss programs and seek better engagement with their clients.

9 10 **2.2.7. Key Accounts Program**

11 Hydro Ottawa customers are categorized as a Key Account based on their size of service,
12 financial impact, as well as their influence on the community and the electricity grid. The Key
13 Accounts team works proactively with these large business and institutional customers on
14 matters that include billing, load profile, electricity supply, rates analysis, power quality, energy
15 management, and education and awareness of provincial regulations. Historical research and
16 ongoing customer engagement inform business interactions with these customers that have a
17 direct impact on customer service delivery outcomes, costs, and satisfaction levels.

18
19 In 2016, Hydro Ottawa continued its transition towards a more proactive approach in managing
20 relationships with Key Account customers. This initiative focused on the continued evolution of
21 the utility's collaboration with key customers, aimed at assessing and addressing their unique
22 priorities and needs. Hydro Ottawa's structured approach to relationship-building with Key
23 Account customers is anchored in a five-phase cycle – strategy development, research, action
24 planning, plan execution, and review – with a continuous feedback loop. Specific services
25 offered under this approach include C-Level customer engagement, formal annual account plan
26 reviews, single point of contact for customers at the utility, simplified bill reporting service for
27 large customers with hundreds of individual accounts, landlord reversion agreements, and
28 conservation and demand management ("CDM") assistance.

1 Key Account Coordinators meet regularly with customers at their site. This allows Hydro Ottawa
2 to gain a comprehensive understanding of customer requirements and deeper insights that can
3 only be achieved through a face-to-face discussion. In the past few years, more than 200
4 on-site meetings have taken place.

5
6 Key Accounts require an elevated level of support, including the ability to contact Hydro Ottawa
7 after-hours and during emergency situations. Offering these customers a single point of contact
8 also helps them navigate the multi-divisional aspects of Hydro Ottawa's organization. The Key
9 Accounts team acts as the voice of the customer and has the responsibility for collecting
10 customer information and feedback, and sharing these insights with internal stakeholders. The
11 Key Accounts team takes the lead with these customers' requests, ensuring an efficient and
12 holistic approach that enhances the customer experience and expedites the response.

13
14 Hydro Ottawa's Key Accounts team also helps customers navigate the changing provincial
15 policy environment. For example, O. Reg. 20/17: Reporting of Energy Consumption and Water
16 Use was published in February 2017. The goal of the regulation is to assist Ontario in meeting
17 its energy conservation and greenhouse gas ("GHG") reduction objectives by requiring building
18 owners to submit reports on their energy and water use, and to benchmark their consumption
19 against comparator buildings. Under the regulation, LDCs are obligated to provide yearly
20 electricity consumption data to building owners, upon request.⁵

21
22 As an initial matter, following publication of the regulation, Hydro Ottawa convened internal
23 stakeholders to raise awareness around the new requirements and to assign compliance
24 accountabilities to relevant business units.

25
26 Hydro Ottawa also volunteered to participate in a working group of utility representatives formed
27 by the Ministry of Energy to offer guidance on numerous technical matters related to the
28 provision of electricity consumption data to building owners. This working group convened on

⁵ For further information on the regulation, including the three-year phased-in implementation schedule for reporting by building owners, please see the official webpage for O. Reg. 20/17: <https://www.ontario.ca/page/report-energy-water-use-large-buildings>.

1 three separate occasions over the course of Fall 2017. One of the most consequential initial
2 deliverables for this working group was the launch of pilot projects to test utilities' business
3 processes and systems for data reporting. Hydro Ottawa successfully supported the
4 participation of four Ottawa-area building owners in the pilot.

5
6 Key Accounts led the customer education and outreach in advance of the first reporting
7 deadline for building owners of July 1, 2018. Key Accounts partnered with the Building Owners
8 and Managers Association ("BOMA"), Enbridge Gas Distribution, and the City of Ottawa to
9 present an Energy and Water Reporting and Benchmarking ("EWRB") overview to an audience
10 of more than 110 participants that included many of Hydro Ottawa's Key Accounts. The
11 invitation to this event included basic information about EWRB and was sent to more than 3,000
12 customers. Of the 90 customers in Hydro Ottawa's territory who were required to report, 19
13 reached out to Hydro Ottawa to obtain data (approximately 20%). Each customer was provided
14 with that data, as well as further guidance on energy incentives and other resources for energy
15 management and reduction. The effort was repeated in early 2019 in advance of the second
16 reporting deadline (July 1, 2019). With 450 new customers being phased into the pool of
17 building owners with mandatory reporting requirements, 172 customers ultimately requested
18 data (approximately 38%). All customers were directly engaged by Hydro Ottawa, and were
19 provided data and other resources prior to the reporting deadline. Customer outreach will
20 continue in 2020, in advance of approximately 900 new building owners being required to report
21 on their energy and water consumption.

22
23 Another recurring engagement that Hydro Ottawa continues to refine is the hosting of Key
24 Account Symposiums. Held in 2016 and 2019, these events feature networking, valuable
25 business development opportunities for customers, and presentations from Hydro Ottawa on
26 issues of critical importance to customers' businesses. Issues covered have included the supply
27 and cost of electricity, new and emerging grid technologies, opportunities related to the adoption
28 of "Smart City" solutions in the Ottawa area, and service offerings related to electrical vault
29 maintenance and ownership.

1 In 2016, an on-site anonymous survey of customers' satisfaction with Hydro Ottawa was
2 conducted at the Key Account Symposium with results made available in real-time. Sixty-five
3 representatives from three dozen of the utility's largest customers attended the event. After the
4 2016 Symposium, numerous customers reached out to Hydro Ottawa to proactively replace
5 aging equipment at end-of-life, and to increase reliability for their companies – and, in turn, for
6 Hydro Ottawa's distribution system.

7
8 As part of the Symposium in September 2019, Hydro Ottawa hosted a panel discussion on
9 Distributed Energy Resources ("DERs"). Customers gained an understanding of DERs, the
10 benefits and challenges they provide, the associated pressure points on the electricity
11 distribution system, current options, considerations when connecting to the grid, and adoption
12 rates and roadblocks. The goal of the session was to help interested customers in building a
13 better understanding of key DER issues and opportunities and what some of the key influencers
14 will be for growth and adoption in the future. There were more than 30 customers in attendance,
15 which included representation from two of the utility's largest and most influential customers on
16 the panel moderated by Hydro Ottawa.

17
18 Based on a similar but smaller format, Hydro Ottawa will offer an additional two seminars per
19 year. These sessions will be tailored to a subset of Key Accounts based upon specific
20 requirements or industry impacts.

21
22 The utility's Key Accounts team also delivers presentations to inform local business
23 organizations. One example was a presentation to Invest Ottawa, an organization that delivers
24 economic development programs and initiatives to increase entrepreneurial momentum and job
25 growth in the City of Ottawa. The goal of this presentation was to update business development
26 staff on the services and benefits Hydro Ottawa can offer prospective companies considering
27 operations in Ottawa. As a result of this opportunity, Hydro Ottawa has established itself as a
28 credible and reliable ally to businesses promoting economic development.

1 The Key Accounts team also maintains membership in a number of local stakeholder
2 associations, including the following:

- 3
- 4 • BOMA
- 5 • Illuminating Engineering Society of North America
- 6 • Mechanical Contractors Association
- 7 • Association of Energy Engineers
- 8 • Association of Energy Services Professionals
- 9 • Professional Engineers of Ontario
- 10 • Eastern Ontario Landlord Organization
- 11 • Greater Ottawa Home Builders Association
- 12 • Kanata Chamber of Commerce
- 13 • Carleton University – Industrial Engineering Advisory Board
- 14 • Advisory Group – Algonquin College Energy Manager Program
- 15

16 By using the above approach, and by providing regular opportunities for consultation with the
17 utility's Key Account Coordinators, Hydro Ottawa fosters continuous improvement in its
18 engagement with this particular segment of customers.

19

20 **2.2.8. Conservation and Demand Management**

21 Customer engagement enables Hydro Ottawa to tailor local CDM programs to meet the needs
22 of its customers. Customer outreach activities have also been successful in identifying and
23 leveraging CDM-funded projects completed by progressive customers. This often inspires other
24 customers in a similar situation that would benefit from adopting the same energy-saving
25 measures (e.g. the installation of LED lighting, high efficiency equipment, upgraded mechanical
26 systems, and voltage regulation) to follow suit. Hydro Ottawa further engages customers in
27 post-implementation program evaluation activities that have often led to program refinements,
28 improvements, and insights into program effectiveness.

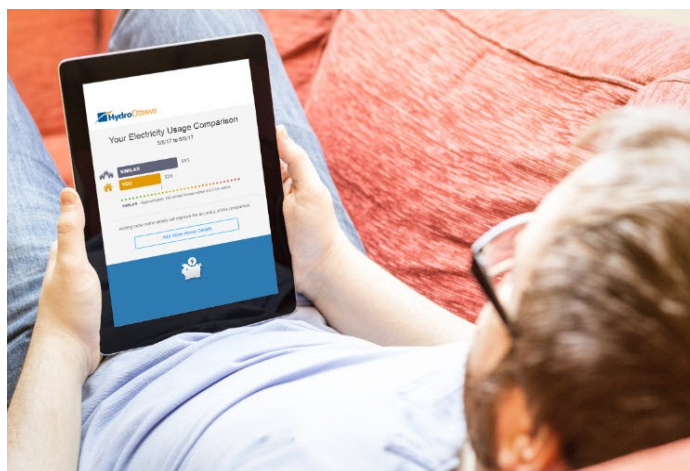
29

30 Customers have influenced Hydro Ottawa's CDM programming in a number of ways.

For example, the Save on Energy Small Business Retrofit Lighting program provided small business customers with up to \$2K in free upgrades. In response to customer feedback, Hydro Ottawa modified the Independent Electricity System Operator's ("IESO") Retrofit Lighting Program worksheet and replaced it with one that required less effort for customers and contractors to complete. With the updated worksheet, information was entered only once and other related fields were subsequently automatically filled in. The final output was a single page report including clearly presented financial impacts, incentive opportunities, and multi-year cash flows which enabled customers to make informed decisions on potential projects. In addition, the report served as the customer's application to the program. Success measurements of this initiative included increased sales by lighting contractors and the adoption of the spreadsheet by several LDCs across Ontario. At the inaugural "Powerful Ideas" conference hosted by the IESO in June 2017, Hydro Ottawa received three awards for best-in-class projects involving sales and marketing – one being "Best Sales Tactic" for its Retrofit Lighting Program worksheet.

Hydro Ottawa provided Home Energy Reports ("HERs") to its customers between May 2017 and May 2019. These emails were sent to residential customers on a monthly and periodic basis (depending on the topic). They provided personalized information to help customers understand their electricity usage and costs, as well as guidance on how to save energy.

Figure 2 – Home Energy Reports Displayed on a Customer's Device



1 In response to customer feedback, a number of changes were implemented to improve the user
2 experience with HERs:

- 3
4 ● Consolidation of the Home and Appliance Profile – Originally, customers were asked to
5 complete two separate forms to customize their experience. This included an appliance
6 profile and a home profile. These two forms were consolidated into one “Home Profile”
7 form to simplify the user interface.
- 8 ● Reconfiguration of Email Feedback Pages – The ‘email feedback pages were revised to
9 improve the user experience by including more channels for feedback.
- 10 ● Revision of the Monthly Summary Report – The Monthly Summary Report email was
11 revised to include a link to the customer’s Home Profile, simplifying the customization
12 process and providing a direct link to more information on “Appliance Breakdown.”
- 13 ● Introduction of Personalized Email – Hydro Ottawa launched a “personalized email” that
14 informed customers of how much earlier they started heating their home compared to
15 similar homes. This email was not well received by customers. Based on feedback,
16 Hydro Ottawa made the decision to discontinue distribution of this email.
- 17 ● Seasonal Stay-Up-to-Date Emails: Hydro Ottawa learned that customers preferred
18 seasonal updates with general tips rather than a personalized email. These seasonal
19 emails, distributed in the summer and winter of 2018, were well received.

21 **2.3. COMMUNICATIONS AND PUBLIC AFFAIRS GROUP**

22 Hydro Ottawa’s Communications and Public Affairs Group deploys a variety of communication
23 tools to educate, raise levels of understanding, and encourage customer feedback. This
24 includes communicating across a variety of platforms, both online and traditional, taking into
25 account customer language preference. The group systematically monitors, tracks, and
26 analyzes customer and stakeholder feedback on these channels and in traditional media
27 outlets.

28
29 Feedback and analysis provides Hydro Ottawa with insight into customers’ level of
30 understanding, needs,, and expectations. This, ultimately, establishes communications priorities

1 and informs planning and key decision-making in order to successfully engage with customers
2 in a way that is both timely and relevant.

3 4 **2.3.1. Social Media**

5 Hydro Ottawa uses social media channels to engage in two-way conversations with its
6 customers on a daily basis. In collaboration with subject matter experts from each Division
7 across the utility, content is created that ranges in topic from power outages and infrastructure
8 upgrades and repairs, to customer service information such as Time-of-Use ("TOU") rates and
9 periods, and special events. In addition, channels are monitored during business hours and
10 during prolonged power outages in order to answer customer questions or concerns and to
11 keep the public safe.

12
13 Positive and negative feedback are valued equally, enabling Hydro Ottawa to understand what
14 is working and what improvements need to be made. Customer feedback indicates that users of
15 social media appreciate the real-time replies to their inquiries, particularly during power outages,
16 storms, and times of crisis. In order to ensure 24/7 communication with its customers, Hydro
17 Ottawa has introduced a Twitter Bot to its outage communications channels, which provides
18 timely notification to customers after-hours. Please see Exhibit 1-1-13: Productivity and
19 Continuous Improvement Initiatives for more information.

20
21 As of the end of 2019, Hydro Ottawa's social media audience had grown to over 56,000 users.
22 In part, this growth was attributable to the impacts associated with recent significant power
23 outages caused by extreme weather events, especially the September 2018 tornadoes.⁶
24 Customers routinely turn to social media to let Hydro Ottawa know their power is out or to obtain
25 more information about current power outages. Customers share photos and information related
26 to damaged distribution system equipment, both during power outages and in normal day-to-day
27 interactions. This additional insight helps Hydro Ottawa determine the root cause of power
28 outages more quickly, resulting in shorter duration times. Hydro Ottawa employees engaged in

⁶ Prior to the tornadoes, Hydro Ottawa's social media audience totalled 29,000 users.

1 power restoration efforts also access the utility's Twitter feed, allowing them to understand in
2 real-time the customer landscape and sentiment.

3
4 Facebook, Instagram, and YouTube provide a platform for Hydro Ottawa to educate and inform
5 its customers. Videos provide guidance on submitting moving information online, navigating new
6 communication channels that include the Hydro Ottawa app and smart speaker skill, accessing
7 conservation tips, and observing electrical safety. In addition to pre-recorded video, Hydro
8 Ottawa also live-streams content during large power outages, at community events, and to
9 promote new services. Live-streaming allows customers the opportunity to ask questions and
10 receive an answer in near real-time.

11
12 Hydro Ottawa's LinkedIn presence helps the utility to stay connected to its customers, keeping
13 them informed of corporate initiatives, its suite of business programs, and career opportunities.

14
15 Social media customer feedback is received through public comments and private messages.
16 Overall tone and sentiment of incoming messages is tracked and feedback shared with the
17 appropriate groups within the utility. Tracking the overall sentiment of all social media
18 interactions helps Hydro Ottawa understand and identify gaps in services, awareness, and
19 content.

20
21 Hydro Ottawa social media fast facts include the following:⁷

- 22
- 23 • An active presence on all major social media networks, with a total audience of more
24 than 56,000 users.
 - 25 • Twitter Bot integration with power outage communications facilitating automatic updates
26 on larger outages within 15 minutes of start and continuing every 30 minutes until the
27 power outage is resolved.
 - 28 • The receipt of close to 19,000 inbound comments, mentions, and messages through
29 Facebook, Twitter, Instagram, and LinkedIn in 2019.

⁷ All figures are as of December 31, 2019.

- 1 • Facebook video views totalled 283,000 minutes in 2019, with the most-watched videos
2 focusing on distribution system upgrades, severe weather events, and employee
3 volunteerism. The average length of Hydro Ottawa's videos is two minutes.
- 4 • A two-way conversation with customers on Bell's 2019 "Let's Talk" day about mental
5 health initiatives, resulting in approximately 10,000 Hydro Ottawa video views, over
6 1,000 customer engagements, and a 21% increase in positive customer sentiment on
7 social media (when compared to the previous day).

9 **2.3.2. Website**

10 Hydro Ottawa's website is a key forum for communicating with customers and capturing their
11 feedback.

12
13 Customer feedback and inquiries are received through multiple web-based channels that
14 include Hydro Ottawa's Customer Service contact form and a recently introduced Web Chat
15 interface. Customer concerns and opportunities for improvement
16 are addressed as soon as possible, while issues requiring further consideration and resources
17 are discussed and assessed for inclusion in larger projects.

18
19 Google Analytics data, combined with feedback received from customers, helps Hydro Ottawa
20 establish priorities. There have been a number of enhancements made to the website that have
21 been influenced by customer feedback. These changes have focused on improving navigation,
22 adding new content, refining the clarity of existing information, and eliminating gaps that impact
23 organizational effectiveness. Some examples of website enhancements initiated by customer
24 feedback include the following:

- 25
26 • Increasing the resiliency of Hydro Ottawa's outage map during large scale power
27 outages;
- 28 • Making it easier for customers to find, understand, and print TOU rates, rate periods,
29 and holiday schedule;

- 1 • Addition of a new page and updated claims form for damages, so as to mitigate the
- 2 requirement for customer follow-up;
- 3 • A high-level summary of available financial assistance programs that links to more
- 4 detailed information, as needed; and
- 5 • Videos for customers who require new or modified electrical service in order to allow
- 6 them to better understand the requirements and procedures.

7

8 The tracking and analysis of the devices that customers are utilizing when interacting with the

9 website has ensured the website's design is compatible for multiple screen sizes, readers, and

10 accessibility tools. Furthermore, the information architecture is continuously reviewed and

11 simplified to reduce customer effort in finding information faster.

12

13 Customer feedback has also allowed Hydro Ottawa to improve the user interface and user

14 experience of its MyAccount online customer service portal. Forms within this portal, such as

15 moving requests and pre-authorized payment plan registration, have been enhanced to include

16 fillable fields and connectivity to customer accounts.

17

18 As a key customer interface, the website is regularly audited by Hydro Ottawa to ensure the

19 information presented remains up-to-date, secure, user-friendly, robust, and fully accessible to

20 its diverse customer base. In 2019, the existing custom web platform was replaced with an

21 enterprise-class, cloud-based product that has further refined the content architecture, visual

22 presentation, device compatibility and accessibility. This next generation website positions

23 Hydro Ottawa's website as "best in class" with regards to content, interactivity (e.g. surveys),

24 expanded feedback channels, and tools designed to share the voice of the customer.

25

26 **2.3.3. Media and Stakeholder Relations**

27 Since 2016, Hydro Ottawa has issued more than 80 news releases. Using a media monitoring

28 service, Hydro Ottawa tracks the reach and click rate of its news releases. In addition, it

29 monitors traditional media sentiment on a daily basis. For example, Hydro Ottawa's neutral and

1 positive media sentiment was 97.87% in 2016, 98.85% in 2017, and 99.27% in 2018. As of
2 October 1, 2019, neutral and positive media sentiment was 100%.

3
4 During significant events, all major news outlets receive Hydro Ottawa's power outage alerts.
5 For additional information, the media turn to the utility's Twitter account for photography from the
6 field and drone footage. This allows them to communicate the extent of damage and the work of
7 crews in dynamic ways. Media regularly use Hydro Ottawa's footage in their broadcasts. During
8 the 2018 tornadoes, Hydro Ottawa live-streamed from the field and played a lead role in City of
9 Ottawa press conferences. Hydro Ottawa responded to more than 100 media inquiries and
10 accommodated numerous behind-the-scenes media tours with access to crews and subject
11 matter experts. It is important to note that, despite not being able to estimate and communicate
12 restoration times during most of this major outage, mainstream media tone towards Hydro
13 Ottawa was neutral (95.6%) or positive (4.4%), with no negative coverage.

14
15 With respect to stakeholder relations, a crucial relationship for Hydro Ottawa is with the sole
16 shareholder of the utility's parent company (Hydro Ottawa Holding Inc.) – the City of Ottawa.
17 Hydro Ottawa seeks to continuously strengthen this relationship in a number of ways.

18
19 To keep the Mayor and City Councillors abreast of major initiatives, announcements, and during
20 times of crisis, memos from the Office of the President and Chief Executive Officer ("CEO") are
21 issued. The memos invite feedback and questions, and include the CEO's direct contact
22 information. During times of crisis, such as the 2016 wind storm, 2017 and 2018 ice storms,
23 2017 and 2019 floods, and the 2018 tornadoes, multiple memos were sent to the Mayor and
24 Council. These memos provided updates during the multi-day events and, in turn, allowed them
25 to keep their constituents (i.e. Hydro Ottawa customers) informed.

26
27 The Mayor and City Councillors are invited by Hydro Ottawa to multiple events each year,
28 including community open houses related to planned work in their wards, important
29 announcements, press conferences, electrical safety presentations at elementary schools, and
30 neighbourhood community events.

1 As the sole shareholder of Hydro Ottawa's parent company (Hydro Ottawa Holding Inc.), the
2 City of Ottawa hosts an Annual General Meeting at City Hall to review Hydro Ottawa's Annual
3 Report and ask questions related to its business.

4
5 Hydro Ottawa's online shareholder newsletter is sent directly to Councillors every month to
6 highlight the utility's work in the community, regulatory and provincial government policy
7 changes, and/or business highlights. The online format enables Hydro Ottawa to identify the
8 top-read stories and tailor content in future issues.

9
10 Based on feedback provided by City Council, a dedicated email address was developed to
11 expedite customer inquiries received by City Councillors on behalf of their constituents. All
12 inquiries are tracked and the process ensures a timely response to both City Councillors and
13 constituents.

14
15 With regards to timely notification of power outages, City Councillors and local media are invited
16 to subscribe to power outage alerts. These emails provide details such as the area and ward
17 where the outage is occurring as well as the restoration time and cause, if known. This enables
18 Hydro Ottawa to leverage its channels and audiences to help assist in communicating updates
19 in real-time.

20
21 To take this service a step further, Hydro Ottawa's Twitter Bot posts information on power
22 outages that impact more than 500 customers. These tweets, posted to social media after
23 hours, highlight the ward affected – down to the street names, number of customers, cause, and
24 restoration time, if known. In addition, relevant City Councillor Twitter accounts are tagged in the
25 posts. This immediately flags the power outages to City Councillors and makes it easier for
26 them to share and retweet the information to their followers, enhancing their reputation as a
27 caring, informed supporter of the residents in their ward.

2.3.4. Community Engagement

Between 2016 and 2018, Hydro Ottawa's community outreach included a "feet-on-the-street" approach led by the Conservation Events Team. The objective was to develop a "culture of conservation" in the community.

The Conservation Events Team participated, on average, in 150 events each year. This included festivals, community and City Councillor BBQs, trade-shows, sporting events, retailer events, and educational presentations.

Some notable engagements included annual participation in the Home and Remodelling Show and the Ottawa Home and Garden Show. These two events draw more than 45,000 active and engaged attendees each year. Hydro Ottawa's team interacted with an average of 2,000 customers during the Home and Remodelling Show and 4,000 customers during the Home and Garden Show each year. This forum supports in-depth, two-way conversations with customers about energy efficiency. During these face-to-face opportunities, Hydro Ottawa informed customers on ways to incorporate energy efficiency into their homes and promoted energy-saving programs and services.

In addition to events, the conservation team delivered educational presentations to youth in schools and summer camps. Between 2016 and 2018, Hydro Ottawa attended 58 schools, delivering 78 presentations to more than 2,000 Grade 5 students on the importance of electricity conservation.

Following a successful inaugural event in 2016, Hydro Ottawa hosted its second annual Community Forum, in which the utility provided updates on Hydro Ottawa's latest initiatives and programs to community associations, city councillors, and community housing representatives.

As a result of this community engagement, customers of all ages are more knowledgeable about energy efficiency. In addition, further insight is gained into the evolving needs of customers, which inform future service offerings and delivery.

1 **2.3.5. Public Awareness of Electrical Safety**

2 Helping customers understand the importance of staying safe and using electricity wisely is a
3 priority for Hydro Ottawa.

4
5 In order to gauge overall electrical safety awareness amongst the general public, Hydro Ottawa
6 commissioned a research firm to conduct the utility's first Public Awareness of Electrical Safety
7 Scorecard Survey, during March 2016. The online survey consisted of a representative sample
8 of 407 respondents, 18 years or older, residing in Hydro Ottawa's service territory.

9
10 Responses to the six core survey questions resulted in a 2016 Public Safety Awareness Index
11 of 70%. The results of the survey helped to inform Hydro Ottawa's subsequent public safety
12 messaging and programs.

13
14 In 2017, Hydro Ottawa launched an electrical safety awareness campaign that included web,
15 video, and social media channels. Targeted to elementary students, this bilingual campaign's
16 goal was to increase general awareness about electrical safety. Between January 1, 2018 and
17 September 30, 2019 the videos were viewed more than 150,000 times across various social
18 media platforms. Related web pages on hydroottawa.com were viewed more than 5,600 times.

19
20 To tie its community safety campaign and elementary school educational programs together,
21 Hydro Ottawa introduced the "Smart as a Fox Whiz Quiz" contest in 2017. After participating in
22 one of Hydro Ottawa's free in-school safety presentations, students are encouraged to complete
23 the Whiz Quiz to show off their newly-acquired knowledge. Questions cover the six core
24 questions, including who to call before digging to plant a tree, and what to do if someone is
25 stuck inside a vehicle surrounded by a downed powerline. Not only does the quiz benefit the
26 students, it also educates parents as they assist younger children in navigating the website.

27
28 Approximately 220 in-school presentations were delivered between January 1, 2018 and
29 September 30, 2019, with more than 3,300 students and their parents completing the online
30 Whiz Quiz, in French or English.

1 While the 2017 and 2018 Public Safety Awareness Indexes remained unchanged at 70% each
2 year, the online Whiz Quiz resulted in an average score of 95% between the same time period
3 (January 1, 2018 and September 30, 2019). Since the Whiz Quiz began in February 2017, there
4 have been more than 4,800 entries (with overall average scores of 94%).
5

6 **2.3.6. ThinkEnergy Podcast**

7 In May 2019, Hydro Ottawa launched a podcast series entitled "ThinkEnergy." The podcast is
8 designed to expose customers to the latest trends in the electricity sector, emerging
9 technologies, and cutting-edge innovations. Each 15-minute podcast features an informative
10 conversation with an industry expert focusing on the fast-changing world of energy. Episodes
11 have featured drones in the energy sector, EV adoption, and electrical safety. Since launch,
12 more than 1,000 downloads have occurred with an average watch time of 81%.

Customer Engagement Activities Summary

Provide a list of customer engagement activities	Provide a list of customer needs and preferences identified through each engagement activity	Actions taken to respond to identified needs and preferences. If no action was taken, explain why.
2021 - 2025 Rate Application Engagement Planning-Specific Customer Engagement: Phase I - Residential and small business customers (<50 kW demand) - Telephone and online surveys	- Majority of low volume customers satisfied with current service - Top responses to improvement opportunities were 'nothing' followed by 'lower or reduce rates' - 'ensuring reliable electrical service' identified as top priority followed by 'distribution rates' and 'finding cost savings'. These top three priorities were followed by the need for Hydro Ottawa to maintain service quality; address key pressures in the distribution system and to make prudent investments in emerging technologies to either enhance service offerings and/or reduce costs. Please refer to: - Exhibit 1-2-2: 2021-2025 Rate Application Customer Engagement; Attachment 1-2-2(A) - Innovative Consolidated Customer Engagement Report and Appendices;	- Informed the business plan; price is still a top concern for customers. Minimizing rate increases was a key principle in the business planning process. - Informed the development of the draft business plan that was taken back to customers during Phase II customer engagement.
Planning-Specific Customer Engagement: Phase II - Online survey to residential and small business customers (<50 kW demand) - Mid-market focus groups - Key Accounts focus group - Online survey to 50 kW to >1,500 kW billing demand - Online survey to <1,500 kW billing demand	- A strong majority of Hydro Ottawa customers support either what is currently included in the utility's draft plan, or an approach that accelerates the pace of investment. - Exhibit 1-2-2: 2021-2025 Rate Application Customer Engagement; Attachment 1-2-2(A) - Innovative Consolidated Customer Engagement Report and Appendices	- Informed the business plan. Specifically the DSP (Exhibit 1-2-1; Exhibit 1-2-2 and Exhibit 2-4-3).
Ongoing Customer Engagement		
Project-Specific Open Houses for Major Projects - These sessions provide an opportunity to educate customers on project needs and considerations, as well as, address questions to enable customers to provide informed feedback.	Needs and preferences of customers with respect to major infrastructure projects include concern for potential loss or enjoyment of natural spaces, potential impact on ecosystem, the visibility and footprint of equipment and structures, noise, public safety and business interruptions.	Sought alternatives to use less impactful equipment where possible. Hydro Ottawa both accelerated and delayed construction work to accommodate stakeholder needs, such as peak business seasons and school years. Revised plans, where feasible, in response to customer input. Where feasible, work times were scheduled around core business hours and temporary public access routes were created for pedestrians. Worked with local business associations to understand and mitigate negative impacts and took an active role towards proactively updating the community on progress and developments. These and other initiatives resulted in solutions that were acceptable and productive for all stakeholders. (ref: Exhibit 1-1-9, Section 4.1; Exhibit 1-2-1, Section 2.1.2).
Participation in Trades and Business Associations - These collaborations foster greater awareness and opportunities to work effectively and efficiently with the business community.	Business stakeholders look to Hydro Ottawa for advice and information that is relevant to their business success such as technical standards, business policies and practices.	Hydro Ottawa actively engages with the Electrical Contractors Association ("ECA") which serves Hydro Ottawa's service territory; consults with contractors and developers on an ongoing basis to streamline business interfaces and improve planning and delivery efficiencies. Hydro Ottawa also communicates with the City of Ottawa and works closely with several of their departments to continuously improve the co-ordination of joint initiatives and seek their comments on proposed changes to Hydro Ottawa's business practices, such as its Conditions of Service. Please refer to Exhibit 1-1-9, Section 4.1; Exhibit 1-2-1, Section 2.1.3.
Customer Surveys - Annual, ad-hoc, transactional and industry surveys provide timely and ongoing feedback as to how Hydro Ottawa is meeting customer expectations and needs in a constantly-evolving business landscape.	Customers expect their needs and feedback to be heard and acted upon.	Surveys are utilized to monitor customer needs, service experiences and satisfaction levels in order to adapt business processes as needed, as well as, identify new opportunities to enhance customer services. Examples of some ad hoc surveys conducted during the prior rate period included surveying customers on their bill presentment preferences and interest in 24-hour call centre services. Surveying methodologies have also evolved, which has resulted in greater use of electronic communications channels, as compared to telephone outreach. Benefits include reduced costs and increased opportunities for customers to engage at their convenience. Refer to Exhibit 1-2-1, Section 2.2; Attachments 1-2-1(C); 1-2-1(D) and 1-2-1(E); Exhibit 1-2-1; Attachment 4-1-5(D).

<p>Community Engagement - offers an opportunity for Hydro Ottawa to educate, raise awareness and encourage customer feedback, whether face-to-face, or, electronically.</p>	<p>Customers want to be informed and/or consulted on matters that impact them directly or materially.</p>	<p>Ongoing public engagement through memberships in local associations that represent diverse segments of Hydro Ottawa's customer base. For example, this led to the establishment of a Key Accounts Program. Community collaborations have led to improved business interactions and enhanced public safety awareness. Further, as an outcome to Hydro Ottawa's semi-annual Public Safety Awareness Survey, a number of additional measures have been taken to reinforce public safety messages, such as the launch of an electrical safety awareness campaign in 2017, targeting elementary students. As a further example, Hydro Ottawa makes safety presentations in elementary schools throughout the year and reinforces safety messaging through social media engagement, as well as, industry topics of interest. Social media is also the primary tool used for customer and stakeholder communications during major events. This timely and visual communications method was very successful in the aftermath of the 2018 tornados (as well as other major events) during which no negative media coverage was experienced. Hydro Ottawa also hosts community meetings when planning major distribution projects that impact local communities. This engagement often results in better solutions and greater customer support. For example, website feedback resulted in resiliency improvements of Hydro Ottawa's Outage Map, more customer-friendly navigational features on Hydro Ottawa's website and website improvements for managing customer damage claims. Please refer to Exhibit 1-1-13; Exhibit 1-2-1, ; Sections 2.2 and 2.3; Exhibit 1-2-1, Attachment 1-2-1(B), Attachment 4-1-5(D); Exhibit 2-4-3 Distribution System Plan, SECTION 1, Sections 3.1.10, 3.2.4.</p>
<p>Conservation and Demand Management Programs - offer customers information and, in some cases, funding support to implement measures that reduce their electricity consumption and costs</p>	<p>Customers want to have more insight and information about their electricity consumption, in order to control their electricity costs.</p>	<p>Customer feedback influenced Hydro Ottawa's decision to modify the IESO Retrofit Lighting Program worksheet for greater simplicity and efficiency. These changes enabled customers to make more informed decisions on potential impacts and also made the application process more efficient. Between 2017 and 2019 to residential customers, to help them understand their electricity usage and potential ways to save energy. Hydro Ottawa began providing Home Energy Reports ("HERs"). Customer feedback informed further enhancements to this program. Please refer to Exhibit 1-2-1, Section 2.2.8; Attachment 1-2-1(B); Exhibit 4-1-6.</p>

CUSTOMER STRATEGY

1. INTRODUCTION

Hydro Ottawa's vision is *to be a leading partner in a smart energy future*. This vision recognizes that the electricity service model is in the midst of significant transformation – taking on a more decentralized, customer-centric, technologically-advanced and environmentally sustainable form – and that the role of electricity utilities will be transformed along with it.

As a utility that provides an essential service to the public, delivering an exceptional experience to customers is critical to Hydro Ottawa's success. Hydro Ottawa is in the fifth year of executing its *2016-2020 Strategic Direction*. Many initiatives have been implemented over this timeframe that have changed the way the utility works and have improved its customer service, providing more value to customers.

This Attachment outlines Hydro Ottawa's 2021-2025 Customer Strategy, which builds upon the foundation that was established during the implementation of the utility's 2016-2020 Customer Strategy. In the sections below, Hydro Ottawa identifies the outcomes to date, with respect to the 2016-2020 rate plan, and highlights its future plans to ensure that the utility remains well positioned to support customers as their needs and priorities continue to evolve.

2. CURRENT BUSINESS CONTEXT

Customer expectations around service continue to increase.

The customer state of being "in the know" and accessing information has grown from Time-of-Use ("TOU") rates and periods to accessing integrated energy saving tips and real-time outage information.¹ Communication mediums have shifted since Hydro Ottawa first embarked on its 2016-2020 rate plan, with customers relying less on print and desktop computers and more on mobile technologies and social media, even for one-to-one communication. Customers expect near real-time feedback and interaction through their communication channel of choice.

¹ Hydro Ottawa makes all such information readily available through its website (hydroottawa.com), its mobile application, and Alexa or Google Skills.

1 Hydro Ottawa must therefore continue to monitor and interact with customers across multiple
2 channels.

3
4 Customer expectations around service continue to increase. To maintain a robust level of
5 customer satisfaction, Hydro Ottawa must continue to pursue initiatives that expand 24/7
6 support for its customers. As expressed by customers during the customer engagement process
7 undertaken prior to filing this Application, the increasing cost of electricity remains a concern.²
8 As such, the utility's focus on increased productivity and automation has been integrated
9 throughout the Customer Experience Roadmap to minimize price impacts to customers. Hydro
10 Ottawa is committed to providing a seamless service experience for customers and allowing
11 them to receive or access information via their channel of choice, anytime and anywhere.

12
13 ***The energy business is changing rapidly.***

14 Since 2015, residential and commercial customers have significantly increased their knowledge
15 and expertise around energy needs. Access to energy data and data-driven services through
16 connected home devices such as smart home thermostats and commercial grade energy
17 management solutions provide customers with a means to manage energy consumption
18 through real-time data. This allows them to make decisions and take immediate action,
19 ultimately providing customers more control and potentially saving on their electrical costs. It is
20 imperative that Hydro Ottawa understand the dynamics of this as well as, or better than, its
21 customers in order to best support them and their future energy needs.

22
23 ***Technological innovation continues to dramatically transform the electricity business.***

24 The ability to use data and analytics to provide personalized service will further transform the
25 customer's relationship with, and expectations of, the electricity grid and their electricity
26 distributor. In addition, Smart Grid technologies and the "Internet of Things" will increasingly
27 "connect the customer to the control room," giving them a much bigger role. Their homes,
28 offices, businesses, and farms are becoming an integral part of the power system. The Internet

² See Exhibit 1-2-1: Customer Engagement on the 2021-2025 Application for more information on this topic.

1 of Things will likely create significant product innovation, game-changing partnerships, and
2 converging markets. Both new and existing market players will seek to enable customers to
3 harness the potential of the Internet of Things for efficiency, revenue generation, convenience,
4 control, and environmental performance. Essentially, the Internet of Things is creating a new
5 “digital ecosystem” for energy.

6
7 Customers’ expectations for choice, convenience, and responsiveness, informed by their
8 experience with other industries, are growing. Notably, their ability to access information from,
9 and complete transactions with, the local distribution company (“LDC”) “anywhere, anytime” is
10 now a baseline expectation. Interactions need to be seamless, effortless, and instantaneous
11 with the appeal to satisfy a wide ranging demographic.

12
13 ***The energy requirements are changing.***

14 There is a trend toward the electrification of transportation. Although market penetration of
15 electric vehicles (“EVs”) is still fairly low in Hydro Ottawa’s service territory, there are a number
16 of initiatives in motion that will impact the utility’s operations over the 2021-2025 rate period and
17 have thus been factored into Hydro Ottawa’s business plan. Of note, the City of Ottawa has
18 made significant investment in a Light Rail Transit (“LRT”) system powered by electricity,
19 signaling a change in what they expect of their electricity distribution system. As the LRT system
20 expands across the service territory, EV charging spots in parking lots are being considered.
21 Commercial and multi-residential buildings are exploring opportunities to electrify private and
22 public parking lots for their residents. Consumer interest in EVs is increasing and sales are likely
23 to grow exponentially as costs decline. This presents new possibilities for customer choice,
24 control, and convenience and must be factored into the utility’s service programs for customers.

25
26 ***With the increasing availability and decreasing costs of renewable energy generation and***
27 ***energy storage solutions, Hydro Ottawa customers have more choices.***

28 As the industry continues to evolve, customers are no longer simple passive consumers of
29 electricity. The growing maturity and affordability of distributed energy technologies such as

1 solar generation, storage, and geothermal heating is expected to reshape the energy supply
2 landscape. Customers will increasingly produce a portion of the energy they need on site, and
3 could be poised to be sellers of energy as well as consumers. In fact, electricity consumers are
4 poised to become the most influential actors in a new energy landscape – a dramatic break from
5 the passive role consumers have traditionally played in electricity markets. A growing number of
6 Hydro Ottawa customers have already invested in being part of the electricity market. As such,
7 a growing number of customers are looking to the utility to enable adoption and use of these
8 technologies.

9
10 ***LDCs are uniquely positioned to succeed in this new energy landscape.***

11 Local distribution companies, like Hydro Ottawa, will be more relevant than ever in this new
12 landscape. But their role will change, along with those of every other player in the system –
13 consumers, system operators, generators, transmission companies, and regulators.

14
15 With its established relationship with customers, along with its assets and expertise, Hydro
16 Ottawa is well positioned to serve as the interface between customers and the new energy
17 system. Many customers also their local utility as the preferred partner in value-added energy
18 services. Hydro Ottawa will engage in the future marketplace for energy, one where customers
19 will generate more of their own electricity, store that electricity, and send what is not used back
20 to the grid.

21
22 ***Utilities must change in lockstep with their customers.***

23 As the customer's place within the electricity system evolves, successful utilities will be those
24 that recognize customers are not all the same. They will adapt and tailor their service delivery,
25 leveraging technology to enhance the customer experience and increase operational agility.

26
27 The tools exist for utilities to understand and engage their customers at an individual level and
28 to provide truly personalized service. Leveraging the power of big data, the capabilities of the
29 Smart Grid, and the convenience of mobile technology, utilities can anticipate and meet

customer needs with increasing precision, offer services “anytime, anywhere,” and create a more effortless customer experience. Hydro Ottawa anticipates that this will include personalized energy management information in the form of tailored energy data reports, data aggregation tools, and proactive insights to help solve business challenges.

The focus is shifting from Customer Service to Customer Experience.

To meet these new challenges, and in response to customer feedback, Hydro Ottawa has transitioned from a “Customer Service” to a “Customer Experience” focus. Customer Service initiatives typically address transactional items such as how quickly a telephone call is answered, and how long an issue takes to resolve. Customer Experience initiatives, by contrast, take an overall view of how the customer is “feeling” related to the entire experience, including the transactional elements generally associated with Customer Service.

Hydro Ottawa will deliver on its 2021-2025 Customer Strategy from a position of strength.

Over the 2016-2020 rate period, Hydro Ottawa has earned a number of industry awards, both national and international, for its customer service initiatives and the benefits which they have yielded.³ Among the hallmark initiatives and achievements of the utility that were recognized through these awards were the following:⁴

- 59% customer uptake of MyAccount (Hydro Ottawa’s customer web portal);
- 50% adoption rate of online billing;
- Introduction of an Interactive Voice Response (“IVR”) system that allows customers to access account information without the assistance of a customer service representative;
- Availability of the Hydro Ottawa mobile application providing billing details, outage information, and energy tips all in one place;
- Launch of a Twitter Bot to support power outage alerts and updates; and
- Proactive communication around planned work and planned outages.

³ For a list of these awards, see Table 1 on the last page of this Attachment.

⁴ All of the figures mentioned in the bulleted list are as of December 31, 2019.

1 As further reinforcement of the broader context in which the utility has earned widespread
2 recognition from its peers for noteworthy accomplishment in customer service, receipt of these
3 awards has coincided with an uptick in overall customer satisfaction levels. For example, in
4 2018 Hydro Ottawa achieved a customer satisfaction level of 93% as compared to a 90% score
5 in 2017. For more detail on the 2018 results, please see Exhibit 1-2-1: Customer Engagement
6 Overview.

7
8 While Hydro Ottawa would emphasize that it views such recognition as only one measure of
9 success and performance, the utility nevertheless regards these acknowledgments as a vote of
10 confidence in its ability to continue delivering on its objectives for customer service excellence.
11

12 **3. CUSTOMER EXPERIENCE APPROACH**

13 As a utility, Hydro Ottawa's vision is to be a leading partner in a smart energy future. The
14 transition to a smart energy future will be driven by customers' needs, preferences and
15 objectives, and will continue during the 2021-2025 period. For the purposes of Hydro Ottawa's
16 Customer Strategy, this means being among the top performers in the business and regarded
17 as a credible and trusted voice in the industry. It also means providing customers greater
18 choice, convenience, control, and communications, and continuing to be a partner that is:

- 19
20 ● **Easy to do business with** because Hydro Ottawa's processes are simple and effective,
21 and customers can do business with the utility when and how they would like;
22
- 23 ● **Caring** because Hydro Ottawa's employees understand what customers want and are
24 focused on providing a superior customer experience;
25
- 26 ● **Efficient** because Hydro Ottawa responds to its customers' questions or concerns, and
27 when problems do occur, the utility fixes them quickly and strives to prevent them from
28 happening again; and

- **Knowledgeable** because Hydro Ottawa's employees understand the needs of customers and the benefits and features of the utility's services.

Hydro Ottawa has adopted a "whole-of-company" Customer Experience approach, aimed at achieving five strategic imperatives:

- **Developing a customer-centric culture:** Fundamentally, Hydro Ottawa's Customer Strategy requires the utility to "put the customer at the centre of everything it does." This means going beyond providing good customer service to proactively ensuring that each customer's experience — the sum total of all their potential interactions with the utility — is positively meeting their needs and expectations. Helping employees to understand this distinction and how and why Hydro Ottawa is moving in this important direction is key to the success of the Strategy.
- **Understanding its customer:** To better anticipate and respond to customer needs, Hydro Ottawa is focused on learning more about its customers in general and about individual customer segments and their unique needs and expectations. This detailed customer knowledge will enable Hydro Ottawa to anticipate and respond to customer needs with personalized services and improve its customer-facing operations.
- **Improving customer touchpoints:** A customer touchpoint is any communication or interaction between a customer and Hydro Ottawa throughout a customer's relationship lifecycle with the utility. A touchpoint can be an advertisement, website, phone call, sales meeting, or an encounter with field staff. These touchpoints are important because customers form perceptions of Hydro Ottawa and its brand based on their cumulative experience with these touchpoints.
- **Providing leading services and products:** To become the preferred partner of customers for value-added services, Hydro Ottawa must meet its customers'

1 expectations for innovative tools and information to help them manage their energy costs
2 and access their account information on a 24/7 basis.

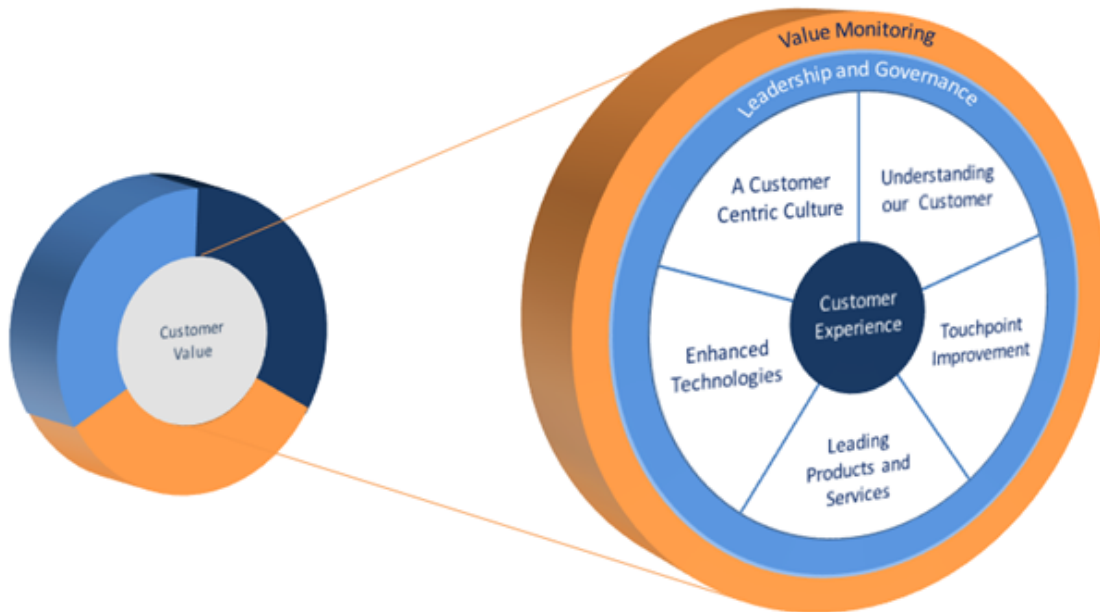
- 3
- 4 ● **Enhancing its technologies and processes:** Effective and innovative use of
5 technology will enhance the customer experience and streamline processes. Hydro
6 Ottawa is continuing the digital transformation of its business, using the power of mobile
7 and digital technology to offer service to customers “anytime, anywhere,” in a more
8 engaging and effortless manner. This transformation is focused on improving productivity
9 by leveraging technology to eliminate waste and unnecessary costs.

10

11 These initiatives are underpinned by the following:

- 12
- 13 ● **Leadership and governance:** To lead this “whole-of-company” strategy in a
14 coordinated way that eliminates organizational silos, Hydro Ottawa has established a
15 Customer Experience Steering Committee with senior representatives from across the
16 corporate enterprise. Accountable to the Executive Management Team, this Committee
17 meets monthly to oversee the progress of the utility in achieving the Customer Strategy.
 - 18
 - 19 ● **Customer Value Monitoring:** To track progress on achieving the Customer Strategy,
20 Hydro Ottawa has established a Customer Value Performance Metrics scorecard, using
21 relevant Key Performance Indicators and metrics to monitor outcomes. In addition, the
22 “Voice of the Customer” initiative incorporates direct feedback from customers, forms the
23 basis of measuring overall customer satisfaction, provides insights into customer
24 touchpoint improvement opportunities, helps shape program effectiveness, and
25 highlights potential for additional value-added services. Mechanisms used to collect
26 insights include ongoing surveys across all transactional communication channels,
27 annual customer satisfaction survey, feedback from community events, and inputs on
28 program effectiveness.

Figure 1 – A Customer Experience Approach Focused on Customer Value



4. CUSTOMER SERVICE APPROACH

Hydro Ottawa offers a broad spectrum of services and options which customers can access, when and where they want, through their preferred channels. Over the 2021-2025 period, the utility will continue to expand and enhance customer communications channels (whether text, email, telephone, smart audio, or a new technology). This communication will include personalized alerts and notifications focused on the core topics of interest to customers, including billing, power outages, and energy management. Additionally, Hydro Ottawa's efforts will concentrate on continually improving the quality, relevance and accuracy of the information provided by the utility to customers.

Hydro Ottawa will focus on four objectives to take its Customer Strategy to the next level of excellence, in conjunction with the execution of its impending five-year rate plan. As further

illustrated in the discussion below, these objectives are complementary to, and informed by, the utility's *Digital Strategy*.⁵

1. Expand 24/7 access to self-serve

To become the preferred partner of customers for value-added services beyond the meter, Hydro Ottawa must meet its customers' expectations for innovative tools and information to help them manage their energy costs and access their account information anytime, anywhere.

Over the course of its 2016-2020 rate term, Hydro Ottawa continued to transform its online self-serve offerings to meet evolving customer preferences. **Social login** capability, introduced in 2017, supports increased customer choice and convenience as customers can now sign-in to **MyAccount** using email, Facebook, or Google. The utility also introduced a **mobile app** providing customers with the option to manage their account and access personalized insights through this growing channel of choice. **Video messaging** was likewise made available to online billing customers to keep them up to date on relevant news and information. In 2019, Hydro Ottawa's **website** was enhanced to include new integrated search functionality, more customized components that ensure a mobile-friendly experience, and a more robust foundation to allow for a smooth and seamless interface, even during times of high traffic.

In 2019, the ability to **report an outage online** and through the mobile app was introduced, providing added convenience through a new channel of choice. In partnership with Hootsuite, a third-party vendor, Hydro Ottawa developed a **Twitter Bot**. This Bot automatically tweets and interacts with Twitter followers to keep them up to date on power outages, around the clock. Through **Twitter**, Hydro Ottawa shares outage information, often in the form of **video**, when major power outages occur.

⁵ See Attachment 1-1-13(B): Digital Strategy.

The critical importance of outage communications was underscored by a seminal event that occurred during the 2016-2020 period. When six tornadoes, heavy winds, and lightning caused more than 250 separate outages across the Ottawa region on September 21, 2018, half of Hydro Ottawa's customers (174,000) were left without power. Before the storm arrived, storm warnings and safety messages were issued on the utility's social channels. Over the four-day event, Hydro Ottawa live-streamed from the field and during press conferences, produced 10 videos (including drone footage), and took over 250 photos, allowing the web and social media teams to communicate the extent of the damage. The utility shared damage and restoration efforts with customers in a customer-centric way.

On Twitter and Facebook, these videos received 20,000 to 150,000 views each. This proactive approach resulted in earned trust, high engagement, and more than 14,000 new followers, growing our Twitter following from 19,000 to 33,000 and Facebook from 4,300 to 7,000.

Figure 2 – Screenshots of YouTube Videos from 2018 Tornado Response and Restoration



As innovative technology becomes the "new normal," Hydro Ottawa has integrated and enhanced its voice channels. This includes the introduction of a **Smart Speaker Skill** for both Amazon Alexa and Google Home. This voice-activated digital assistant answers the most common questions asked by customers, such as the cost of electricity, current outages, account

1 activity, and conservation tips, all from the convenience of a customer's home. The utility's **IVR**
2 was amplified with the addition of "**Voice ID**" capability which uses voice biometrics to
3 authenticate and enable customer access to answers to their most common questions about
4 billing and payment, without the need to speak to a Customer Service Representative.

5
6 Additionally, Hydro Ottawa's **request for service** customer portal has been scheduled for
7 enhancements in 2021. It will include the ability for customers to schedule appointments, view
8 job status, and allow for service layout payments improving the entire lifecycle of this customer
9 service.

10
11 Hydro Ottawa will continue to evolve each of the aforementioned touchpoints and expand or
12 amplify, as required, to meet evolving customer expectations.

13 14 **2. Reduce customer effort**

15 *Creating a more effortless and engaging customer experience moving forward includes*
16 *expansion into a broader range of services. The digital transformation of Hydro Ottawa's*
17 *business will harness the power of Artificial Intelligence, Robotics, and the Internet of*
18 *Things.*

19
20 Customers registered for MyAccount can connect one-on-one, in real-time, on desktop or
21 mobile with a Customer Service Representative using a recently introduced **Web Chat** service.
22 The continued expansion of Hydro Ottawa's self-serve will include the integration of a **Chat Bot**.
23 Artificial intelligence will be used to carry out interactive conversations based on predetermined
24 common questions with the capability to hand-off to a live agent for complex inquiries.

25
26 Digital technology will enable Hydro Ottawa to offer services that include interactive virtual
27 assistance and enhanced online searches. It will also facilitate learning to predict bills, inform
28 customers of outages, deliver visibility into repairs in their areas, order services, and obtain
29 quotes online.

1 Hydro Ottawa's significant investments in **Advanced Metering Infrastructure ("AMI")** will
2 provide the means for this "always-on" technology to integrate data with new and existing
3 systems to enable enhancements to customers' experience. Future plans encompass the
4 implementation of advanced data analytics, including analytics required to enable bill
5 forecasting, to perform load disaggregation, and to profile customer usage.

6
7 Offering intuitive, seamless, easy-to-use tools that save customers time will include the
8 integration of fully automated forms into the utility's systems and the introduction of additional
9 payment options and communications channels as technology evolves. The intent is to reduce
10 the complexity of Hydro Ottawa's interactions with customers, so that their experience with the
11 utility is simple, satisfies their needs, and is virtually free of friction or frustration.

12 13 **3. Focus on productivity**

14 *Hydro Ottawa leverages technology to eliminate waste and save time, in the context of*
15 *both internal and external processes.*

16
17 In 2017, Hydro Ottawa transitioned its **Customer Contact Centre**, for both general calls and
18 outage communications, to a new service provider. This move allowed for additional agents to
19 be available during high-volume time periods during the day and emergency events. This
20 transition also enabled Hydro Ottawa to expand the Contact Centre's hours of operation to
21 include Saturdays and provide customers access to service in up to 120 languages. In addition,
22 the utility moved from a manual outage message recording process to an automated one using
23 **text-to-speech** technology increasing operational efficiency.

24
25 Hydro Ottawa **remotely disconnects and reconnects** a significant number of its meters
26 through its AMI. This technology allows Hydro Ottawa to restore electricity service more
27 expeditiously for customers and results in operational efficiencies and savings. Other
28 efficiencies introduced included the implementation of an **automated outbound calling** system
29 to replace the previous hand-delivery of Disconnect Notices. As part of this new approach, the

1 utility no longer dispatches a truck to the service address for residential and small business
2 customers who are within 48 hours of disconnection.

3
4 Hydro Ottawa also utilizes **outbound calling for planned work power outage**
5 **communications**. Customers are provided with advance notification so that they can plan
6 accordingly. The historical practice of hand-delivering planned power interruption notices was
7 discontinued, allowing skilled resources to focus on higher-priority capital and maintenance
8 work.

9
10 The utility will continue its focus on productivity and capitalize on emerging Business Process
11 Automation technologies through system integrations and Robotic Process Automation to
12 further streamline its back-office operations and to improve its customer processes. Hydro
13 Ottawa will also look to automation to generate more value from the customer data it collects,
14 with the goal of enhancing customer interactions.

15 16 **4. Deliver customer-centric, value-added programs**

17 *Hydro Ottawa has been fostering a deeper understanding of its customers, with the goal*
18 *of moving towards more customer segmentation and personalization of customer*
19 *services.*

20
21 Over the next five years, Hydro Ottawa will be implementing a new **Customer Relationship**
22 **Management** system that will provide a 360-degree view of the customer. The compilation and
23 analysis of customer interactions and data throughout the customer lifecycle will provide a
24 single, end-to-end picture of the customer's journey aggregated from across various channels,
25 systems, and data silos. This approach will enable Hydro Ottawa to synchronously manage
26 different customer-interfacing activities, including customer service, marketing, field activity, as
27 well as technical and operational support. Relevant customer-centric solutions will drive better
28 outcomes for customers.

1 Hydro Ottawa will continue to evolve its **“Voice of the Customer”** initiative, whereby the utility
2 proactively reaches out to customers for their feedback through transactional surveys, an
3 annual customer satisfaction survey, and focus groups. Hydro Ottawa will also bring together a
4 group of representative customers to serve as its Customer Advisory Board.

5
6 Personalized notification of outages in the form of text messages and emails will be introduced
7 during the 2021-2025 rate term. A move to a cloud Content Management System will enable
8 further personalization of websites, creation of microsites, and efficiencies in content
9 management.

10
11 Hydro Ottawa intends to remain a trusted advisor to its customers in the emerging smart energy
12 future through its **Conservation and Demand Management** team. This future includes a
13 growing array of electricity generation alternatives, electricity storage, demand management,
14 and Smart Grid technologies. This positioning of Hydro Ottawa as the go-to resource for
15 electricity optimization services and programs is critical to the future success of the utility. Hydro
16 Ottawa’s focus will continue to be on outcomes that deliver value to customers, while adapting
17 to the increased emphasis on the need to mitigate the impact of electricity consumption on
18 climate change.

19
20 Hydro Ottawa will continue to move forward in lock-step with its customers who are no longer
21 just consumers of electricity. The growing maturity and affordability of distributed energy
22 technologies such as solar generation, storage, and geothermal heating is expected to reshape
23 the energy supply landscape. Customers will increasingly produce a portion of the energy they
24 need on-site, or become sellers of energy in addition to being consumers.

25
26 These trends, combined with innovation and market convergence that will occur with the
27 emerging Internet of Things, will present new possibilities for customer choice, control, and
28 convenience.

1

Table 1 – Industry Awards Received by Hydro Ottawa

Organization	Year	Award
Independent Electricity System Operator	2019	2019 MDM/R Data Excellence Award
International Association of Business Communicators - Ottawa Chapter	2019	Communicator of the Year in 2018
International Association of Business Communicators Gold Quill Awards	2019	Award of Merit for Hydro Ottawa/CHEO “Go Paperless” Strategic Partnership
Electricity Distributors Association Awards 2019 - Celebrating LDC Excellence	2019	EDA Public Relations Excellence Award for Outage Communications
CS Week 2019 Expanding Excellence Awards	2019	Innovation in People & Process
Edison Award - Edison Electric Institute	2019	Emergency Recovery Award for Outage Communications
Chartwell’s Outage Communications and Outage Restoration Awards	2019	Gold Award for Outage Communications
Chartwell’s 16th Annual Best Practices Awards	2019	Silver Award for Billing and Payment Programs Award - Hydro Ottawa’s “Go Paperless” campaign
Chartwell’s 16th Annual Best Practices Awards	2019	Silver Award for Self-Service Award for Voice Services
Chartwell’s Outage Communications and Outage Restoration Awards	2018	Silver Award for Outage Communications
Edison Award - Edison Electric Institute	2018	Emergency Recovery Award for Outage Communications
International Association of Business Communicators Gold Quill Awards	2017	Award of Excellence for Hydro Ottawa’s “Go Paperless” campaign
Electricity Distributors Association Awards 2017 - Celebrating LDC Excellence	2017	Communications Excellence Award for Outage Communications
Edison Award - Edison Electric Institute	2017	Emergency Assistance Award for Outage Communications
International Association of Business Communicators Silver Leaf Awards	2016	Award of Excellence for Hydro Ottawa’s “Go Paperless” campaign

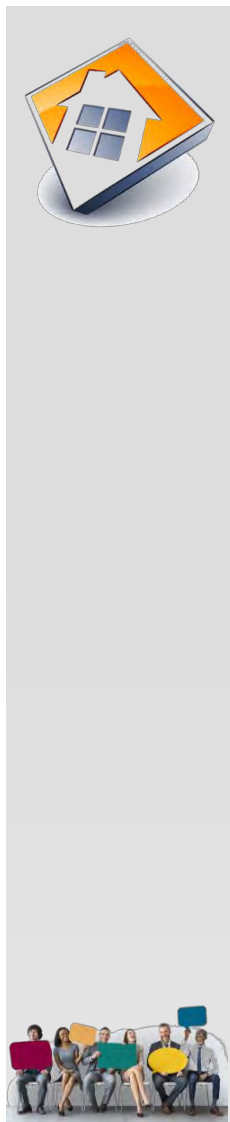
2

Hydro Ottawa

2018 Electric Utility Customer Satisfaction Survey



Summary Report



The purpose of this report is to profile the connection between Hydro Ottawa (Hydro Ottawa) and its customers.

The primary objective of the Electric Utility Customer Satisfaction Survey is to provide information to support discussions about improving customer care at every level in your utility.

The UtilityPULSE Report Card® and survey analysis contained in this report is intended to capture the state of mind or perceptions about your customers' need and wants – the information contained in this report will help guide your discussions for making meaningful improvements.

This survey report is privileged and confidential material, and no part may be used outside of Hydro Ottawa without written permission from UtilityPULSE, the electric utility survey division of Simul Corporation.

All comments and questions should be addressed to:

Sid Ridgley, UtilityPULSE division, Simul Corporation

Toll free: 1-888-291-7892 or Local: 905-895-7900

Email: sridgley@simulcorp.com



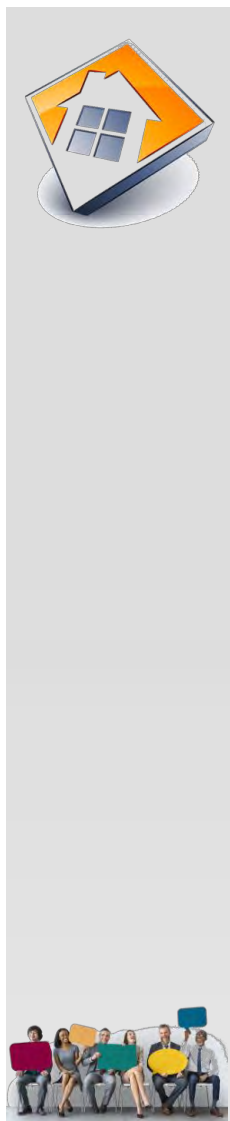
Feedback, Information & Insights

Eighteen months ago, customers were very angry about the quickly increasing costs of electricity over the previous 5 or more years. In fact, some years were double-digit increases while wages and inflation hovered around the 2% mark. We know this because the number of survey respondents in the Ontario benchmark survey who said they ‘sometimes worry about paying their bill’ grew from 21% to 31% and the number of At Risk customers grew from 11% to 17%.

Data from the Hydro Ottawa and Ontario benchmark surveys show the level of “anger” has dramatically reduced. Whether changes in perception were created by the Liberal Government’s Spring 2016 reduction by 25% in electricity prices, or the change to a Conservative government June 2018, or the promise of further reductions in electricity prices, or improvements in the economy, or improvements that LDCs have made in managing outages while improving customers service, or all of the above - a major shift towards a more positive view has taken place. Customers who have a positive view of their LDC and the industry exhibit less resistance to change.

For Hydro Ottawa in the Fall 2018 survey 16% of respondents and 21% of the Ontario benchmark respondents said they ‘sometimes worry about paying their bill.’ Also, the At Risk customer respondent levels were 7% for Hydro Ottawa and 13% for the Ontario benchmark. To be clear, customers are still concerned about the costs of electricity as shown by very low scores in the attribute “The cost of electricity is reasonable when compared to other utilities such as gas, cable or telephone.”





Your survey was conducted from September 17 - October 10, 2018 and is based on 600 one-on-one telephone interviews with residential and small commercial customers who pay or look after the electricity bill. Also, survey findings for Hydro Ottawa are enhanced with the inclusion of data from our UtilityPULSE database and the independently produced Ontario and National Benchmarks.

Helping the LDC generate higher levels of customer satisfaction, or maintaining their current high level, will be based on doing the core job as promised by being professional, efficient and cost-effective. But expectations continue to change. For Fall 2018, three key observations emerge from examining the trends in data from the UtilityPULSE database. They are: customers want to know they have been heard, they have reasonable access to services, and, their LDC is pro-actively communicating – especially during emergency situations.

81%
 Pro-actively
 communicates changes
 and issues

86%
 Provides excellent
 quality services



92%
 Standard of reliability
 meets expectations

88%
 Delivers on its service
 commitments



The Core Responsibilities

Hydro Ottawa survey respondents agree strongly + agree somewhat (Top 2 boxes), their LDC: Provides consistent, reliable electricity 93%, Quickly handles outages and restores power 91%, Accurate billing 89% and Makes electricity safety a top priority for employees, contractors, and the public 91%.

Issues: Billing and Blackouts, the “Killer B’s”

In a world, which is becoming more complex, and where people are time-pressed, outage and billing issues are likely to motivate customers to contact their LDC.

Problems: Blackouts

Percentage of Respondents indicating that they had a Blackout or Outage problem in the last 12 months			
	Hydro Ottawa	National	Ontario
2018	54%	39%	44%

Base: total respondents



Problems: Billing issues

Percentage of Respondents indicating that they had a Billing problem in the last 12 months			
	Hydro Ottawa	National	Ontario
2018	8%	9%	9%

Base: total respondents



While it is true, Hydro Ottawa receives very good operational scores, it also has a responsibility to professionally and quickly deal with issues customers contact them about. In a complex electricity industry world, this puts additional strain on the skills and competencies of everyone who interacts with customers.





Customer Service

Satisfaction with Customer Service			
Top 2 Boxes: 'very + fairly satisfied'	Hydro Ottawa	National	Ontario
The time it took to contact someone	73%	66%	64%
The time it took someone to deal with your problem	70%	72%	65%
The helpfulness of the staff who dealt with you	65%	70%	64%
The knowledge of the staff who dealt with you	62%	70%	64%
The level of courtesy of the staff who dealt with you	74%	78%	70%
The quality of information provided by the staff who dealt with you	65%	73%	61%

Base: total respondents who contacted the utility

Traditionally LDCs handle inbound, or customer initiated communications when there are issues. However, more and more customers have an expectation their LDC will also be proficient with outbound communications regarding the important issues.

Communication Score – New for 2018

The pressure to communicate via multiple communication platforms continues to increase. There is also an expectation the utility will, from an outbound perspective, contact the customer via their preferred channel.

Communication Score		
	Ontario LDCs	Hydro Ottawa
Communication Score	79%	80%

Base: An aggregate of respondents from 2018 participating LDCs / total respondents from the local utility



Communication channels preferred by customers to receive notice about Billing Issue

Most, if not all, of our LDC clients, expect that customers will utilize the electronic channels for getting information or dealing with issues. By doing so, costs for the LDC should decrease. However, in a world where customers expect some outbound contact, they expect their LDC to use those channels to communicate directly with them. Therefore, when problems do occur, and the LDC must initiate contact with their customer, it would be beneficial to the process if customers were contacted via channels they most prefer.

Hydro Ottawa's customers' preferred or primary method for Hydro Ottawa to contact them about billing issues are as follows:

Preferred method of communication to receive notice of a billing issue		
	Ontario LDCs	Hydro Ottawa
Telephone	56%	44%
Voice Mail	2%	2%
Text	7%	7%
Email	34%	46%
Don't know	1%	1%

Base: An aggregate of respondents from 2018 participating LDCs / total respondents from the local utility









Communication during Unplanned Outages

In times of emergency, be they extreme weather events or major equipment failures that cause blackouts and unplanned outages, customer communication can help customers understand what to expect next and when





disrupted electricity service might be restored. Early and effective communication helps increase confidence in and credibility of the electricity service provider.

Method of communication Customers prefer their LDC uses during an UNPLANNED OUTAGE							
Recorded Telephone Message	Email Notice	Posted on the Website	Social Media	Local Radio	Local TV	Text Message	Alert on APP
							
22%	28%	6%	6%	7%	2%	22%	3%

Base: total respondents

Communication about general news or changes in the industry

Method of communication Customers prefer their LDC uses about general news		
	Ontario LDCs	Hydro Ottawa
Recorded telephone message	22%	13%
Email notice	40%	45%
Posted on the utility's website	7%	11%
Social media	6%	8%
Local radio	5%	6%
Local TV	5%	6%
Text message	9%	7%
Alert on APP	2%	2%

Base: An aggregate of respondents from 2018 participating LDCs / total respondents from the local utility





Notice the difference in the preferred channel based on subject matter. Hydro Ottawa shouldn't, for example, assume a customer who prefers email for a billing issue will want an email for outage issues. These added variables add complexity to capturing and then using each customers' preferences. Getting the most out of your CRM system is becoming increasingly important.

Providing communication channels that are effective and meet customers' needs is key to improving the customer experience. To do this, Hydro Ottawa must understand how customers communicate with you, and how they would like Hydro Ottawa to communicate with them in the future. Knowing this will allow Hydro Ottawa to: allocate resources where they are most needed; tailor services to meet customers' needs; and, identify where improvements can be made.

Customers were asked about their level of satisfaction with the information provided by Hydro Ottawa on the following:

Satisfaction with information provided		
Top 2 Boxes: 'very + fairly satisfied'	Ontario LDCs	Hydro Ottawa
The amount of information available to you about energy conservation	82%	83%
The quality of information available when outages occur	73%	81%
The electricity safety education provided to the public	74%	70%
The timeliness and relevance of information for things such as planned outages, construction activity, tree trimming.	78%	80%

Base: An aggregate of respondents from 2018 participating LDCs / total respondents from the local utility



Based on customer responses, Hydro Ottawa has achieved a score of 80% for Communications while Ontario LDCs rated 79%.

The Convenience of Services Score – New for 2018

Rising customer expectations and demands means customers expect to be able to contact you 24 hours a day, seven days a week using various communication avenues, i.e. Telephone, your website and/or even social media. Customers expect flexible and more personalized services. Providing customers with clear, easy to access services and information which is easy to understand has a significant impact on the customer experience.



Access to services		
Top 2 Boxes: 'very + somewhat satisfied'	Ontario LDCs	Hydro Ottawa
The availability of call-centre staff Monday to Friday	76%	82%
The 24/7 availability of system operators to respond to outages	77%	80%
The online self-serve options for managing your account	63%	69%
The online self-serve options for request services	56%	57%

Base: An aggregate of respondents from 2018 participating LDCs / total respondents from the local utility |
 Hours: Ontario LDCs 8:30 am to 4:30 pm, Hydro Ottawa 8:00 am to 8:00 pm and Saturdays 9:00 am to 3:00 pm





Convenience of Services Score

Based on customer responses, Hydro Ottawa has rated 80% for Convenience of Services while Ontario LDCs rated 79%.

Credibility & Trust Index

As society becomes more complicated and complex, the opportunities for failure increase. A key to healthy relationships with customers is to be trusted, trustworthy and credible. Hydro Ottawa Credibility & Trust score is 85% while the Ontario benchmark is 80% and the National benchmark is 81%.

Customer Experience Performance rating (CEPr)

Do customers believe they will have a good experience if/when they do contact their LDC? Or do they believe they must prepare for 'war'? Of course, subject matter and customer affinity levels play a role in determining how a customer might prepare for interaction with a professional at Hydro Ottawa.



Customer Experience Performance rating (CEPr)			
	Hydro Ottawa	National	Ontario
CEPr: all respondents	87%	84%	83%

Base: total respondents





Ensuring that the customer experience is a good one, requires high quality services and well-trained people. Survey respondents gave Hydro Ottawa excellent operational and representative scores.

Operational Attributes			
	Hydro Ottawa	National	Ontario
Provides consistent, reliable energy	93%	89%	90%
Quickly handles outages and restores power	91%	87%	86%
Accurate billing	89%	86%	87%

Base: total respondents with an opinion

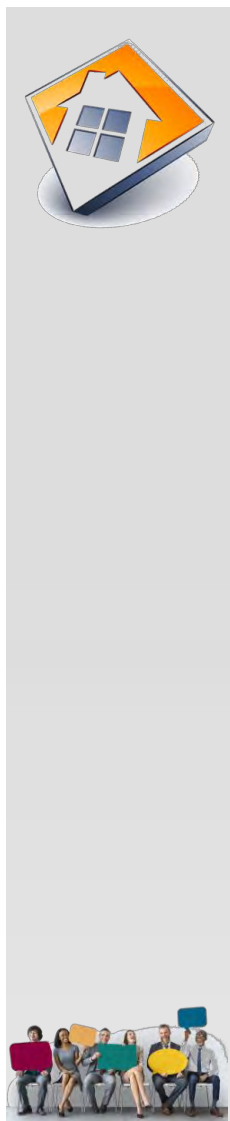
Representative Attributes			
	Hydro Ottawa	National	Ontario
Deals professionally with customers' problems	88%	83%	82%
Is 'easy to do business with'	85%	82%	82%
Customer-focused and treats customers as if they're valued	83%	80%	79%

Base: total respondents with an opinion

Customer Centric Engagement Index

The term "customer engagement" is used by many but understood by few. The purpose of customer engagement is to have two-way interactions which build understanding between the stakeholders and stronger





professional business-like relationships. Customers who are highly engaged are more inclined to look past costs and money issues and be more supportive of what the LDC wants to do or accomplish.

As we have stated in previous reports: Customer Engagement is about how customers think, feel and act towards the organization. Ensuring customers respond positively requires they be rationally satisfied with the services provided AND emotionally connected to the LDC and its brand.

Utility Customer Centric Engagement Index (CCEI)			
	Hydro Ottawa	National	Ontario
CCEI	84%	81%	80%

Base: total respondents

Customer Satisfaction

By itself, this metric is not good enough to gain a picture of how well an LDC is doing but it is a measure about whether the LDC is “doing the job” as expected. However, without satisfaction, there is no gateway to loyalty.

SATISFACTION SCORES – Electricity customers’ satisfaction			
Top 2 Boxes: ‘very + fairly satisfied’	Hydro Ottawa	National	Ontario
PRE: Initial Satisfaction Scores	94%	91%	91%
POST: End of Interview	93%	91%	89%

Base: total respondents



The real prize is in the development of a relationship with customers. More good things exist when a customer has a high affinity for the LDC than when they dislike it. At Risk customers are more likely to complain than other customers when there are issues. Secure customers are more likely to support the direction of their LDC.

Loyalty Groups

Customer Loyalty Groups				
Hydro Ottawa	Secure	Favorable	Indifferent	At Risk
2018	32%	15%	46%	7%

Base: total respondents

In the monopoly world of the LDC, loyalty is an attitudinal metric. In private industry, it is a behavioural metric.

Customer Commitment

Electricity customers' loyalty – ... Is a company that you would like to continue to do business with			
	Hydro Ottawa	National	Ontario
Top 2 Boxes: 'Definitely + Probably' would continue	84%	80%	78%

Base: total respondents

Customer Advocacy

Electricity customers' loyalty – ... is a company that you would recommend to a friend or colleague			
	Hydro Ottawa	National	Ontario
Top 2 boxes: 'Definitely + Probably' would recommend	79%	76%	70%

Base: total respondents





UtilityPULSE Report Card®

The purpose of the UtilityPULSE Report Card is to provide electric utilities with a snapshot of performance – on the things customers deem to be important.

Hydro Ottawa's UtilityPULSE Report Card®				
Performance				
	CATEGORY	Hydro Ottawa	National	Ontario
1	Customer Care	A	B+	B+
	Price and Value	B+	B	B
	Customer Service	A	A	B+
2	Company Image	A	B+	B+
	Company Leadership	A	B+	B+
	Corporate Stewardship	A	A	B+
3	Management Operations	A	A	A
	Operational Effectiveness	A	A	A
	Power Quality and Reliability	A+	A	A
OVERALL		A	A	B+

Base: total respondents



Looking to the future, where to from here?

Technological advances, social disruptions, and other issues will continue for everyone in the LDC industry. Fixing the ills of yesterday are not possible, but instilling confidence that the LDC can handle future customer needs & wants strengthens the customer-supplier relationship. By engaging stakeholders and obtaining their input in undertaking a priority planning process helps to build "prepared minds"—that is, to make sure that the LDC decision makers have a solid understanding of customer priorities, and what the business might need to change or make investments in.

High priority items based on information taken from our UtilityPULSE database include: 'Pro-actively maintaining and upgrading equipment,' 'Reducing response times to outages,' and 'Investing more in the electricity grid to reduce outages and to increase reliability and safety.'

The high scoring attributes demonstrate Hydro Ottawa's operational effectiveness, while the low scoring attributes point to a need for more marketing communications and/or PR types of activities.

Highest scoring attributes

High scoring attributes			
Top 2 Boxes: 'Strongly + Somewhat agree'	Hydro Ottawa	National	Ontario
Provides consistent, reliable electricity	93%	89%	90%
Makes electricity safety a top priority for employees and contractors	91%	87%	86%
Quickly handles outages and restores power	91%	87%	86%
Has a standard of reliability that meets expectations	92%	88%	88%

Base: total respondents with an opinion





Lowest scoring attributes

Low scoring attributes			
Top 2 Boxes: 'Strongly + Somewhat agree'	Hydro Ottawa	National	Ontario
Spends money prudently	77%	73%	66%
Operates a cost-effective electricity system	76%	70%	71%
Provides good value for your money	75%	72%	71%
Cost of electricity is reasonable when compared to other utilities	65%	66%	61%

Base: total respondents with an opinion

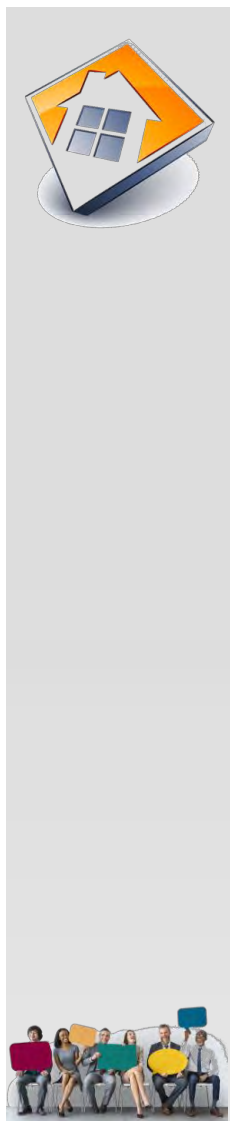
Paying for electricity

Fall 2018 data shows dramatic changes in customers' ability to pay. Whether the change is due to price reductions, or anticipated price reductions, or a better economy, is unclear. Ability to pay is highly correlated to satisfaction. The number one billing problem, for 20 years, is "the amount is too high."

Is paying for electricity a worry or a major problem?				
	Not a worry	Sometimes	Often	Depends
Hydro Ottawa	78%	16%	4%	0%
National	71%	18%	7%	0%
Ontario	68%	21%	8%	1%

Base: total respondents





Numbers at a Glance

	Hydro Ottawa	National	Ontario
Customer Satisfaction: Initial	94%	91%	91%
Customer Satisfaction: Post	93%	91%	89%
Communication Score	80%	--	79%
Overall Satisfaction with the most recent experience	77%	78%	77%
Convenience of Services Score	80%	--	79%
Customer Experience Performance Rating (CEPr)	87%	84%	83%
Customer Centric Engagement Index (CCEI)	84%	81%	80%
Credibility & Trust Index	85%	82%	81%
UtilityPulse Report Card®	A	A	B+

Over the past 5-6 years LDCs have witnessed their customers move from being concerned about costs, to worried about cost, to being upset about costs and being angry about costs – and now returning to what we believe is a concern about costs. From a human nature point-of-view, when people are angry, they tend to look back in time to find someone or something to blame for their predicament. Now that customers have returned to being concerned, they are more apt to be looking forward while putting more focus on identifying and determining how they might handle future issues. The data from our Fall 2018 interviews with over 9,000+ customers shows there is support for making pro-active investments in reliability, outage restoration, outage management, and communications.



We believe, for many in society, from 2008 to mid-2017 survival was the key goal less so in 2018. The outlook for the economy is better; wages are improving and, job openings are more plentiful – therefore putting more focus on the future.

The good news is Hydro Ottawa remains what we call an influential brand company. The safe, reliable distribution of electricity to homes and businesses is a job which makes life better, more interesting and meaningful for consumers and customers. As a company which affects the daily life of people and businesses – an influential brand – it must consistently demonstrate that it is credible, trusted, future-oriented, cares about customers, cares about safety, cares about the environment, is professional, has high standards and is a valued corporate citizen.



The industry is far more complex today than it was 20 years ago when we conducted the 1st Annual Customer Satisfaction survey for electric utilities. Data shows that being customer-centric is important for ensuring future success of the LDC. Customers want respect.

We recommend leveraging the results from your 2018 customer satisfaction survey by having meaningful conversations with everyone about your customers' – satisfaction, concerns, wants, etc. LDCs with a constructive employee culture with high levels of employee engagement and empowerment will have an easier time defining a future path forward.



Sid Ridgley
Simul/UtilityPULSE
Email: sridgley@simulcorp.com

November 2018



Good things happen when workplaces work. You'll receive both strategic and pragmatic guidance about how to improve Customer satisfaction & Employee engagement with leaders who lead and a front-line which is inspired. We provide training, consulting, surveys, diagnostic tools, and keynotes. The electric utility industry is a market segment we specialize in. Both large and small utilities have received actionable insights. For 20 years we have been talking to 1000's of utility customers in Ontario and across Canada and we have expertise which is beneficial to every utility.

**Culture, Leadership & Performance –
Organizational Development**

Leadership development

Strategic Planning

Teambuilding

Organizational Culture Transformation

**Focus Groups, Surveys, Polls,
Diagnostics**

Diagnostics ie. Change Readiness, Leadership
Effectiveness, Managerial Competencies

Surveys & Polls

Customer Satisfaction and Loyalty
Benchmarking Surveys

Organization Culture Surveys

Customer Service Excellence

Service Excellence Leadership

Telephone Skills

Customer Care

Dealing with
Difficult Customers

Benefit from our expertise in Customer Satisfaction, Leadership development, Strategy development or review, and Front-line & Top-line driven-change. We're experts in helping you assess and then transform your organization's culture to one where achieving goals while creating higher levels of customer satisfaction is important. Anyone can present data, or design programs – we believe having an understanding of the industry before doing so is crucial. Call us when creating an organization where more employees satisfy more customers more often, is important.

Your personal contact is:

Sid Ridgley, CSP

Phone: (905) 895-7900 x 29 E-mail: sridgley@simulcorp.com



Hydro Ottawa

2018 Electric Utility Large Customer Satisfaction Survey



November 2018

The purpose of this report is to profile the connection between Hydro Ottawa and its customers.

The primary objective of the Large Customer Electric Utility Customer Satisfaction Survey is to provide information that will support discussions about improving customer care at every level in your utility.

The UtilityPULSE Report Card® and survey analysis contained in this report are intended to provide data and information that will help guide your decisions for making improvements to your operations.

This survey report is privileged and confidential material, and no part may be used outside of Hydro Ottawa without written permission from UtilityPULSE, the electric utility survey division of Simul Corporation.

All comments and questions should be addressed to:

Sid Ridgley, UtilityPULSE division, Simul Corporation

Tel: 905-895-7900 x 29

Email: sidridgley@utilitypulse.com or sridgley@simulcorp.com

Connections...Large Customer Survey

[General Service (50-4999 kW)]

As society becomes more complicated and complex, the opportunities for failure increase. We believe this statement is fundamentally true for all commercial enterprises. Every industry is facing changes in customer behaviour and expectations causing LDCs to take a look at the type, quality and timeliness of communications with their customers. No easy task.

Also, there are many structural and technological changes taking place in the electricity industry adding more complication to being able to look after individual customer needs. For example, LDC professionals are getting, (and will get many more), questions about energy storage, energy analytics, etc. The LDC isn't in the energy storage or energy analytics business, but LDC professionals will be asked to provide comment. How LDC professionals answer these questions are what we call a "moment of truth," i.e., does the LDC care about the issues the customer faces? Your large(r) commercial (LC) respondents scored 90% compared to the UtilityPULSE (UP) database of 88% on the attribute of being knowledgeable, professional and courteous.

What hasn't changed for large(r) commercial (LC) customers is the two major concerns of cost impact and reliability. However, effective communications – especially during emergency situations – is becoming more important than in previous years. Being pro-active on the communication front with LC customers is valued. LC respondents valued pro-active communications and gave Hydro Ottawa a score of 83% (Top 2 boxes) for doing so.

Despite the robust nature of the current economy, reducing costs, improving the bottom line, being competitive or gain a competitive advantage and watching their environmental impact remain a priority focus for most LC customers. The number one reason from the Fall 2018 Large Commercial Customer survey cohort of respondents wanting to have their LDC contact them was to discuss the cost of power and how to reduce it.

Your survey conducted from September 20 to October 10, 2018 contains feedback from 250 one-on-one telephone interviews with individuals who have the responsibility to interact with the utility in the event of a power outage. To enrich your survey results we have included data from our UtilityPULSE LC Ontario database of customer surveys completed over the past 12 months.



The core of the job at Hydro Ottawa is to operate efficiently by safely and reliably delivering high-quality electricity to its customers. But that is not all LC customers expect. They also expect LDC representatives to effectively deal with a wide range of subjects of interest to the client. We continue to encourage LDCs to adopt a robust “major account management” methodology for supporting LC customers. Findings for operational and representative attributes for Hydro Ottawa include:

Operational Attributes		
	Hydro Ottawa	UP Database
Provides consistent, reliable energy	92%	90%
Quickly handles outages and restores power	92%	87%
Accurate billing	89%	85%

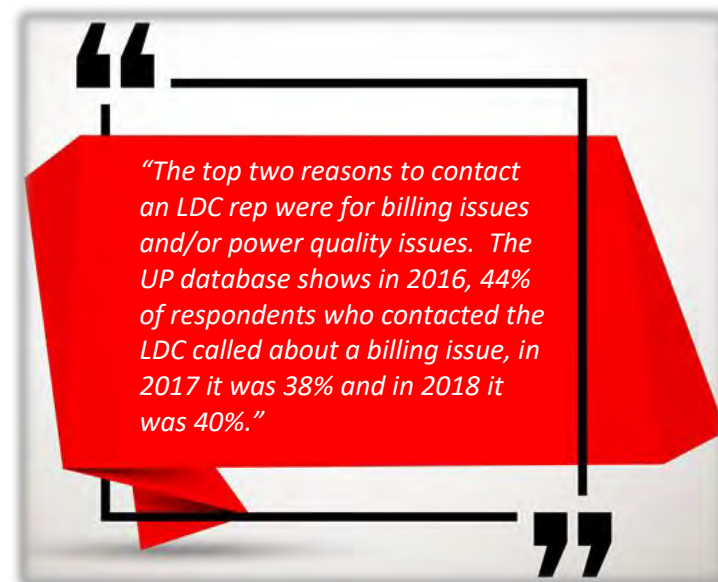
Base: total Large Customer respondents with an opinion

Representative Attributes		
	Hydro Ottawa	UP Database
Representatives are knowledgeable, professional and courteous	90%	88%
Is ‘easy to do business with’	87%	86%
Customer-focused and treats customers as if they’re valued	84%	83%

Base: total Large Customer respondents with an opinion

Hydro Ottawa's Large business customers can be both impatient and demanding when there are issues with the safe, reliable delivery of electricity. Survey respondents gave a score of (90%) for 'consistently delivering on its service commitments' and a score of (94%) on the attribute of 'adapting well to changes in customer expectations'.

While LCs may only represent a tiny fraction of the customer base, the amount of the total kWh used by LCs in the LDCs geographic territory is huge. The path to high levels of satisfaction is to recognize the importance of a "B" to "B" relationship.



Numbers at a Glance

	Hydro Ottawa	UtilityPULSE Database
Customer Satisfaction: Initial	94%	93%
Customer Satisfaction: Post	95%	93%
Overall Satisfaction with the most recent experience	88%	84%
Customer Experience Performance Rating (CEPr)	89%	86%
Customer Centric Engagement Index (CCEI)	88%	85%
Credibility & Trust Index	88%	85%

Base: total Large Customer respondents

New for 2018, respondents were asked to comment on the priority level of the implementation or execution of 17 different initiatives/projects which encompass operational aspects and/or financial commitment.

A focus on priorities can lower risk, increase efficiency and optimize resource utilization - resulting in faster deliveries of key requirements. Where things can go downhill is when the LDC either misunderstands a customer's priorities or fails to manage what they know are priority issues. A better understanding of priorities gives the LDC the opportunity to focus its limited resources better and to prepare knowledgeable answers to questions about LC priorities.



Based on the responses received from Large Customer survey respondents for Hydro Ottawa, the top 5 initiatives which were given **high priority** ('very high + high') rating within the next 5 years are as follows:



- | | |
|---|-----|
| 1- Maintaining and upgrading equipment | 88% |
| 2- Reducing response times to outages | 87% |
| 3- Investing more in the electricity grid to reduce outages | 86% |
| 4- Providing expertise to commercial customers regarding changes in energy technology | 76% |
| 5- Educating the public as it relates to electricity safety | 75% |

Based on the responses received from Large Customer survey respondents, the following 5 initiatives are those which were given the **lowest priority** ('low + very low') by Hydro Ottawa ratings within the next 5 years:



- | | |
|--|-----|
| 1- Making better use of social media (such as Twitter, Facebook, etc.) | 36% |
| 2- Developing a SMART phone application to allow you to view usage and pay your bill | 26% |
| 3- Providing more self-serve services on the website | 23% |
| 4- Providing sponsorships to local community causes | 21% |
| 5- Engaging with commercial customers on a more frequent basis | 20% |



LC customers were asked to look ahead down the road 1-2 years and whether they anticipated any changes to their business which would affect electricity consumption by more than 5% in either direction. 27% believed their business would undergo some changes while 70% did not foresee any changes affecting electricity consumption.

Consistent with findings from the Fall 2017 Large Commercial Customer Survey, the Fall 2018 survey tells us that energy storage is continuing to show up on the radar of many organizations. We asked a question about familiarity with this subject matter, and if the respondent was familiar with the subject, then we proceeded with a follow-up question about interest in energy storage. 46% of Hydro Ottawa respondents said they were “very + somewhat familiar” with the subject. 72% of those who said they

were familiar with the subject said they were 'very + somewhat interested' in implementing energy storage in the next 3 years.

The standard deviation calculation, in research, provides some idea about the distribution of scores around the mean (average). Essentially, it is a measure of the extent to which survey respondents agree or disagree with one another. If everyone gave the same score, then the standard deviation would be zero and the agreement would be high (or perfect).

It could be advantageous to have discussions about what may be causing or influencing the wide disagreement in responses given the nature of the following list of attributes.

- 1- Provides good value for your money
- 2- Is a company that you would recommend to a colleague or friend
- 3- Adapts well to changes in customer expectations
- 4- Representative provides a high level of consistency when interpreting policies and regulations
- 5- Customer-focused, treats customers as if they're valued

It is important to have a meaningful two-way dialogue with employees and others in your LDC to leverage results from this survey. Retaining high levels of customer satisfaction and affinity starts with understanding their wants, needs, and priorities.

Sid Ridgley
Simul/UtilityPULSE
Email: sidridgley@utilitypulse.com or sridgley@simulcorp.com
November 2018

Table of contents

	Page		Page
Executive summary	3	Priority Planning	38
Satisfaction (pre & post)	11	Thinking ahead...a look into the future	42
Customer Service	18	Energy Storage	44
- Overall satisfaction with the most recent experience	20		
- Top reasons for contacting the LDC	21		
Customer Experience Performance rating (CEPr)	23		
Customer Centric Engagement Index (CCEI)	26	Appendix A: Recommendations for next time	46
The Loyalty Factor	27	Appendix B: Operational recommendations	47
- Customer commitment	28	Method	49
- Word of mouth	31	About Simul	50
Corporate Image, Credibility & Trust	32		
- Credibility and Trust Index	34		
How can service to customers be improved?	36		

Satisfaction (pre & post)

Customer satisfaction is one dimension for measuring the effectiveness of an enterprise. But focusing on customer satisfaction as a sole measure is not enough to gain a picture of how well an operating unit/enterprise might be doing. Customer satisfaction as a measure is an effectiveness measure (not an efficiency measure) on the historical relationship or delivery of services to clients.

“Satisfaction happens when an enterprise’s core services meet or exceed customer’s needs, wants, or expectations.”

Customer Satisfaction		
	Hydro Ottawa	UP Database
Very satisfied	48%	43%
Fairly satisfied	46%	50%
Neither satisfied nor dissatisfied	1%	1%
Fairly dissatisfied	3%	4%
Very dissatisfied	2%	1%

Base: total Large Customer respondents, may not add to 100% due to rounding

94% of customers said they were **satisfied** with **Hydro Ottawa**. 93% were satisfied in the UP database.

Base: total respondents:
Top 2 Boxes: 'very + fairly satisfied'

A focus on satisfaction prompts an organization to continue to evolve in ways which make sense to those that pay the bills. A focus on satisfaction is a focus on effectiveness in the delivery of service to the customer. Satisfied customers who trust their LDC may be more likely to seek advice, i.e. energy efficiency methods

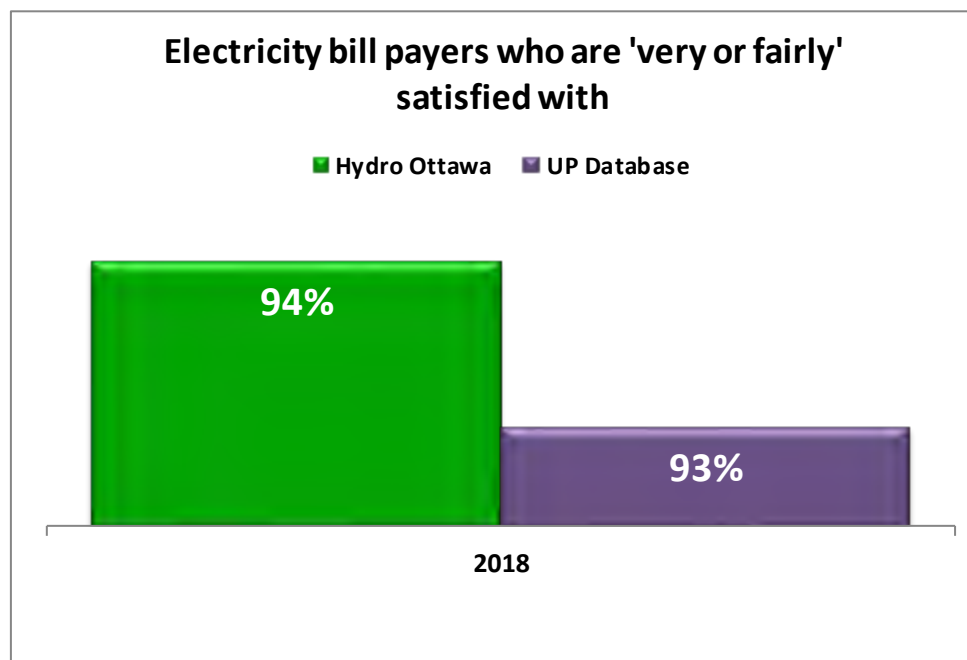


and may be more receptive to important messages, i.e. safety, new capital projects, data analytics, energy storage, etc. Another reason to focus and measure satisfaction is to reduce negative word of mouth.

If customers cannot leave what are the reasons why every LDC should place a premium on satisfying customers? Here are some of the important ones:

- 1- Every enterprise has an obligation to satisfy its customers
- 2- Feedback, when acted upon, is beneficial to all parties
- 3- Different LCs have different needs, one-size certainly doesn't fit all
- 4- Stronger relationships with customers generate higher levels of involvement and participation
- 5- Without satisfaction, it is difficult to inspire LCs to pursue new ideas and possibilities
- 6- Economically, high levels of satisfaction lead to fewer customer complaints and less scrutiny (hence less cost)
- 7- As an effectiveness measure, it prompts discussion about policies, procedures, planning, use of technology, and more
- 8- When things go wrong (and they do), customers with high levels of satisfaction handle the problem far better than customers with very low levels of satisfaction
- 9- For employees, there is a morale boost when working in an organization with a high level of customer satisfaction
- 10- Customers (as well as others) have growing levels of expectations which means the things that satisfy customers today may not tomorrow.

Satisfaction levels with their LDC greatly influence the future behaviour of LCs. In an energy world rife with current and future disruptions, LCs will increasingly be turning to their LDC for advice and counsel.



Base: total Large Customer respondents

In the private sector, customer satisfaction and loyalty are often seen as essential for survival and success.

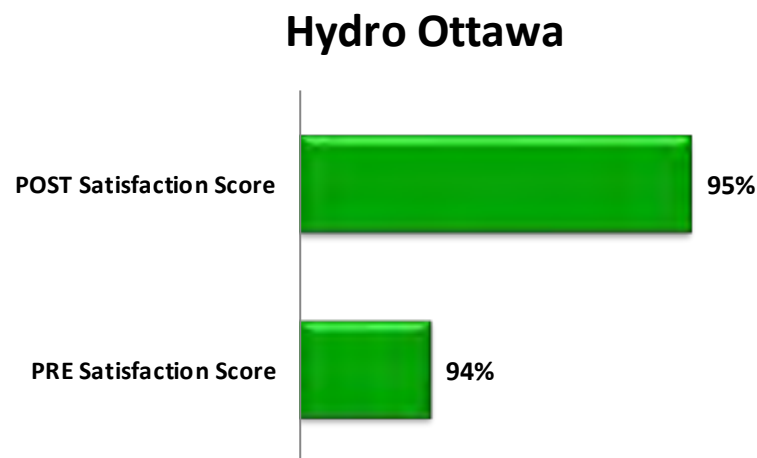
Public sector organizations, especially MUSH sector organizations (municipalities, universities, schools, hospitals), have come to realize that looking after their customers and taking the opportunity to learn from them is key to delivering services which are both effective and efficient.

Large commercial customers are not the same as a residential or small commercial customer. After 20 years of continuous research with electric utility customers, expectations of their electric utility go far beyond “keeping the lights on,” “billing me properly,” and “restoring power quickly.” For LC’s electricity is an input cost for delivering their products or services. The cost of electricity can affect the pricing and profitability of the LC.

Satisfaction happens when utility core services meet or exceed customer's needs, wants, or expectations.

- **Loyalty** occurs when a customer makes an emotional connection with their electric utility on a diverse range of expectations beyond core services. In the monopoly world of the LDC, loyalty is an attitudinal metric.

In the Simul/UtilityPULSE Customer Satisfaction survey, the overall satisfaction question is asked both at the beginning (PRE) and the end (POST). Asking the general satisfaction question at the start of the survey avoids bias, and we obtain a spontaneous rating. This allows measurement of customers' overall impressions of the utility before prompting them to think of specific aspects of the relationship. After we have asked about specific aspects of the customer experience, we gain a more *considered* (or conditioned) response. LCs expect certain things from their electric utility such as being able to get speedy service, professionalism, problem resolution, understanding, and responsiveness.



Base: total Large Customer respondents

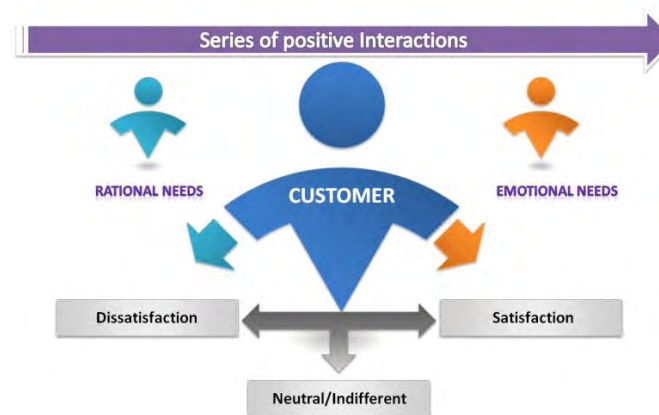
Satisfaction alone does not make a customer loyal; a willingness to commit and advocate for a company along with satisfaction identifies the three basic customer attitudes which underpin loyalty profiles. While

satisfaction is an important component of loyalty, the UtilityPULSE loyalty definition includes attitudinal and emotive components. However, Customer satisfaction is a gateway to earning loyalty.

Customer Satisfaction		
Top 2 Boxes: 'very + fairly satisfied'	Hydro Ottawa	UP Database
Initially	94%	93%
End of interview	95%	93%

Base: total Large Customer respondents

Customers, as human beings, are both rational and emotional. The rational side of the customer holds the LDC accountable for doing its job (as contracted), thereby fulfilling the customer's basic needs. The emotional side of the customer is about fulfilling expectations. Meeting rational needs – at best – gets the customer to a neutral state and at worst creates dissatisfaction. Emotional needs, when met, assuming base level rational needs are met, can move a customer from neutral to higher levels of satisfaction.



Every LDC executive we know, would (probably) raise their hand and say that they believe customer satisfaction is important for business success – even in a virtual monopoly business. Based on our experience most LDCs have been honing their skills at being professional, knowledgeable and efficient

when handling customer problems. While being good at these things continues to be important, it, however, promotes a transaction by transaction orientation. There is growing evidence that LCs appreciate it when LDCs have more than a “buyer-supplier” relationship.

Fostering true loyalty and engagement with customers begins at a basic level. Also, satisfied and engaged employees who work in an organizational culture that promotes service excellence is key for completing the job both efficiently and effectively. After all, employees do more than deliver customer service – they personalize the relationship between the customer and the utility.

One of the most illuminating results of your survey was the relationship between satisfaction and the attribute of Trust and Trustworthiness. When trust is high so is satisfaction, when trust is low so is satisfaction.

Relationship between Satisfaction and the attribute of Trust & Trustworthiness		
	Very + Fairly Satisfied	Fairly + Very Dissatisfied
Hydro Ottawa is a trusted and trustworthy company	97%	57%

Base: total Large Customer respondents

Being dependable, providing consistent and reliable service are crucial components in building trust, throughout every aspect of the service relationship. Actively engaging with customers helps build a stronger and committed alliance.

Trust is a complex judgment a person makes about someone or something. It can be interpersonal – as in the relationship of LDC professionals with their LC customers, and it can be impersonal – such as when there is an outage the LDC will fix it.

Based on our social research the formula for building trust could be expressed as:

Trust = (Credibility + Consistency + Mutual Respect + Candor + Shared Commitments) minus Self-focus



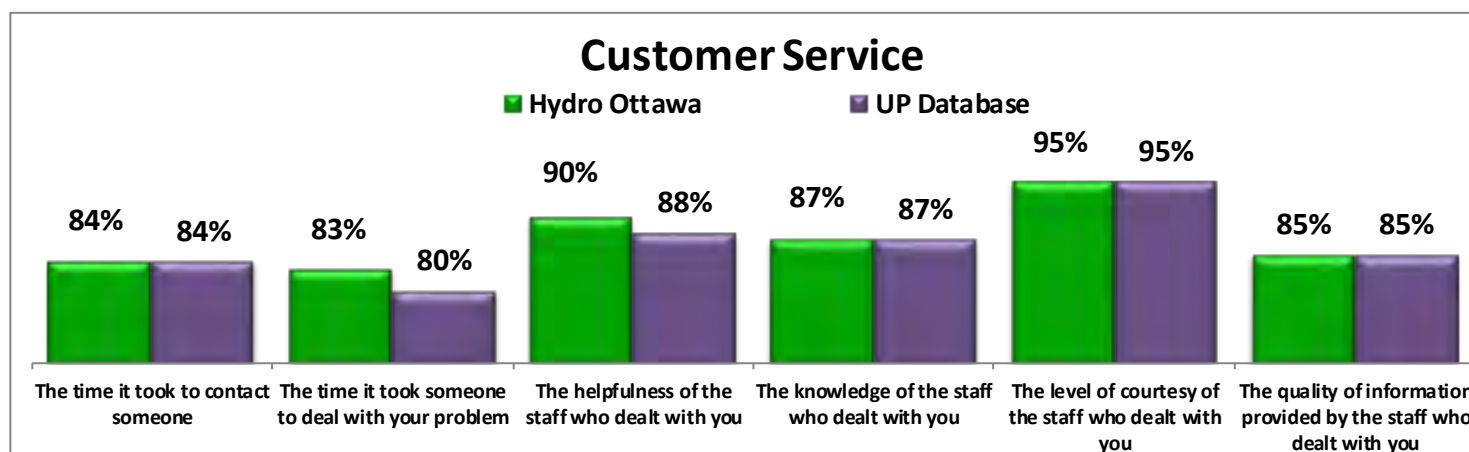
Respondents, who contacted their utility about a problem, were asked about six aspects of their most recent experience with a representative from Hydro Ottawa:

- Information – the quality of information provided
- Staff attitude – the level of courtesy
- Professionalism – the knowledge of staff
- Delivery – the helpfulness of staff
- Timeliness – the length of time it took to get what they needed
- Accessibility – how easy it was to contact someone

Attempts to contact the LDC		
	YES	NO
Did you contact the LDC regarding your problem?	44%	56%

Base: total Large Customer respondents with a problem

Customers value speed and responsiveness especially as it relates to solving problems. The more flexibility you're able to offer and the more empowerment given to employees, the better able employees will be to meet those "speed" and "responsiveness" requirements. Customers benefit, too, when employees can resolve problem issues "on the spot" instead of having to "talk to my manager." A recommendation that we consistently make to all LDC executives is to ensure your company professionals have the empowerment and decision-making authority necessary to make things happen quickly.



Base: total Large Customer respondents with a problem

The survey data shows that 44% of your Large customers contacted the utility about a problem, with 83% of them believing the problem was resolved. When asked about their most recent experience with the utility, 88% of those customers say they are "very and somewhat satisfied" with the way the utility handled their problem.

Overall satisfaction with the most recent experience		
	Hydro Ottawa	UP Database
Top 2 Boxes: 'very + fairly satisfied'	88%	84%

Base: total Large Customer respondents who contacted the utility

There is a difference between fixing a problem and engaging a customer. The key to resolving issues and improving customer engagement is to think beyond problem resolution. Though all customers want a satisfactory resolution to their problem, they are also concerned with how the utility handles that problem. Companies do not absolve themselves by fixing the issue; they do so by taking care of their customers' emotional needs as well.

Do you consider the problem solved?		
	Hydro Ottawa	UP Database
Solved = Yes	83%	78%

Base: total Large Customer respondents who contacted the utility

Top reasons why Large Customers contact their LDC		
	Hydro Ottawa	UP Database
Billing issue	28%	33%
Power quality issue	30%	26%
Maintenance/repair request	9%	9%
Ways to save energy	5%	5%
Account updates	6%	4%
Connect or Disconnect	11%	6%
Get a meter reading	3%	4%
Rebates/incentives for conserving energy	6%	6%
Conditions of service inquiry	6%	2%
Safety issue	2%	2%
Incentive programs	2%	3%
Upgrading services	3%	1%
Account issues	3%	1%

Base: total Large Customer respondents who contacted the utility

The key to effective handling of customer issues is empathy, patience, and consistency. Customer issues may not be easy to handle – ever – but we can say “when customers feel ‘*no one cares*’ that is where rage and outrage exist.”

Your LC survey respondents said they “strongly agree + agree” with the following:

Customer Service attributes:	Hydro Ottawa	UP Database
Customer focused and treats customers as if they're valued	84%	83%
Is pro-active in communicating changes and issues which may affect customers	83%	81%
Is 'easy to do business with'	87%	86%
Representatives provide a high level of consistency when interpreting regulations and policies	84%	82%
Representatives are knowledgeable, professional & courteous	90%	88%

Base: total Large Customer respondents with an opinion

Customers rely on their LDC contact for their knowledge on how best to solve a problem and, they appreciate a representative who will see the problem through to its resolution. When your Large customers are satisfied with the contact they had with a representative, contact satisfaction levels can be equal or higher (95%) than overall customer satisfaction scores; likewise, when customers are less satisfied or dissatisfied with contact satisfaction levels will be lower (54%) than overall scores.

Overall Customer Satisfaction in relation to Satisfaction with contact			
	Overall Customer Satisfaction	Satisfied with contact	Not Satisfied with contact
Top 2 Boxes: 'very + fairly satisfied'	94%	95%	54%

Base: total Large Customer respondents who contacted the utility

Customer Experience Performance rating (CEPr)

The CEPr score is an effectiveness rating and is affected by many dimensions of service. Every touch point with customers on the phone, website or in-person influences what customers think and feel about the organization. While an excellent transaction today creates a positive experience today, the perception created is that future transactions will be excellent too. Of course, a negative transaction creates the perception that future transactions will be negative.

Employee empowerment is a key success factor in aligning with your customers. All employees, front-line and otherwise, need to understand how their jobs and their performance tie in with the customer experience and customer expectations. If employees feel they are valued, enabled and set up for success, they will routinely go the extra mile to help customers realize value, achieve their desired outcome and have the experience they want. Keep in mind every interaction with a customer is an opportunity to strengthen positive perceptions about the LDC.



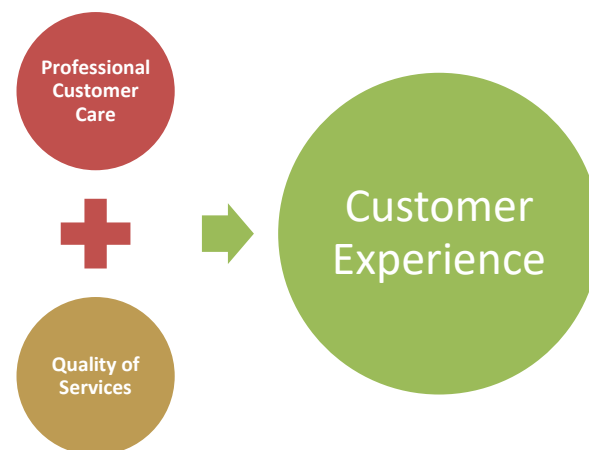
When the customer experience is strong, the opportunity to build loyalty is great. When the experience is a negative one, customers often conclude the organization doesn't care. When a customer believes the organization doesn't care, outrage and anger are a very real possibility

At the heart of the CEPr are 4 central questions:

- Are interactions with the organization professional and productive?
- Is the organization 'easy to deal with'?
- Does the organization effectively meet your needs?
- Does the organization provide high quality services?

Some of the factors which contribute to the overall Customer experience:

- Delivering accessible and consistent customer service
- Understanding customer expectations
- Maintaining timely resolution timelines
- Providing effective communication(s) according to customer needs
- Demonstrating responsiveness
- Speeding up problem resolution
- Conducting problem analysis to prevent recurring issues
- Easy to do business with
- Seeking customer feedback and following through on recommendations



Customer Experience Performance rating (CEPr)		
	Hydro Ottawa	UP Database
CEPr: Professional Customer Care	87%	85%
CEPr: Quality Services	90%	87%
CEPr: Overall	89%	86%

Base: total Large Customer respondents



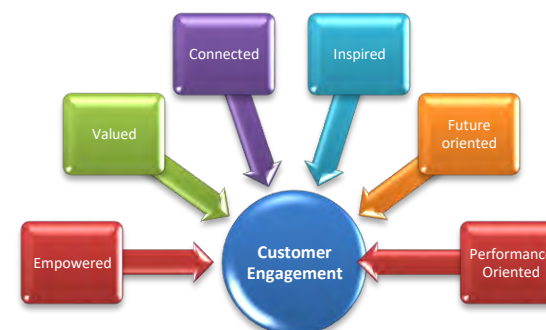
89% of Large customers have a belief that they will have a good to excellent experience dealing with your professionals.



Customer Centric Engagement Index (CCEI)

Customer-centric engagement is a measure of “goodwill” towards the utility. Customers who are less engaged, as measured by the CCEI are more likely to let costs and price impact their perceptions of their LDC. Customers who are highly engaged are more inclined to look past costs and money issues and use a rational approach to make values-based decisions. Highly engaged customers have a stronger emotional connection to your utility. It’s this emotional connection that will drive commitment, collaboration and involvement.

UtilityPULSE has identified the six key dimensions of what defines customer engagement. They are: empowered, valued, connected, inspired, future-oriented and performance oriented. Engagement is more than asking for an opinion or soliciting feedback. Engagement is also: how **customers think, feel and act towards the organization.**



Utility Customer Centric Engagement Index (CCEI)		
	Hydro Ottawa	UP Database
CCEI	88%	85%

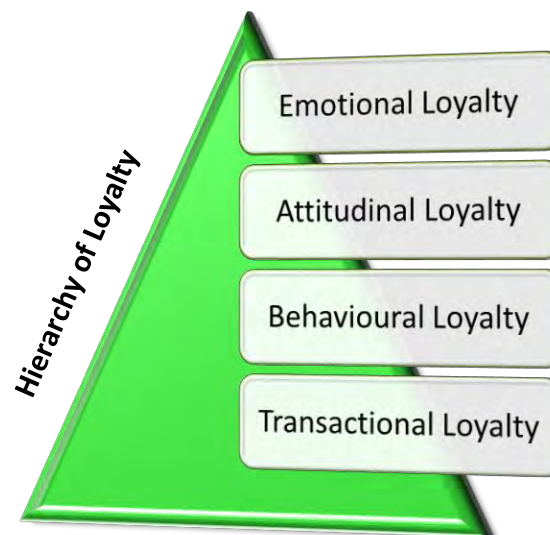
Base: total Large Customer respondents

The Loyalty Factor

Private industry often equates customer loyalty with basic customer retention. If a customer continues to do business with a company, that customer is, by definition, considered to be loyal. Applying this definition to an LDC in the utility industry, means, all customers would automatically be considered loyal. As such, measuring customer loyalty would appear to be unnecessary.

Natural monopolies (like LDCs) are not really different in what they should measure except that trying to determine which customers are “loyal” or “at risk” is not about their future behaviour but more about their “attitudinal” loyalty (are they advocates?).

Perhaps a better or more relevant way for utilities to approach the definition of customer loyalty is to expand further how they think about loyalty. Consider the following definition: Customer loyalty is an emotional disposition on the part of the customer that affects the way(s) in which the customer (consistently) interacts, responds or reacts towards the company – its products & services and its brand.



© UtilityPULSE

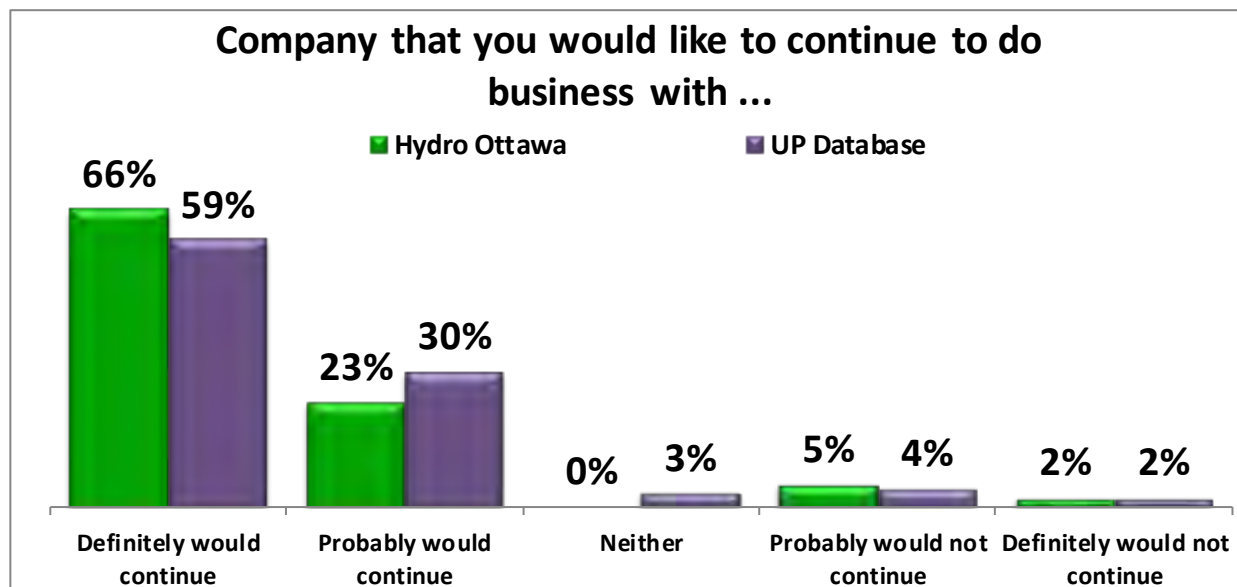
Customer commitment to the local electricity supplier is a very important driver of customer loyalty in the electricity service industry. In a similar way to trust, commitment is considered an important ingredient in successful relationships. In simpler terms, commitment refers to the motivation to continue to do business with and maintain a relationship with a business partner, i.e. the local utility. For electric utilities, this measurement is about identifying the number of customers who feel that they “want to” vs. “have to” do business with you.

Customer Loyalty Model



Electricity customers' loyalty – ... Is a company that you would like to continue to do business with		
	Hydro Ottawa	UP Database
Top 2 Boxes:		
'Agree strongly + agree somewhat'	90%	89%
Agree strongly	66%	59%
Agree somewhat	23%	30%
Neither agree or disagree	0%	3%
Disagree somewhat	5%	4%
Disagree strongly	2%	2%

Base: total Large Customer respondents



Base: total Large Customer respondents

What does it mean to respond favourably to a company? At a basic level, this can mean choosing to remain a customer. As previously mentioned, however, this is essentially a non-issue for many utility companies. It then becomes necessary to think beyond just customer retention. One needs to consider other ways in which customers can respond favourably toward a company.

Other favourable responses or behaviours are classified into one of three categories that reflect the concept of customer loyalty:

- Participation
- Compliance or Influence
- Advocacy

Specific examples of potential participatory behaviour in the electric utility industry include:

- Signing up for programs that help the customer reduce or manage their energy consumption
- Using the utility as a consultant when selecting energy products and services from a third party
- Participating in pilot programs or research studies.

Specific examples of potential compliance or influence behaviours that utility customers might exhibit include:

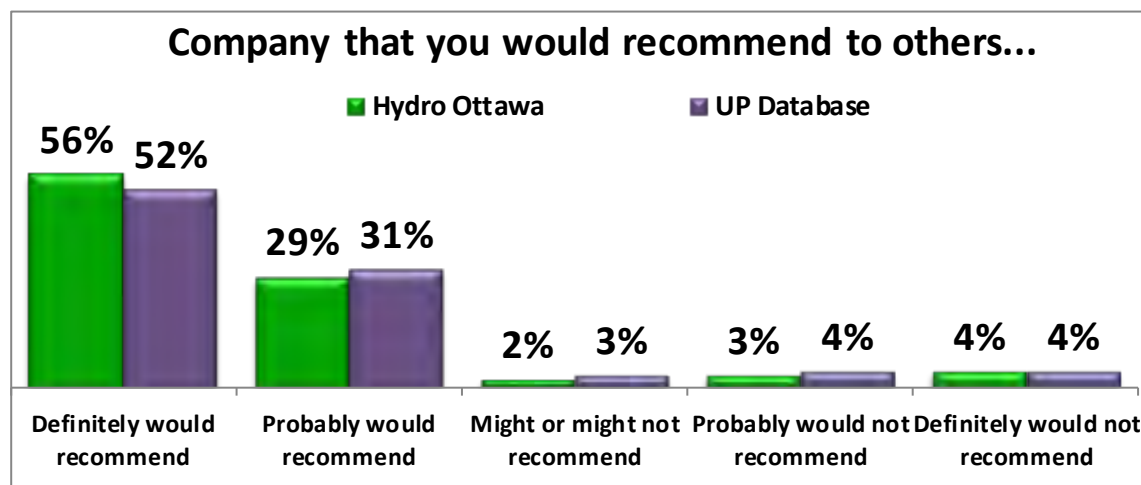
- Seeking the utility's advice or expertise on an energy-related issue
- Voluntarily cutting back on electricity usage if the utility advised the customer to do so
- Accepting the utility's energy advice or referrals to energy contractors or equipment
- Being influenced by the utility's opinion regarding energy- management advice, equipment, or technologies
- Providing personal information
- Paying bills online.

Creating customer advocates can be especially important for a company in a regulated industry. In the absence of customer advocates, or worse, in a situation where customers speak unfavourably about a company or actively work to support issues that are counter to those the company supports, companies can suffer a variety of negative consequences like increased business costs, lawsuits, fines, and construction delays. Specific examples of potential advocacy behaviour include:

- Supporting the utility's positions or actions on energy-related public issues, including the environment
- Supporting the utility's position on the location and construction of facilities
- Providing testimonials about positive experiences with the utility.

Electricity customers' loyalty – ... is a company that you would recommend to others		
	Hydro Ottawa	UP Database
Top 2 boxes:		
'Agree strongly + agree somewhat'	86%	83%
Agree strongly	56%	52%
Agree somewhat	29%	31%
Neither agree or disagree	2%	3%
Disagree somewhat	3%	4%
Disagree strongly	4%	4%

Base: total Large Customer respondents

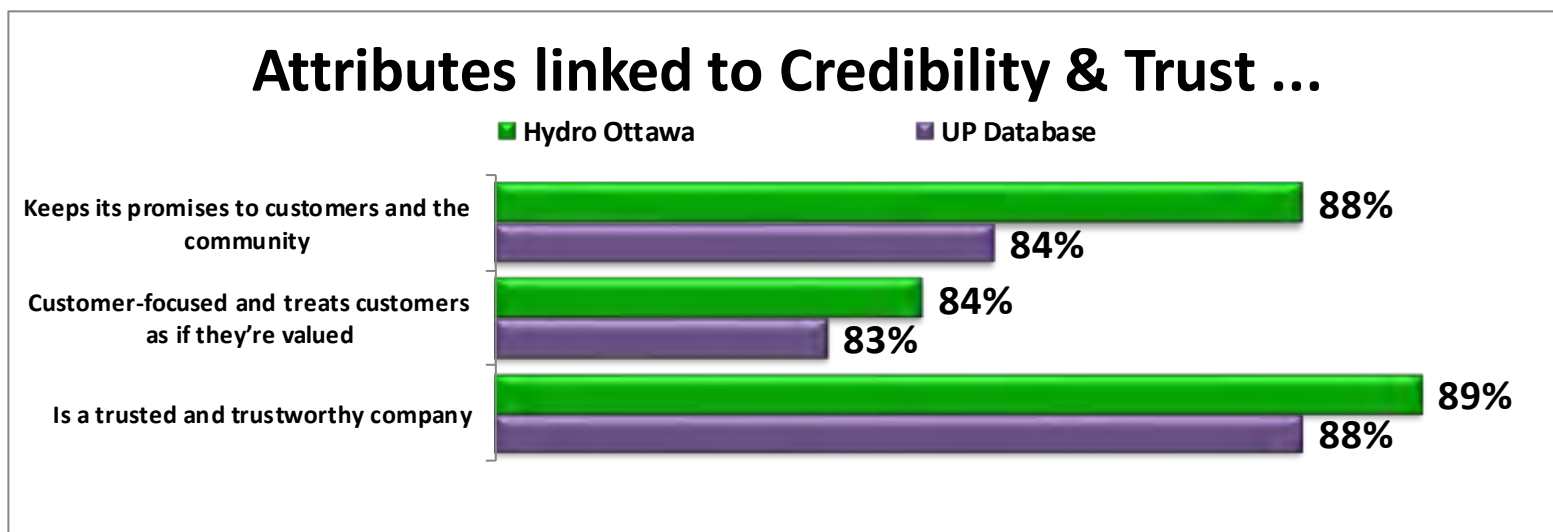


Base: total Large Customer respondents



Corporate image, credibility & trust

What Hydro Ottawa stands for, the way it works with customers, its profile in the industry are all parts of its brand. Throughout our years of research, our data show a direct relationship between a positive brand image and the credibility of the LDC.



Base: total Large Customer respondents with an opinion

Attributes strongly linked to Credibility & Trust		
	Hydro Ottawa	UP Database
Keeps its promises to customers and the community	88%	84%
Customer-focused and treats customers as if they're valued	84%	83%
Is a trusted and trustworthy company	89%	88%

Base: total Large Customer respondents with an opinion

Creating credibility is a process, which advances only through honest, continuous communication between the utility, its regulators, and the public at large.

Pro-active and credible communications from an LDC should do three things for its customers:

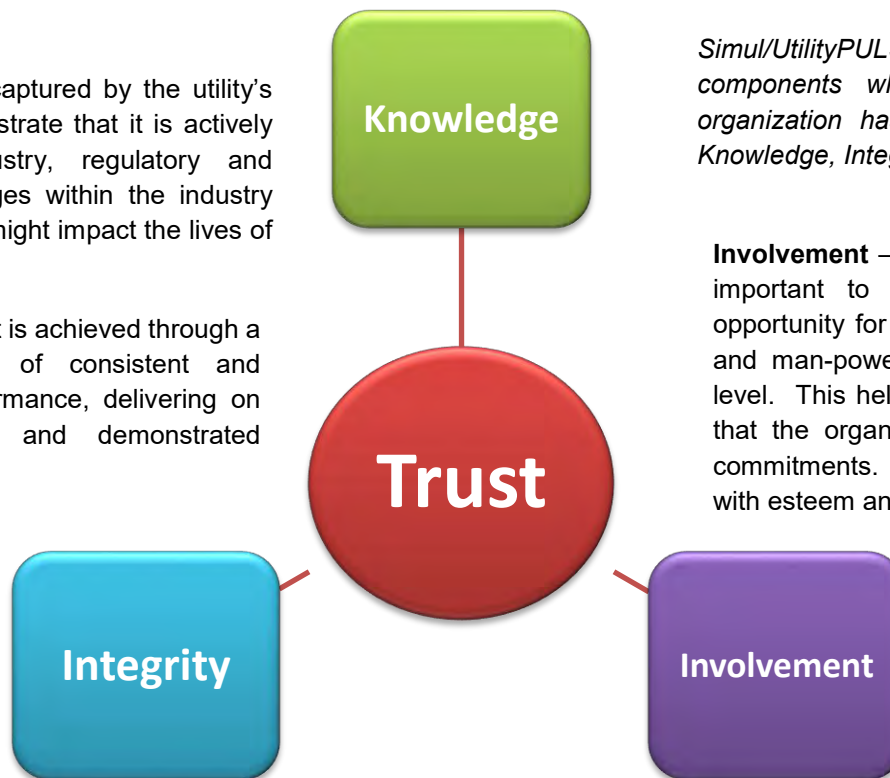
- 1- demonstrate competency
- 2- build confidence and
- 3- show a future orientation.

Trust and credibility are indicators of the degree of confidence stakeholders have in your organization's ability to deliver on its commitments. Trust and credibility are outcomes based on what your utility does, not what it might be doing.

Knowledge is captured by the utility's ability to demonstrate that it is actively aware of industry, regulatory and economic changes within the industry and how these might impact the lives of customers.

Trust — Trust is achieved through a track record of consistent and reliable performance, delivering on commitments and demonstrated accountability.

Integrity is established by demonstrating adherence to a code of conduct. It requires consistently acting in accordance with the values and goals that have been communicated to customers.



Simul/UtilityPULSE research shows the under-pinning components which lead customers to believe an organization has credibility and can be trusted are: Knowledge, Integrity, Involvement and Trust.

Involvement — Corporate Involvement is increasingly important to Canadian communities as it is an opportunity for their local utility to use their resources and man-power to benefit people at the community level. This helps to build credibility as customers see that the organization is acting and delivering on its commitments. This helps customers regard the utility with esteem and respect.

Credibility and Trust Index
Hydro Ottawa 88%
UP Ontario database 85%

Base: total Large Customer respondents

Brand image is the combination of customers' levels of awareness and association with the enterprise. It constitutes what customers *think* of the LDC's overall brand and what customers *feel* about the LDC based on impressions received about or interactions made with the LDC. The brand image then is built on name recognition and the belief of the organization's ability to live up to its brand promises.

Attributes strongly linked to a hydro utility's image		
Top 2 Boxes: 'strongly agree + agree'	Hydro Ottawa	UP Database
Customer focused and treats customers as if they're valued	84%	83%
Is pro-active in communicating changes & issues that may affect customers	83%	81%
Is 'easy to do business with'	87%	86%
Accurate billing	89%	85%
Delivers on its service commitments to customers	90%	87%
Keeps its promises to customers and the community	88%	84%
Is a trusted and trustworthy company	89%	88%

Base: total Large Customer respondents with an opinion

Every LDC has a brand and a brand image. While that image is affected by events in the industry beyond the control of the LDC, the reality is there is a cost benefit to improving the customer experience, generating higher levels of customer engagement and growing the loyalty, i.e., affinity level with your customers. Customers expect their LDC will conduct its business professionally **AND** be a proactive enterprise.

How can service to customers be improved?

Business success and survival hinges on an organization's ability to continuously improve everything it does. Your Large customers were asked for their input on service improvements. Using their responses as a guide will help you to identify which services you are offering are meeting your business objectives or addressing your customers' needs.

In addition, Hydro Ottawa should:

- Identify process bottlenecks so that you can make changes to drive service improvement
- Report key over and under performance indicators to all levels of your organization to help everyone focus on meeting your committed service levels
- Make business service data immediately accessible and actionable so that you can confidently make business decisions
- Invest to help employees succeed. By and large, employees want to perform well at their jobs. But improvements will be slow or nonexistent if people are dealing with outdated tools or policies that hinder them from delivering optimal performance.



Here is what some of your Large customers had to say:

And we are interested in knowing what you think are the one or two most important things 'your local utility' could do to improve service		
	Hydro Ottawa	UP Database
Better prices / lower prices	27%	24%
Improve billing / simplify the bill	10%	8%
Better communication i.e., notice of work	10%	8%
More information during outages	8%	6%
Restore power faster	7%	16%
Faster customer service response times	7%	7%
Better maintenance	5%	5%
Upgrade infrastructure	5%	5%
More energy conservation information	4%	6%
Improve website	4%	4%
Know your customers/more personal interaction	3%	3%
Bury overhead wires	3%	1%
Provide information on electricity generation	3%	2%
More knowledgeable staff	2%	4%
Satisfied / no problem	16%	21%

Base: total Large Customer respondents who made recommendations

Priority Planning

In the 2018 Large Customer survey, LDCs reached out to their Large Customers for comments on prioritizing various operational activities and financial investments. In today's highly competitive business environment, it is critical to gain a clearer picture and focus on what is important, versus checking things off down a list. By engaging stakeholders and obtaining their input in undertaking a priority planning process helps to build "prepared minds"—that is, to make sure that the LDC decision makers have a solid understanding of the business, potential strategies to be employed, and work to fill in any assumptions behind that strategy. Making it possible for LDC executives, managers and staff to respond swiftly to challenges and opportunities as they occur in real time.

A focus on priorities can lower risk, increase efficiency and optimize resource utilization - resulting in faster deliveries of key requirements.

Respondents were asked to comment on the priority level of the implementation or execution 17 different initiatives/projects which encompass operational aspects and/or financial commitment.



Priority Planning within the next 5 years		
Top 2 Boxes: 'very high + high priority'	Hydro Ottawa	UP Database
Maintaining and upgrading equipment	88%	89%
Reducing response times to outages	87%	90%
Investing more in the electricity grid to reduce outages	86%	86%
Providing expertise to commercial customers regarding changes in energy technology	76%	72%
Educating the public as it relates to electricity safety	75%	74%
Investing in projects to reduce the environmental impact of the utility's operations	73%	76%
Coordinating infrastructure planning with commercial customers	73%	72%
Educating customers about energy conservation	72%	74%
Investing more in tree trimming to help reduce the number of outages	71%	74%
Improving power quality	70%	74%
Burying overhead wires	64%	61%
Exhibiting strong leadership in the electricity industry	60%	59%
Developing a SMART phone application to allow you to view usage and pay your bill	52%	48%
Providing sponsorships to local community causes	48%	48%
Engaging with commercial customers on a more frequent basis	48%	50%
Providing more self-serve services on the website	43%	46%
Making better use of social media (such as Twitter, Facebook, etc.)	34%	28%

Base: total Large Customer respondents

Priority Planning for the next 5 years		
Bottom 2 Boxes: 'low + very low priority'	Hydro Ottawa	UP Database
Making better use of social media (such as Twitter, Facebook, etc.)	36%	35%
Developing a SMART phone application to allow you to view usage and pay your bill	26%	25%
Providing more self-serve services on the website	23%	22%
Providing sponsorships to local community causes	21%	22%
Engaging with commercial customers on a more frequent basis	20%	19%
Burying overhead wires	18%	13%
Exhibiting strong leadership in the electricity industry	13%	12%
Educating customers about energy conservation	11%	9%
Improving power quality	11%	7%
Investing more in tree trimming to help reduce the number of outages	10%	9%
Investing in projects to reduce the environmental impact of the utility's operations	10%	8%
Providing expertise to commercial customers regarding changes in energy technology	10%	9%
Educating the public as it relates to electricity safety	9%	10%
Coordinating infrastructure planning with commercial customers	8%	8%
Investing more in the electricity grid to reduce outages	4%	5%
Maintaining and upgrading equipment	4%	3%
Reducing response times to outages	4%	3%

Base: total Large Customer respondents

Based on the responses received from Large Customer survey respondents for Hydro Ottawa, the top 5 initiatives which were given **high priority** ('very high + high') rating within the next 5 years are as follows:

- | | |
|---|-----|
| 1- Maintaining and upgrading equipment | 88% |
| 2- Reducing response times to outages | 87% |
| 3- Investing more in the electricity grid to reduce outages | 86% |
| 4- Providing expertise to commercial customers regarding changes in energy technology | 76% |
| 5- Educating the public as it relates to electricity safety | 75% |



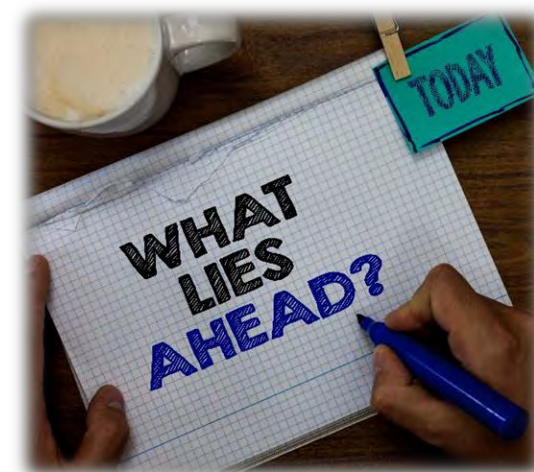
Based on the responses received from Large Customer survey respondents, the following 5 initiatives are those which were given the **lowest priority** ('low + very low') by Hydro Ottawa ratings within the next 5 years:

- | | |
|--|-----|
| 1- Making better use of social media (such as Twitter, Facebook, etc.) | 36% |
| 2- Developing a SMART phone application to allow you to view usage and pay your bill | 26% |
| 3- Providing more self-serve services on the website | 23% |
| 4- Providing sponsorships to local community causes | 21% |
| 5- Engaging with commercial customers on a more frequent basis | 20% |



Thinking ahead... a look into the future

Looking through the microscope while simultaneously looking through the telescope is what helps companies be more relevant & successful today while they prepare to be successful again “tomorrow” in a changed world. Though there are many factors which can affect the level of consumption for larger customers, your 2018 survey did ask respondents about the future.



...Thinking ahead over the next 1-2 years do you anticipate any changes to your business that would affect electricity consumption more than 5% up or down?		
	Hydro Ottawa	UP Database
Yes	27%	30%
No	70%	65%
Not at liberty to say	0%	0%
Don't know	3%	5%

Base: total Large Customer respondents

For those who did anticipate a change of more than 5% up or down:

...Could you tell us what might cause this change to electricity consumption...		
	Hydro Ottawa	UP Database
Business is growing	13%	27%
New machinery/change equipment	9%	11%
More work (e.g., products and services are being added)	6%	12%
More efficient lighting	22%	11%
Implementing conservation measures	34%	19%
Generating own electricity	4%	4%
More space	4%	-
Business is falling off	3%	1%
Moving to another location	3%	1%
Costs	10%	4%
Downsizing	0%	2%
Retro-fits	4%	3%
Other	7%	8%
Don't know	1%	3%

Base: total Large Customer respondents

Energy Storage

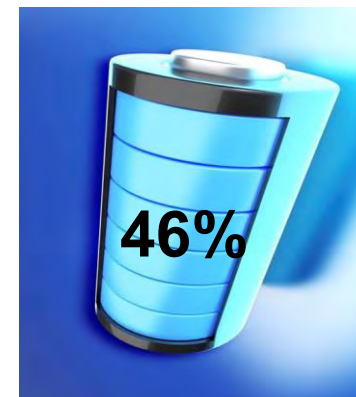
Definition: Energy storage is the capture of energy produced at one time for use at a later time.

Energy storage is something that more and more LCs are thinking about. Battery storage technologies along with other energy storage equipment seem to be going from being unfamiliar and novel to being known and economically sensible. The ability to fill up batteries with power (from off-peak times) for peak-shifting and storing production seems to be gaining the interest of consumers and operators alike.

“Prior to this interview how familiar are you with the subject of energy storage?”

Familiarity with energy storage such as batteries and other equipment		
	Hydro Ottawa	UP Database
Very familiar	11%	12%
Somewhat familiar	36%	34%
Neither familiar or unfamiliar	0%	0%
Not too familiar	29%	30%
Not at all familiar	24%	24%
Don't know	0%	0%

Base: total Large Customer respondents, may not add to 100% due to rounding

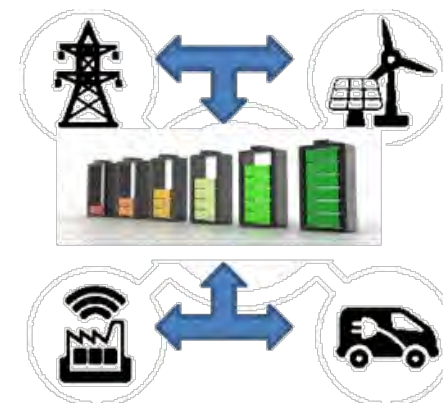


are familiar with energy storage such as batteries and other equipment.

Base: total Large Customer respondents:
 Top 2 Boxes: 'very + somewhat familiar'

Your LC survey respondents were asked about their familiarity with energy storage technologies: 46% of respondents indicated they were either "very or somewhat familiar" vs 46% in the UP database, 53% were "not at all or not too familiar" vs 54% in the UP database.

If utilities could store power during periods of low demand, then release it during peak times it would save a considerable sum of money on capital costs, while also smoothing out frequency variations and providing voltage support. Same could be said for business owners; valuable energy can be saved by storing surplus electricity in an energy storage system, and using it when needed. Also, a business energy storage system could act as a substitute for emergency generators during a power outage. Your LC respondents who indicated they had some familiarity with the subject of energy storage were asked about their interest in implementing energy storage in the next 3 years:



72% responded they were interested (“very + somewhat interested”) vs. 66% in the UP database, while 26% expressed disinterest (“definitely + somewhat not interested”) vs. 31% in the UP database.

Interest in implementing energy storage in the next 3 years		
	Hydro Ottawa	UP Database
Very interested	27%	24%
Somewhat interested	46%	42%
Neither interested or uninterested	0%	1%
Somewhat not interested	9%	12%
Definitely not interested	16%	19%



72% are interested in implementing energy storage in the next 3 years.

Base: total Large Customer respondents who were familiar with energy storage, may not add to 100% due to rounding

Appendix A: Recommendations for your next Large Customer Survey

History and experience tell us this group of customers are notoriously difficult to connect with and to do a survey with. Anyone in a managerial or professional position, in any company, is time-pressed. To improve the willingness of prospective respondents to participate in future LC surveys we recommend:

1. Continuously improving the quality of customer information contained in your system remains a highly important activity. We recommend conducting a verification check, at least annually.
2. Set up a system to send a pre-notification letter/postcard/email to customers or a department (if the name is unknown) letting them know about the upcoming survey and how they could go about updating their contact information; when the survey is conducted again in the future.
3. Where Hydro Ottawa has assigned major accountant customer responsibilities to specific personnel, consider having them reach out to their assigned accounts before conducting the next survey.
4. Send out a “thank you for participating in the survey” memo/letter/email with some highlights.
5. Track LC customer inquiries to help shape questions in future surveys.

Appendix B: Operational Recommendations:

- 1- [from 2017] Key-account management principles continue to evolve. A review of strategies, policies, and standards can be a productive exercise. Continue to review your definition of Key Accounts and then refine your Key Account Management (KAM) strategy & goals.
- 2- Update formal visitation standards, i.e., who visits which companies with a focus on both subject matter and frequency of the visit.
- 3- We recommend updating industry segment information for your LCs. Over time, and as customer information systems become more robust, client issues & comparisons could be generated by industry segment.
- 4- As stated in the body of the report, attributes with the highest “don’t know” answers or largest standard deviations represent a communication and educational opportunity.
- 5- [from 2017] When/if there is an invoicing inquiry, we recommend that the assigned Hydro Ottawa account professional be made aware of the inquiry and the outcome (assuming the invoice issue didn’t come through the assigned representative).
- 6- Develop consistent answers to the top inquiries that LCs make.
- 7- As we look into the future, we believe setting up a pattern of communications to solicit “viewpoints” and “feedback” will become increasingly important to all parties.

- 8- [From 2017] Look for ways to provide additional value to your Key Accounts such as:
- a. Holding an on-site seminar regarding energy conservation for employees
 - b. Conducting an energy consumption review
 - c. Use power quality measuring equipment for monitoring quality.
- 9- Energy storage will become a larger opportunity/issue in the future for every LDC. Internal discussions about how to handle questions about this subject should take place sooner rather than later.
- 10-[From 2017] In 2020 your LDC will be reporting results from its “public safety” survey as this is a measurement on an LDC’s scorecard. Targeted information sessions/seminar on the premises of the larger commercial customer could potentially be a way to educate more people in the community about electricity safety and being seen as providing value.
- 11-[From 2017] In addition to #10, identifying Key Accounts with active Safety Committees could present an excellent opportunity to provide electricity safety information.
- 12-We recommend being active in local chapters of building, developer, general contractor and electrical contractor associations.
- 13-With increasingly society complexities and rising “disruptive activity” we highly recommend running “mock” emergency scenarios.
- 14-Create a system of follow-up for any inquiry that an LC makes.

Method

The findings in this report are based on telephone interviews conducted for Simul Corp./ UtilityPULSE by the Logit Group between September 20 to October 10, 2018, with respondents have the responsibility to interact with their electric utility when there is an outage.

The sample of phone numbers chosen was drawn randomly to ensure each customer account phone number on the list had an equal chance of being included in the poll.

Small sizes in this customer segment are very small. As such we recommend interpreting the data as “directional information” only. Small sample sizes have a wider margin of error. UtilityPULSE provides you with its database information to help interpret results.

The margin of error for the sub-samples is larger. To see the error margin for subgroups, use the calculator at <http://www.surveysystem.com/sscalc.htm>.

The margin of error refers only to sampling error; other non-random forms of error may be present. Even in true random samples, precision can be compromised by other factors,

such as the wording of questions or the order in which questions were asked.

Random samples of any size have some degree of precision. A larger sample is not always better than a smaller sample. The important rule in sampling is not how many respondents are selected but how they are selected. A reliable sample selects poll respondents randomly or in a manner that ensures that everyone in the population being surveyed has an equal chance of being selected.

Interviewers completed 250 surveys from a randomly generated Large Commercial customer list supplied by Hydro Ottawa with a margin of error of +/- 5.96%. Participation response was 17.7%.

Data from the UtilityPULSE database is comprised of Ontario based customers [>50kW] - Large Commercial customer surveys completed throughout the previous 12 months.



Good things happen when workplaces work. You'll receive both strategic and pragmatic guidance about how to improve Customer satisfaction & Employee engagement with leaders that lead and a front-line that is inspired. We provide training, consulting, surveys, diagnostic tools, and keynotes. The electric utility industry is a market segment that we specialize in. We've done work for the Ontario Electrical League, the Ontario Energy Network, and both large and small utilities. For twenty years we have been talking to 1000's of utility customers in Ontario and across Canada, and we have expertise that is beneficial to every utility.

**Culture, Leadership & Performance
 – Organizational Development**

Leadership development

Strategic Planning

Teambuilding

Organizational Culture Transformation

**Focus Groups, Surveys, Polls,
 Diagnostics**

Diagnostics, i.e. Change Readiness, Leadership Effectiveness, Managerial Competencies

Surveys & Polls

Customer Satisfaction and Loyalty
 Benchmarking Surveys

Organization Culture Surveys

Customer Service Excellence

Service Excellence Leadership

Telephone Skills

Customer Care

Dealing with
 Difficult Customers

Benefit from our expertise in Customer Satisfaction, Leadership development, Strategy development or review, and Front-line & Top-line driven-change. We're experts in helping you assess and then transform your organization's culture to one where achieving goals while creating higher levels of customer satisfaction is important. Call us when creating an organization where more employees satisfy more customers more often, is important.

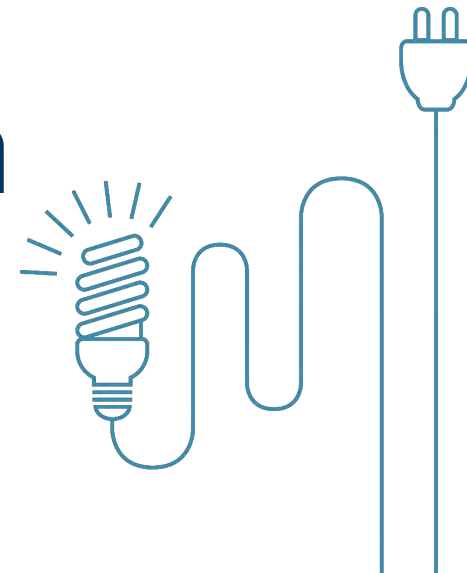
Your personal contact is:

Sid Ridgley

Phone: (905) 895-7900 Fax: (905) 895-7970 E-mail: sridgley@simulcorp.com



National Electricity Customer Satisfaction Report



January 2019

2018 National Electricity Customer Satisfaction Report Confidentiality

This report and all of the information and data contained within it may NOT be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa-Electric System Ltd. and the consent of the other CEA members included in this Report.

In addition and without limitation, comparative information besides company specific and corresponding national comparative results cannot be released in any public forum (such as company websites, regulatory proceedings, press releases or annual reports) without the consent of the companies or jurisdictions to which you are comparing.

Table of Contents

Key Findings	4
Methodology & Demographics	8
A Note on Environmental Controls	15
Customer Satisfaction Index (CSI)	19
Action Analysis	26
System Familiarity	30
General Satisfaction	32
Reliability & Power Quality	41
Planned Outages	47
Billing & Payment	52
Communications	57
Conservation	65
Technology	71
Net Promoter Score (NPS)	80
Price	84
General Attitudes	94
Regression Analysis	103
Appendix (Environmental Controls)	109

Key Findings

Hydro Ottawa improves year-to-year and outperforms provincial averages on all brand attributes



1. **Satisfaction and CSI increase in 2018.** Despite an increase in reported outages, general satisfaction with Hydro Ottawa and the utility's CSI increase in 2018. Regression analysis shows that the number of outages a customer experiences does not significantly impact their satisfaction with, or likelihood to recommend, Hydro Ottawa.
2. **"Quality and reliability" drives satisfaction and NPS.** Providing quality and reliable electricity service is one of the key drivers of customer satisfaction and NPS. On all five benchmarks that make up the "Quality and Reliability" factor, Hydro Ottawa has improved drastically year-to-year.
3. **Customer focus drive satisfaction.** Customers want to know that they matter to Hydro Ottawa. On all four attributes that make up the "Customer Focus" factor, Hydro Ottawa has improved substantially over the past year.
4. **Billing practices drives NPS.** Hydro Ottawa made gains on all attributes making up the "Billing Practices" factor from 2017.
5. **Value is also important.** Hydro Ottawa customers are marginally ahead of the provincial average on feeling that they are getting good value for what they pay for electricity. This is good news because this is another driver of satisfaction and NPS.
6. **Environmental controls.** With a continuing upward trend on utility satisfaction among those unhappy with government management, it appears that Hydro Ottawa is not only keeping happy people happy, but they are also overcoming dissatisfaction with government management.



Update on Core Benchmarks

Distributor Satisfaction

- General satisfaction with Hydro Ottawa is 11 points higher than it was in 2017, largely due to an increase in the proportion who are “very satisfied”.
- Net satisfaction has increased on all brand attributes.
- On 5 out of 10 brand attributes, net satisfaction with Hydro Ottawa is higher than the national average.

Reliability & Power Quality

- The proportion who have experienced two or more outages has increased 7 points from 41% in 2017 to 48% this year.
- Hydro Ottawa’s net satisfaction is highest on power reliability (+75%) and power quality (+74%).
- Net satisfaction with the provision of timely and accurate information (+47%) and considering customer needs when planning outages (+39%) is significantly lower than other benchmarks.

Billing & Payment

- E-bills (48%) are marginally more common than paper bills (45%) among Hydro Ottawa customers.
- Net satisfaction across billing attributes has increased at least 7 points since 2017, with increases in satisfaction intensity as well.

Communications

- At +65%, net satisfaction with overall communications from Hydro Ottawa is 26 points higher than it was in 2017.
- Net satisfaction with all forms of communication has increased across all attributes by as many as 31 points (outage notification: +8% in 2017, +39% in 2018).
- Half (52%) feel their customer experience with Hydro Ottawa is similar to other companies, but over a third (35%) say it is better.

Price

- Perception of electricity prices in Ontario is unchanged since 2017, with 35% deeming prices reasonable.
- Customers’ perception that prices are reasonable is on par with the provincial average (34%), but it is 10 points lower than the national average (45%).
- Perception of value for money has also remained steady, with 33% agreeing that they get good value. Hydro Ottawa is slightly above the provincial average (28%) but slightly below the national average (37%).



Summary of New Issues

Planned Outages

- 3-in-10 (29%) have been impacted by a planned outage in the past two years, on par with provincial and national averages.
- Of those who have experienced a planned outage, most (76%) reported proactive communication from Hydro Ottawa, and most of them (86%) were satisfied with the communication they received.

Conservation

- One-in-ten (10%) say they have already sought information about conservation from their electricity company, and nearly half say they are either “very” (14%) or “somewhat” (31%) likely to do so.
- Half of those who have sought or are likely to seek out information say saving money (53%) is the primary reason for seeking information on electricity conservation.
- Most of those who are not likely to seek out information (56%) say they are most interested in conservation programs that include an incentive, with incentives on heating and cooling (20%) being the most popular. Tips and tools are the most popular non-incentive program at 23%.

Technology

- Net willingness to pay more for technology is lowest (-17%) for making it easier to interact with their distributor, compared to a net score of +31% for technology what would reduce the grid’s environmental impact.
- Only 3% have already bought an EV. Another 39% say they are likely to do so.
- Environmental benefits are the primary reason for interest in an EV (n=11) among those who are at least somewhat likely to buy an electric car (n=35), whereas cost (29%) is the main barrier for those who are not.

Methodology & Demographics

Research Overview

The Canadian Electricity Association (CEA) commissioned Innovative Research Group Inc. (INNOVATIVE) to conduct the CEA's 2018 Annual National Electricity Customer Satisfaction Survey. The focus of this survey is public attitudes towards the electricity companies that serve them.

In 2018, the survey re-introduced Net Promoter Score (NPS) for distributors and key satisfaction metrics for transmitters.

Key company-specific (distributor) topics include:

- Overall satisfaction
- Performance attributes
- Customer experience (*planned outages, billing, and other customer contact*)
- Net Promoter Score

** Almost all respondents receive a bill from an electricity distributor and therefore they have a direct customer relationship with a utility. However, it should be noted that approximately 10% of respondents say they do not receive a bill directly from an electricity distributor.*

Other topics include:

- Key satisfaction metrics for transmitters
- The price of electricity
- Interest in conservation programs
- New technology
- Environmental controls (underlying factors – outside a utility's control – that may impact perceptions of electricity companies)

Survey Methodology



The CEA’s 2018 Annual National Electricity Customer Satisfaction Survey is an online survey conducted by Innovative Research Group (INNOVATIVE). Data collection occurred between October 4th and October 29th, 2018 among 7,192 Canadian adults (18yrs or older).

A targeted oversample provided a total of 464 interviews with respondents who report receiving their electricity bill from Hydro Ottawa. Tracking results are drawn from the previous 2017 CEA National Survey.

The survey instrument was designed by INNOVATIVE, with input and direction from CEA members, and made available to respondents in either French or English.

The survey sample was weighted by age, gender and region using Statistics Canada Census data to reflect the actual demographic composition of the Canadian adult population. Because this is an online survey, and not a random probability sample, the results cannot be generalized across all Canadians, and we cannot apply a margin of error. Upon request, additional oversamples were conducted among the general population in a number of CEA member distribution service territories to provide greater confidence in the data at a sub-regional level of analysis. Oversampled regions were weighted down to a representative national sample size of n=1,600.** Respondents who receive a Hydro Ottawa bill were weighted by age and gender to a representative sample size of n=400.

Online survey respondents were recruited from a wide variety of sources to reflect the age, gender, and regional characteristics of the country as a whole. INNOVATIVE provided each survey respondent with a unique URL (hyperlink) to the online survey via an email invitation to ensure that only invited respondents are able to complete the survey. Unique URLs were disabled after survey completion to ensure that invited respondents could only complete their individual survey once.

Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers.

*** NOTE ON TRACKING:** Reliable tracking from years prior to 2014 is limited to questions that were not impacted by the transition from 1-10 to 0-10 response scales in 2014. Where reliable tracking is available, in some instances it dates back as far as 2011.

**** NOTE ON WEIGHTING:** The survey data has been weighted by the population, age and gender distributions within 30 graphical sub-regions across Canada, using 2016 Census data. This weighting convention ensures that the survey data is representative at both the national- and provincial-levels of analysis.

Sample Design

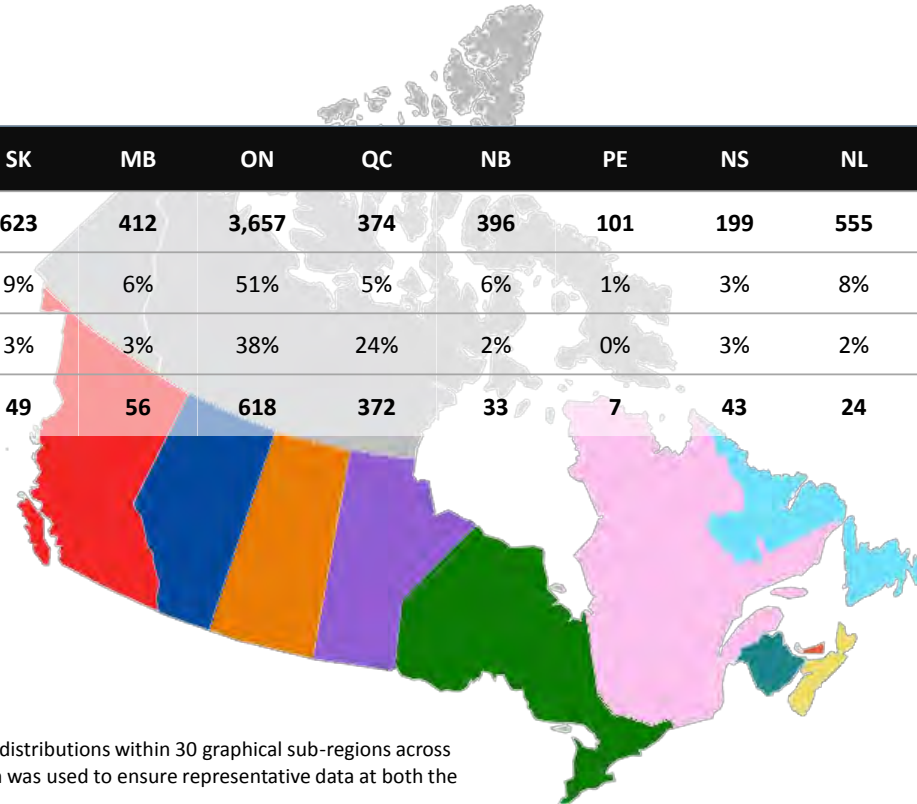
	BC	AB	SK	MB	ON	QC	NB	PE	NS	NL	Total
Unweighted Sample (n)	465	410	623	412	3,657	374	396	101	199	555	7,192
Unweighted Sample (%)	6%	6%	9%	6%	51%	5%	6%	1%	3%	8%	100%
2016 Census Population (%)	13%	11%	3%	3%	38%	24%	2%	0%	3%	2%	100%
Weighted (n)	214	185	49	56	618	372	33	7	43	24	1,600



n=1,600
 National Weighted Sample



n=450
 Total Weighted Sample



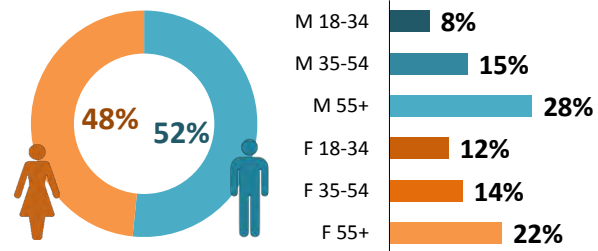
NOTE: The sample has been weighted by the population, age and gender distributions within 30 graphical sub-regions across Canada, using the latest available Census data. This weighting convention was used to ensure representative data at both the national- and provincial-levels of analysis.

Respondents from the territories are grouped with those in the nearby province for weighting purposes and regional analysis. Those from Yukon, Northwest Territories, and Nunavut are grouped together with BC, Alberta, and Manitoba respectively.

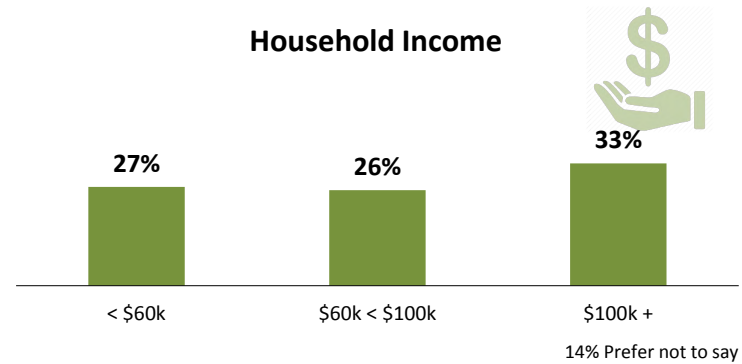
Oversampled regions were weighted *down* (as opposed to *up*) – from an unrepresentative national sample size of $n=7,192$ to a representative national sample size of $n=1,600$ – to ensure that respondent input from any region was not artificially inflated.

Demographics: *Hydro Ottawa's Service Area*

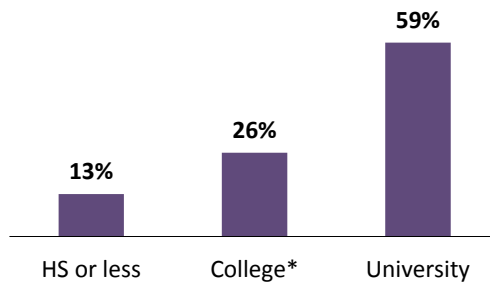
Gender and Age



Household Income

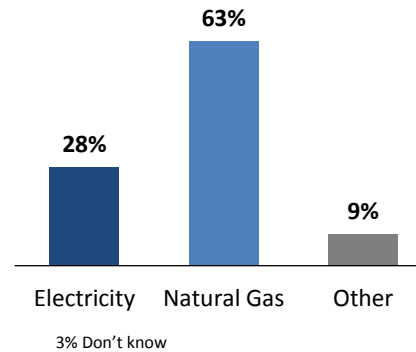


Education

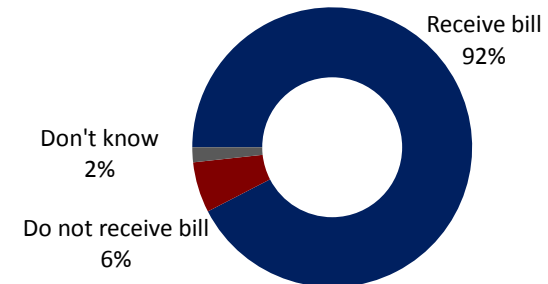


* Includes Diploma and Apprenticeship
 2% Prefer not to say

Primary Home Heating Source



Billing



Survey Design: Questionnaire Tracking

At the beginning of the survey, respondents are asked which company they get their electricity bill from. All survey questions prior to the Transmission questions relate back to this company. The company name is inserted into the actual question several times to remind respondents to base their responses on that company.

Survey Section	2018	2017	2016
Overall Satisfaction (Distributor)			
Familiarity with provincial electricity system	X		X
In general, how satisfied are you with Hydro Ottawa	X	X	X
Caring about its customers	X	X	X
Taking care of any problems the first time you contact them	X	X	X
Providing online services	X	X	
Operating in an environmentally responsible manner	X	X	X
Protecting public safety	X	X	X
Being trustworthy	X	X	
Being transparent	X	X	
Providing energy conservation and efficiency programs and information	X	X	
Being a good corporate citizen through initiatives such as contributing to community sponsorship programs	X	X	X
Consulting with customers before making decisions that impact them	X	X	
Reasons for contacting Hydro Ottawa in the past 12 months	X	X	X
Reliability and Power Quality			
In the past 12 months, how many power outages do you recall experiencing at home?	X	X	X
Providing reliable electricity service, as judged by the number of outages you experience	X	X	X
Providing timely and accurate information regarding outages	X	X	X
The amount of time it takes to restore power when power outages occur	X	X	X
Considering your needs when planning an outage	X	X	
The quality of power delivered to you taking into consideration voltage fluctuations, that can result in flickering or dimming of lights	X	X	
Planned Outages			
Over the past two years, have you been impacted by any planned outages?	X		
Did Hydro Ottawa proactively communicate with you about the most recent planned power outage that you experienced?	X		
Satisfaction with the way the company communication about planned outage	X		

NOTE: A red X indicates where question wording was slightly different in prior years

Survey Design: Questionnaire Tracking (cont'd)

Survey Section	2018	2017	2016
Billing and Payment			
Format of bill	X	X	
Providing accurate bills	X	X	
Providing bills that are easy to understand	X	X	
Providing convenient options to receive my bill	X	X	
Providing convenient options to pay my bill	X	X	
Communications			
Overall satisfaction	X	X	
Satisfaction with: Phone/In-person Website Social media Outage notifications Bill inserts Advertising Written inquiries	X	X	
Customer experience with Hydro Ottawa compared to that of other service providers	X	X	X
Conservation			
Likelihood to seek out information about energy conservation	X		
Reasons for / barriers to seeking information on conservation	X		
Conservation programs most interested in	X		
Technology			
Willingness to pay more for technologies to: Reduce outages Interact with distributor Test new tech Reduce environmental impact	X		
Priority for investing in new technology	X		
Likelihood of buying an electric car	X		
Reasons for buying / not buying an electric car	X		
Net Promoter Score (NPS)			
Likelihood to recommend Hydro Ottawa	X		X
Price			
Overall, do you think that the price for electricity in your province is reasonable or unreasonable?	X	X	X
My electricity bill has major impact on my finances and requires I do without other important priorities.	X	X	X
Thinking of all regular household bills, I receive good value for the price I pay for electricity.	X	X	X
General Attitudes			
Support for investment, replacement and/or expansion of electricity infrastructure to improve reliability and safety, and keep up with growth and innovation	X	X	X
Perception of increasing price of electricity to invest in electric system	X	X	X
Satisfaction with provincial government management of electricity system	X	X	X

A Note on Environmental Controls

What are environmental controls?

Environmental Controls: *Uncontrollable External Factors*

It is important to distinguish between what is within, and what is outside an electrical utility's influence or control when it comes to drivers of satisfaction.

Perceptions of electricity companies often tend to move with general perceptions of **provincial government performance in the sector** rather than in response to the utility itself.

In addition, perceptions of utilities are strongly correlated with **financial circumstances**. In tough times, perception and preference can change because customers are struggling with their bills, not because of anything the company has – or as not – done.

Control questions help distributors distinguish between two factors that impact public perception:

- a) utility-driven programs; and
- b) uncontrollable external factors.

In this survey, we include two environmental control questions to help capture external phenomena:



Government Performance: *How satisfied are you with the job your provincial government is doing to manage the electricity system?*



Financial Circumstances: *The cost of my electricity bill has major impact on my finances and requires I do without some other important priorities.*

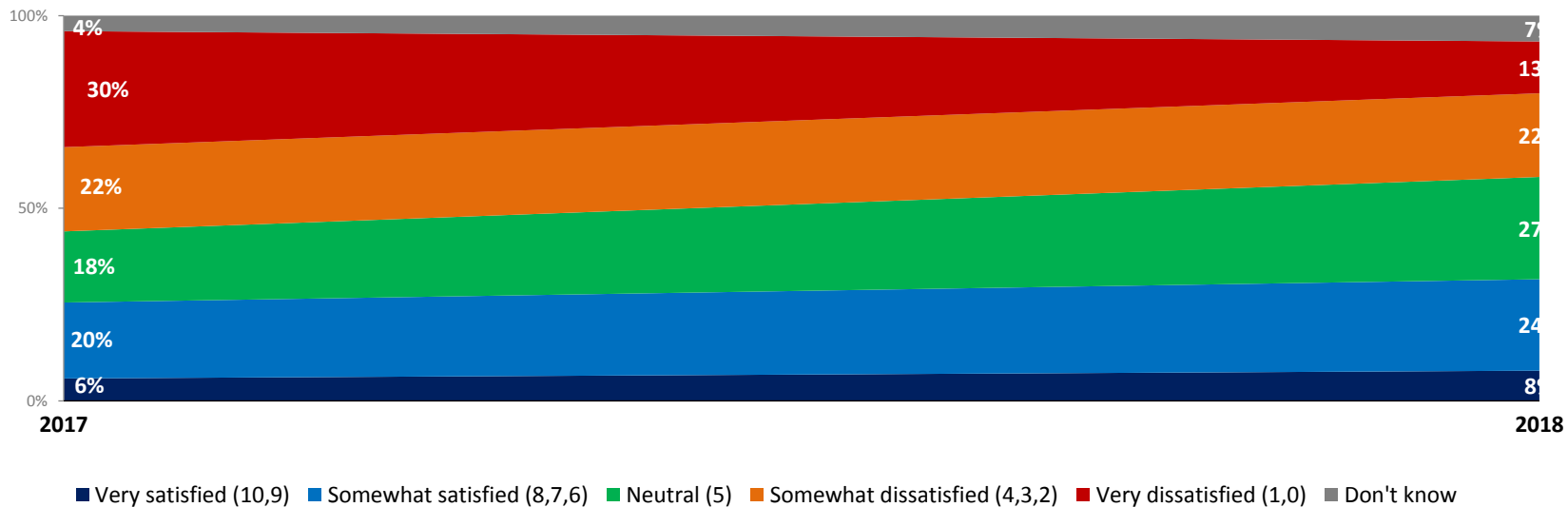
There is a more in-depth analysis of these environmental controls in the appendix

Gov't Performance | Tracking: While the level of satisfaction with government management is largely steady, the portion saying dissatisfied decreases



How satisfied are you with the job your provincial government is doing to manage the electricity system? Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.

[asked of all respondents, Hydro Ottawa; n=450]



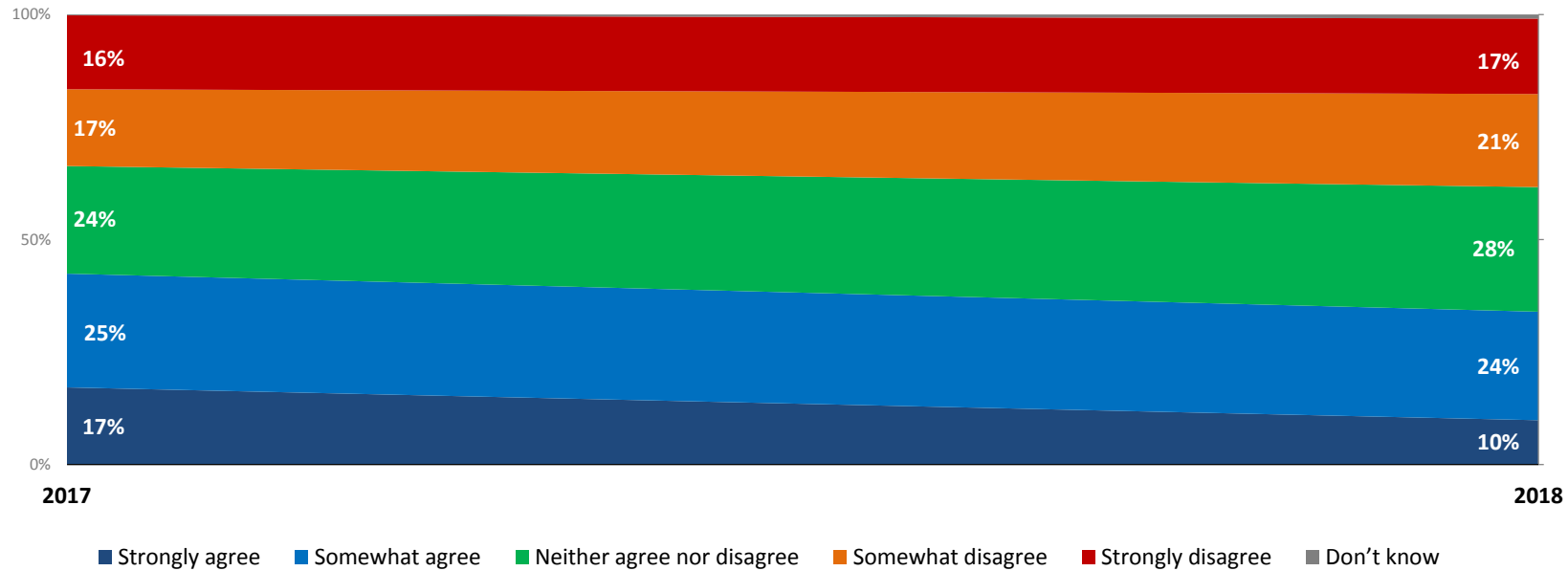
Financial Circumstances | Tracking: A third (34%) feel their bill impacts their finances, down from 42% last year



Do you agree or disagree with the following statement:

My electricity bill has major impact on my finances and requires I do without other important priorities.

[for tracking purposes, data filtered to show only those who receive a bill; Hydro Ottawa; n=416]



Customer Satisfaction Index (CSI)

Customer Satisfaction Index (CSI)

The **Customer Satisfaction Index (CSI)** is a number that summarizes respondents' overall satisfaction with their electricity distributor using an analysis of each brand attribute tested.

In 2014, INNOVATIVE updated the methodology used to construct the CSI. In 2017, the calculation methodology was updated again to reflect the survey redesign that occurred that year. This year's study follows the 2017 method.

Calculating CSI:

1. A **factor analysis** finds the true underlying dimensions of consumer satisfaction that explain the pattern of responses on the larger set of brand attributes.
 - Factor analysis allows us to find which attributes mean similar things to the public. The use of factor analysis allows us to determine which attributes should be grouped together in order to conduct meaningful analysis.
 - We tested **20 brand attributes** for all electricity companies in the analysis. While each of these attributes seems distinct in important ways to people who are close to the industry, many of these items seem similar to members of the general public. We found that **5 underlying factors**, along with 3 additional (standalone) attributes explain most of the variance in the larger set of attributes.
2. We use a **Shapley Values** regression analysis to determine the relative contribution of each *factor* to overall satisfaction.
 - *Shapley Values* are a calculation of how much of the variance in overall satisfaction can be explained by each individual factor, after statistically accounting for the fact that some of the factors are correlated with one another.
3. We then take an average of the mean score on each of the *factors*, weighted by their *Shapley Values* to determine the overall **CSI scores**.
4. *In keeping with the revised survey and analysis plan, the CSI is now being calculated as a single measure for all electricity companies included in the research.*

Factor Analysis (General Satisfaction): *Based on their responses, which attributes mean similar things to the public?*

Customer Focus

- Consulting with customers before making decisions
- Being transparent
- Caring about its customers
- Being trustworthy

Quality & Reliability

- Providing reliable electricity service
- The amount of time it takes to restore power
- The quality of power delivered to you

Billing Practices

- Providing convenient options to pay my bill
- Providing convenient options to receive my bill
- Providing bills that are easy to read and understand
- Providing accurate bills

Public Good

- Operating in an environmentally responsible manner
- Providing energy conservation and efficiency programs
- Protecting public safety
- Being a good corporate citizen

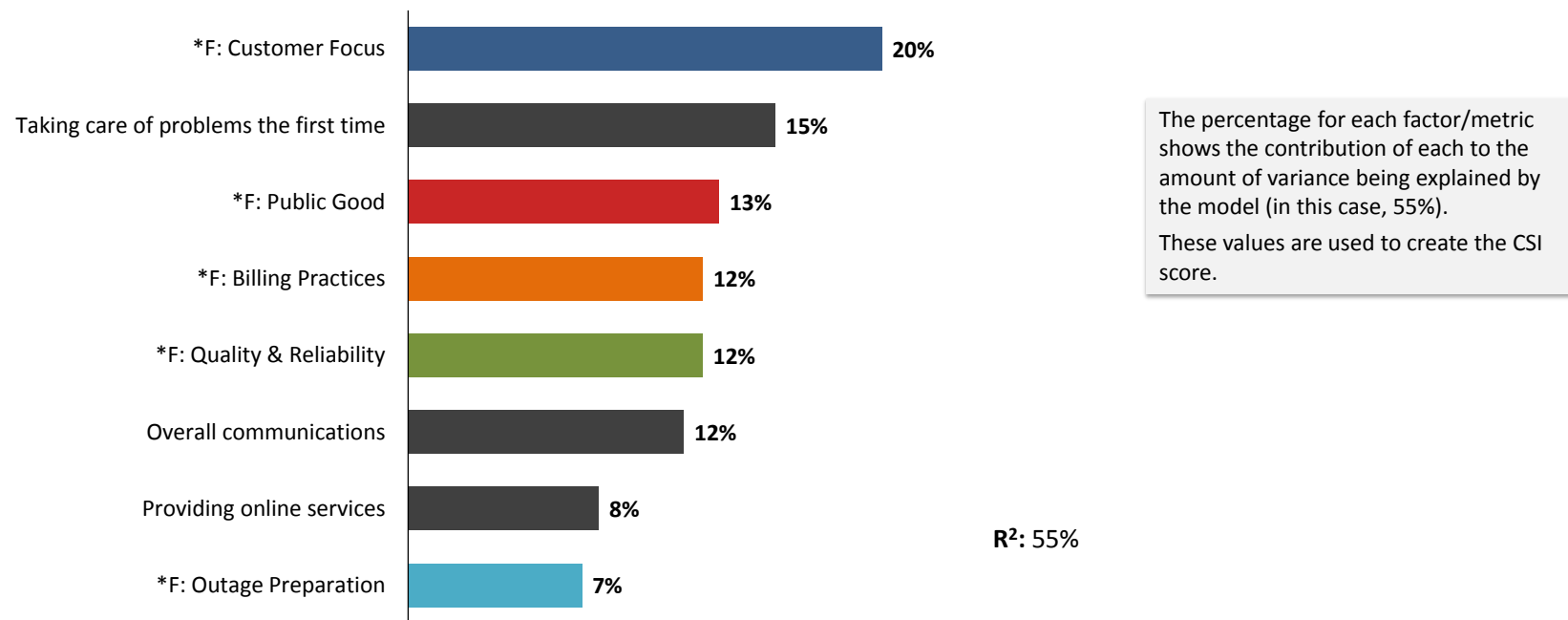
Outage Preparation

- Providing timely and accurate information re: outages
- Considering your needs when planning an outage

Standalones

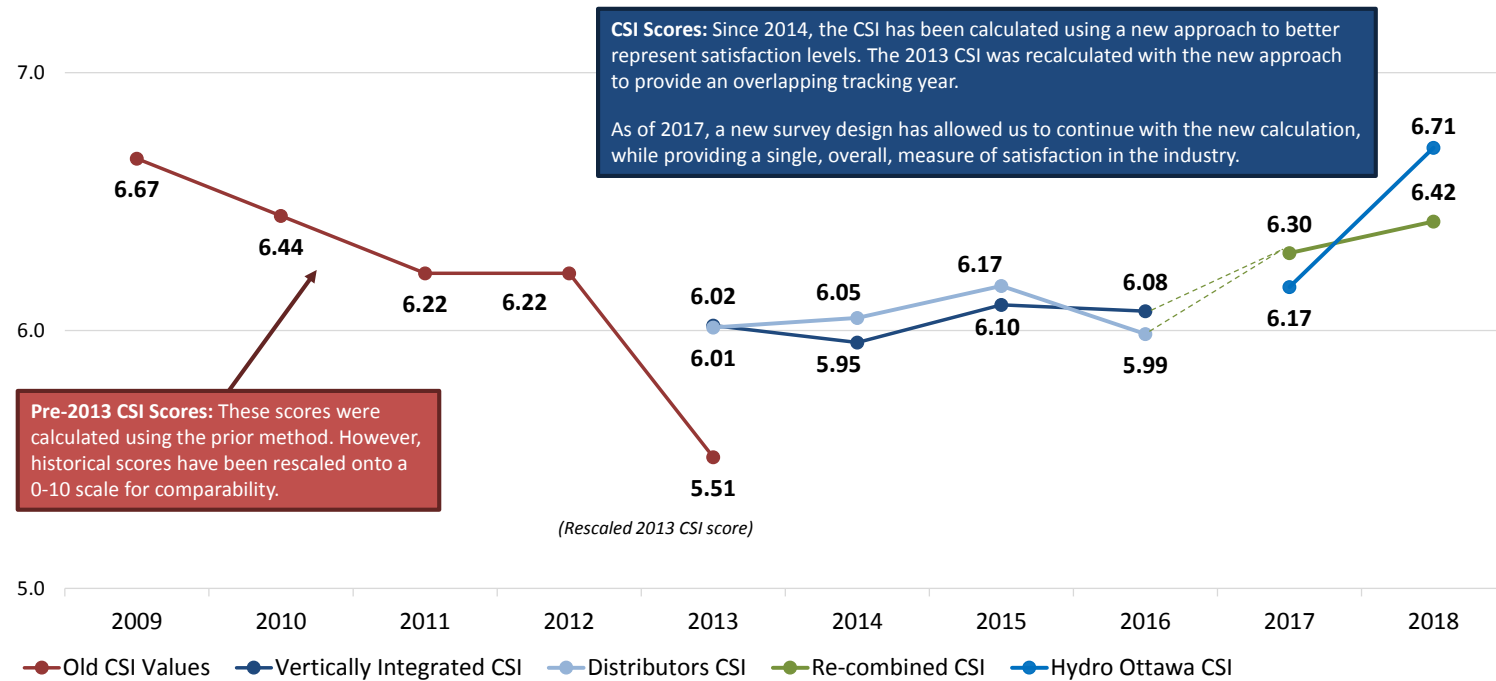
- Taking care of problems the first time you contact them
- Overall communication
- Providing online services

Shapley Values Regression: *Relative contribution of each factor to the Customer Satisfaction Index (CSI) according to Shapely Values regression*



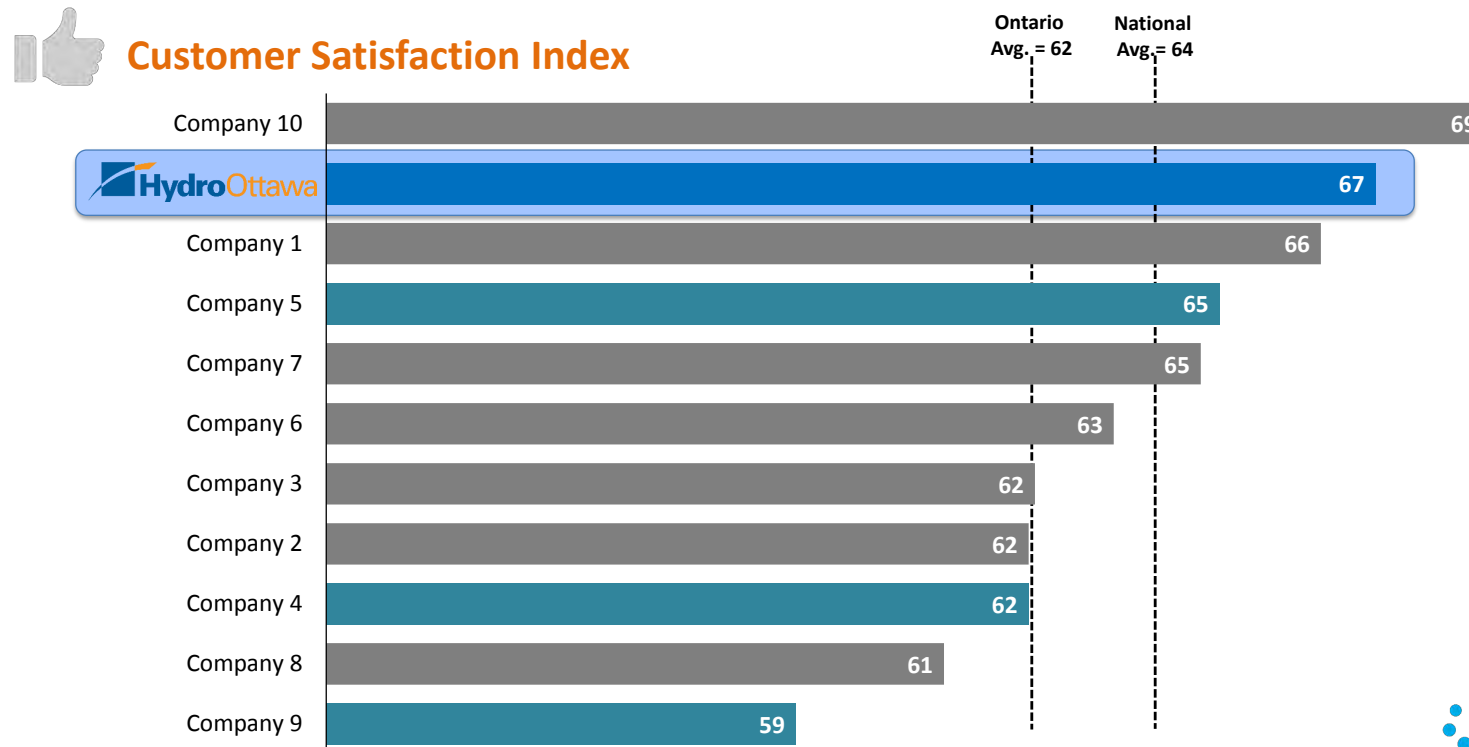
*F – Denotes what has been identified as a “factor”, where multiple attributes are viewed similarly to respondents. All others are standalone attributes

CSI Tracking: National CSI continues to improve, while Hydro Ottawa improves drastically year-to-year



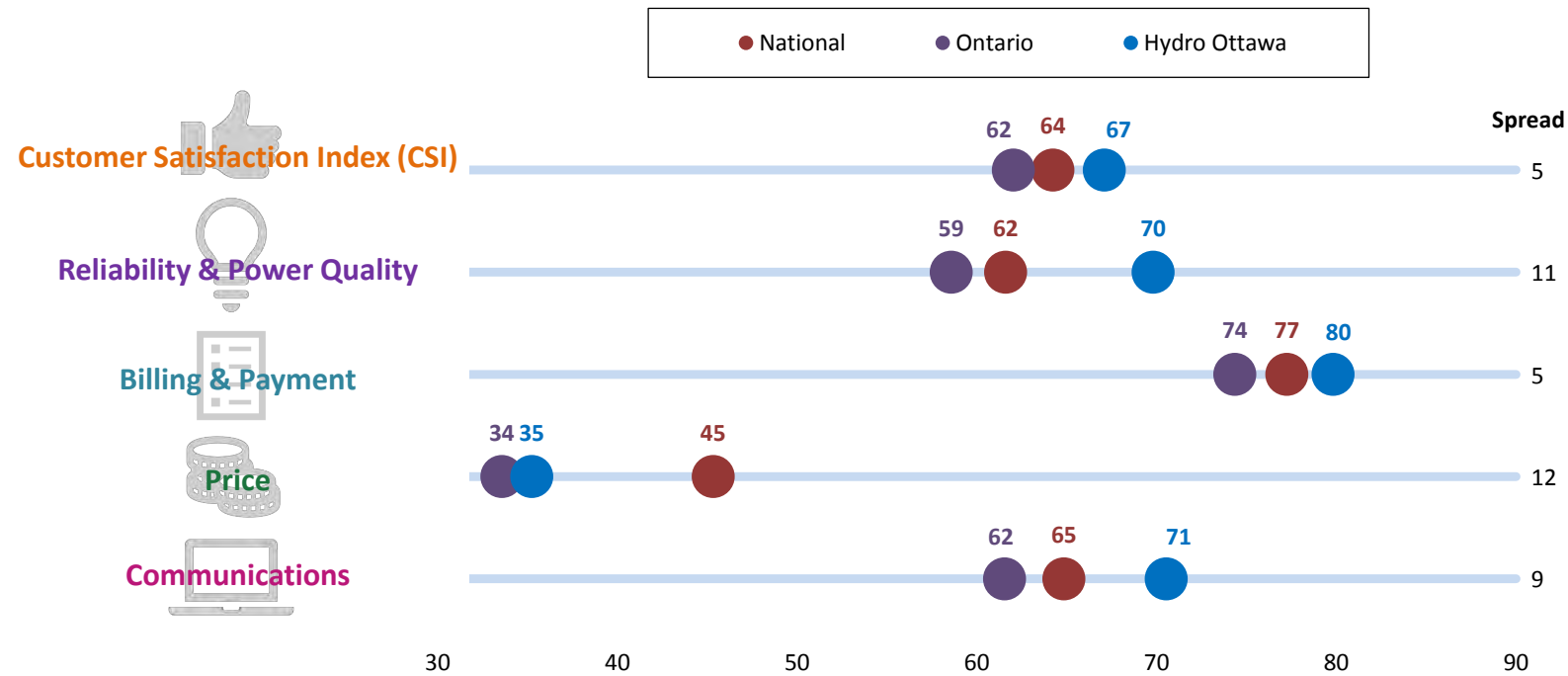
NOTE: Previously the CSI had been calculated on a 1-10 scale; in keeping with the move to a 0-10 scale for this year's survey, previous year's CSI scores have been rescaled 0-10. For example the 2013 score of 5.51 on a 0-10 scaled that is reported here corresponds to last year's reported score of 5.9 on a 1-10 scale.

CSI Benchmarking: Hydro Ottawa has the highest CSI in Ontario and second highest nation-wide



Note: Only utilities with an unweighted n-size of 100+ are shown.
Utilities highlighted in greenish blue are from Ontario.

Hydro Ottawa leads on almost all measures except price, where they are ahead of provincial but below national averages



NOTE: x-axis has been modified to show the difference between each group (x-axis lower bound = 30, upper bound = 90).

Regional CSI scores are multiplied by 10.

"Reliability & Power Quality" and "Billing & Payment" represent an index of all measures of satisfaction (6,7,8,9,10) within that section.

"Price" indicates the percentage of respondents who said the price is reasonable.

"Communications" indicates the percentage of respondents who are satisfied (6,7,8,9,10) with the overall communication from the utility.

Action Analysis

What does the data tell us about what to do next?

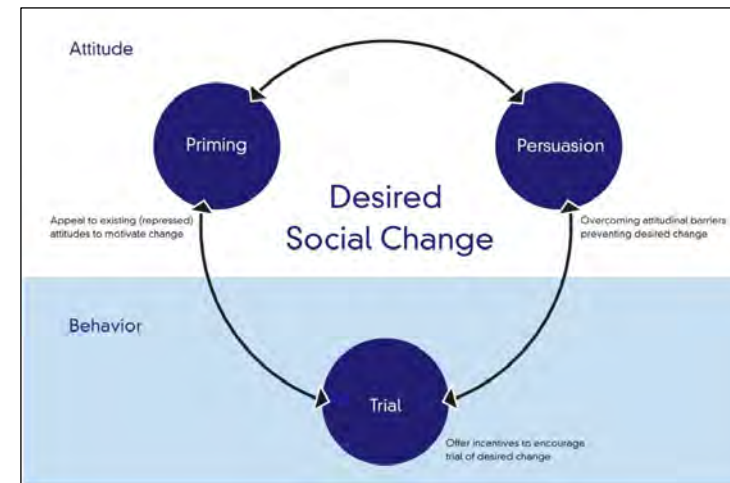
Changing Public Perception: *Social Marketing*

The concept of social marketing is all about getting people to change their behaviour. Getting a flu shot. Taking precautions when investing. Saving for retirement. Using less electricity. Accepting price increases. **Simply stated, but not simply achieved.**

There are three primary options for opinion change:

- **Persuasion** – Teaching people something they didn't know in order to increase their likelihood of doing the desired action or believing the desired belief.
- **Priming** – Reminding people of something they already know in order to increase their likelihood of doing the desired action or believing the desired belief.
- **Trial** – Getting people to do the desired behaviour so it becomes a habit.

On-going research will provide electricity companies with a framework to assess their target audience to identify the key opinion anchors for priming, the best new information for persuasion, and the most appealing offers for trial.



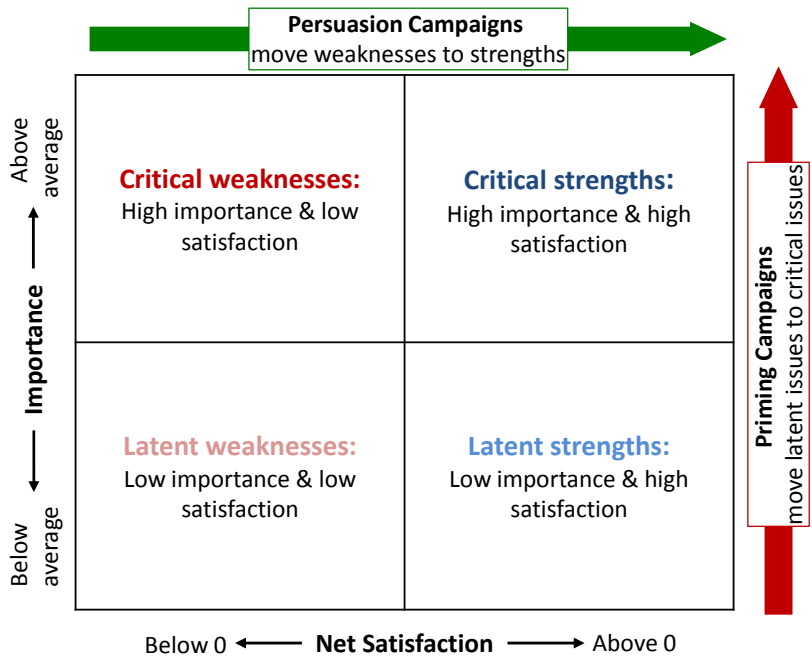
In terms of behaviour, **trial** is best since a change of behaviour is the goal. Trial works best if it is run in parallel with a supportive campaign to change attitudes that conflict with the behaviour.

Persuasion is the next best since persuasion results in permanent behaviour change.

Priming is often the least effective for long term change since once the campaign is over, the priming effect quickly fades. But if priming is sustained long enough to establish new habits, the change can be permanent.

Combining Importance & Satisfaction: *Priming and Persuasion*

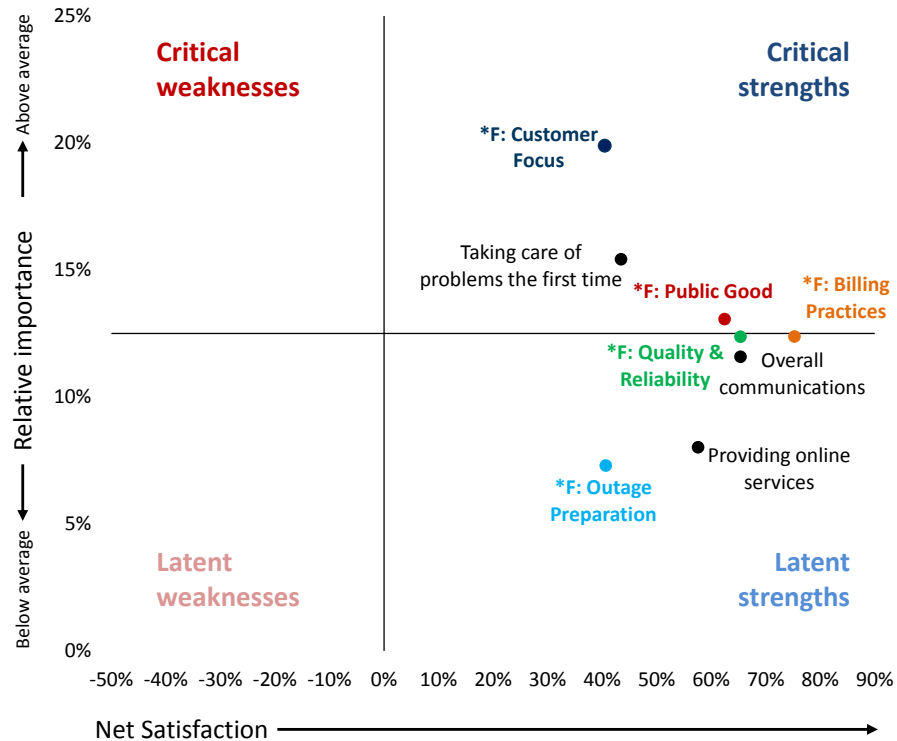
Once we understand what factors underlie each brand, we can examine how levels of overall satisfaction on each factor compare to their level of importance. The satisfaction scores shown below are net satisfaction while the level of importance is calculated using a *Shapley Values* regression as detailed in the previous section.



Improving the importance of an attribute is best approached through *Priming*. This means moving it away from being a *latent strength* towards being a *critical strength*. Priming by raising the salience of an attribute is usually executed through advertising and the media.

Increasing the levels of satisfaction with a brand is *Persuasion*. This means moving an attribute from a weakness to a strength. Once people are persuaded that an organization is doing well on a particular attribute, that opinion is likely to stick. However, persuasion campaigns are often long fought and expensive.

Action Analysis: While there are no current weaknesses, there is room for improvement on outage preparation and the provision of online services



*F – Denotes what has been identified as a “factor”, as described on the right

Customer Focus

- Consulting with customers before making decisions
- Being transparent
- Caring about its customers
- Being trustworthy

Public Good

- Operating in an environmentally responsible manner
- Providing energy conservation and efficiency programs
- Protecting public safety
- Being a good corporate citizen

Quality & Reliability

- Providing reliable electricity service
- The amount of time it takes to restore power
- The quality of power delivered to you

Billing Practices

- Providing convenient options to pay my bill
- Providing convenient options to receive my bill
- Providing bills that are easy to read and understand
- Providing accurate bills

Outage Preparation

- Providing timely and accurate information re: outages
- Considering your needs when planning an outage

System Familiarity

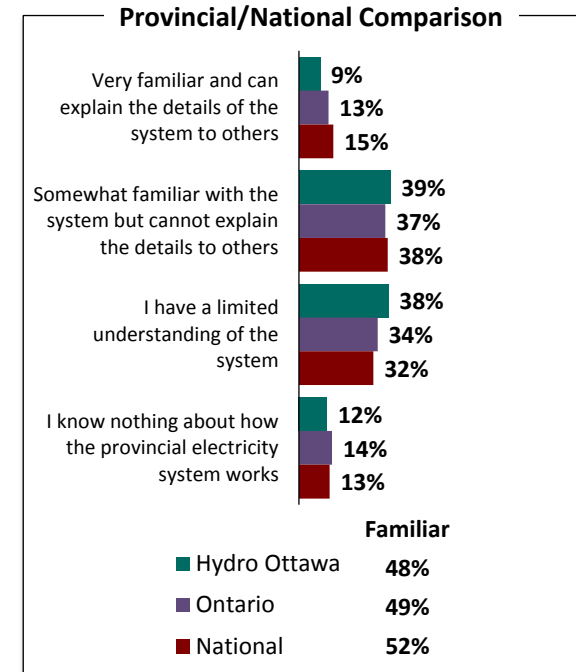
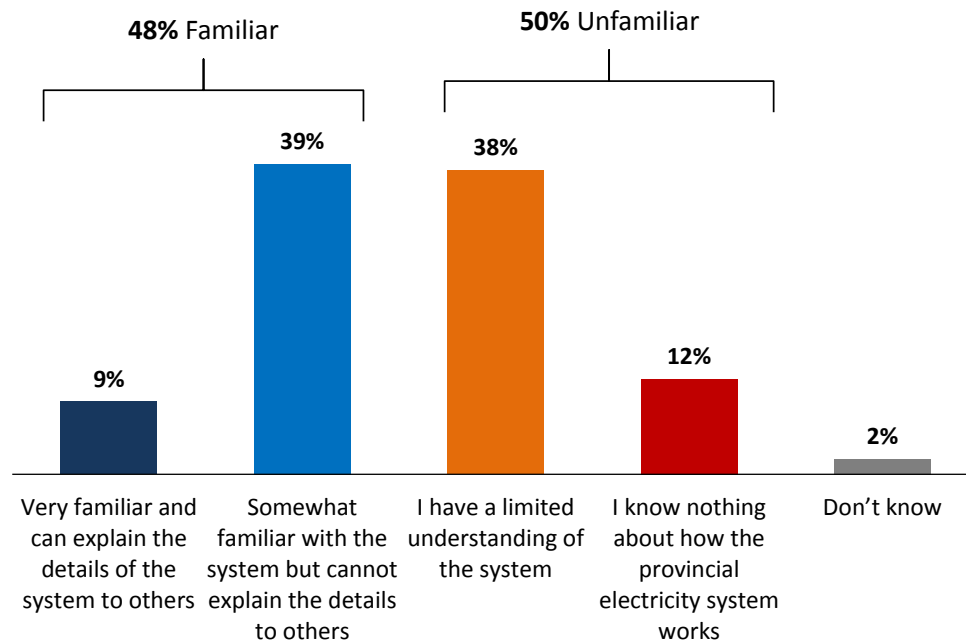
Familiarity Question Preamble

As you may know, [PROVINCE]'s electricity system has four key components: generation, transmission, distribution and retail market:

- Generating companies convert water from dams, coal, natural gas, wind and other resources into electricity;
- Transmission companies use large wires to connect the electricity produced at generating stations to transmission substations in the communities where it is needed;
- Distribution companies use smaller wires to carry electricity to homes and businesses; and
- Electricity retailers buy electricity from generators and sell it directly to consumers through contracts.

Familiarity with System: 48% familiar with the electricity system, slightly lower than national average

Q In general, how familiar are you with the way [PROVINCE]'s electricity system works?
[asked of all respondents, Hydro Ottawa; n=450]



General Satisfaction



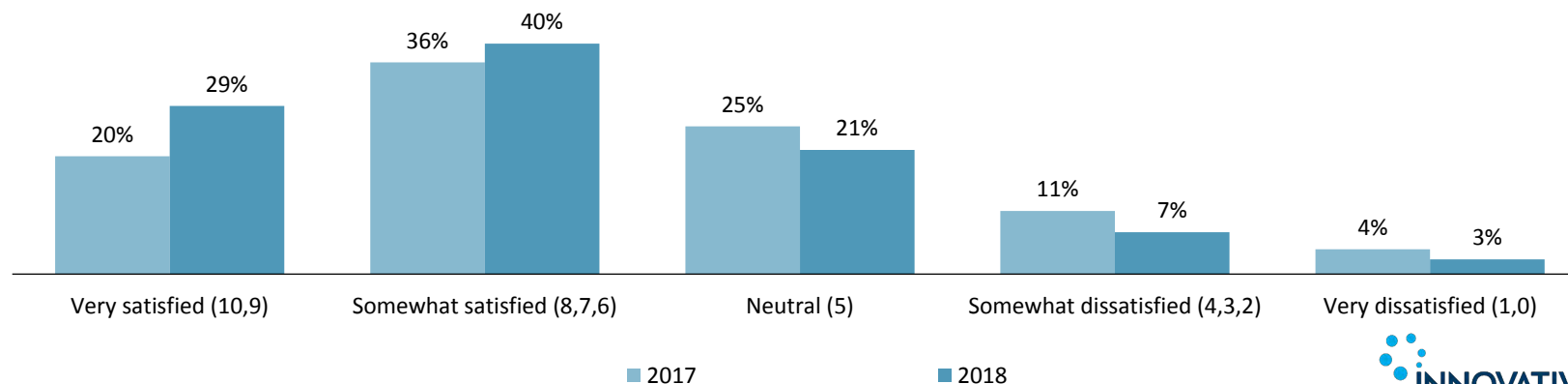
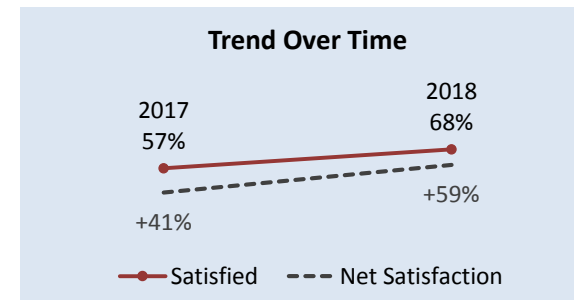


Summary: *General Satisfaction*

- General satisfaction improved from 57% in 2017 to 68% in 2018, with a nine-point increase in the proportion who are “*very satisfied*”. While the net satisfaction score (+41%) was below the provincial and national averages last year, this year’s score (+59%) is ahead of the two averages.
- Net satisfaction has improved on all brand attributes, with at least a 14-point gain on each of the following:
 - Caring about its customers (from +21% to +41%)
 - Being trustworthy (from +29% to +48%)
 - Protecting public safety (from +45% to +63%)
 - Providing online services (from +44% to +58%)
- Despite gains in net satisfaction, a handful of attributes have less than half saying they are satisfied:
 - Operating in an environmentally responsible manner (47% satisfied)
 - Being transparent (46% satisfied)
 - Being a good corporate citizen (41% satisfied)
 - Consulting with customers before making decisions that impact them (36% satisfied)
- Net satisfaction with Hydro Ottawa is at least marginally ahead of the national average on five brand attributes:
 - Protecting public safety (+63% vs +53% national)
 - Providing online services (+58% vs +51% national)
 - Being trustworthy (+48% vs +42% national)
 - Being transparent (+29% vs +22% national)
 - Consulting with customers before making decisions that impact them (+10% vs +7% national)

General Satisfaction: General satisfaction with Hydro Ottawa has improved 11 points since 2017, now nearly 7-in-10 (68%) satisfied

Q The following questions are about the local distribution system, the part of the system that brings electricity from nearby substations to your home and local businesses. In general, how satisfied are you with **Hydro Ottawa**? Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.
[asked of all respondents, Hydro Ottawa; n=450]

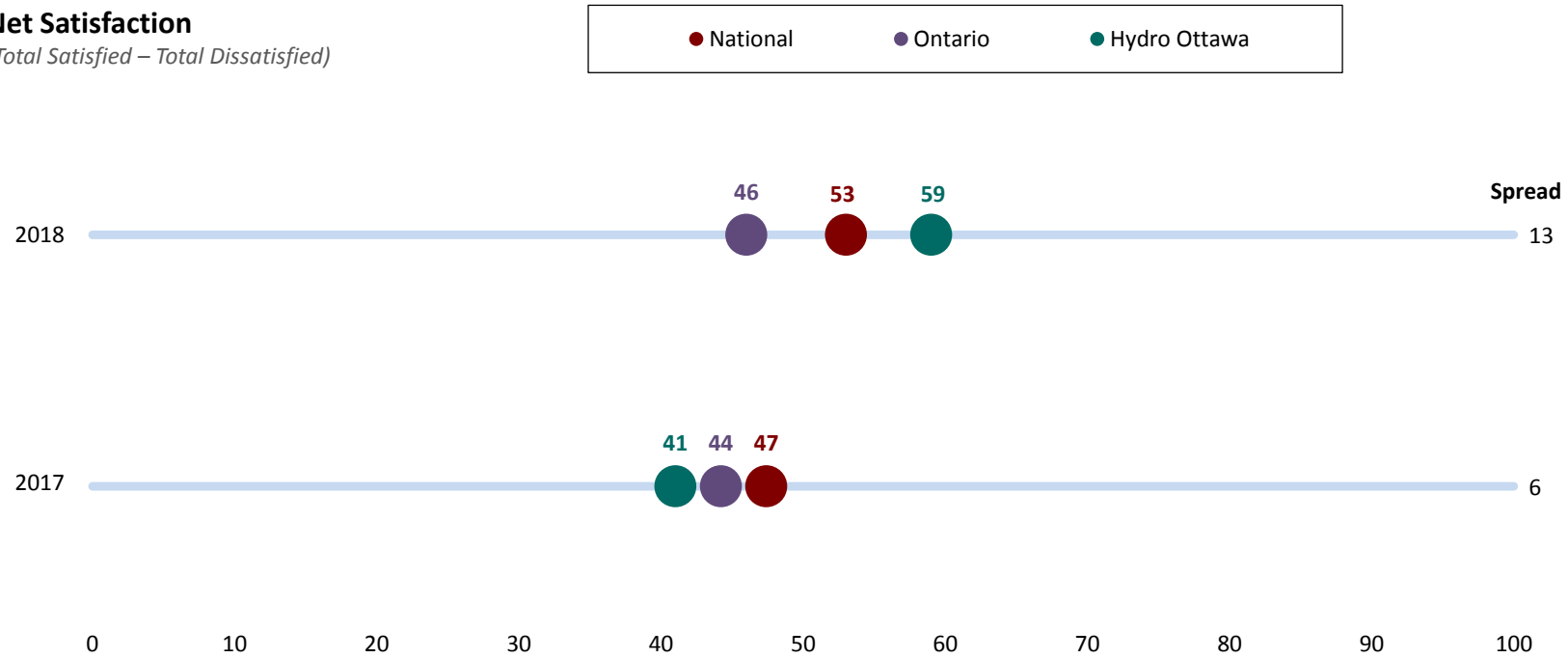


NOTE: 'Don't know' (1%) not shown.

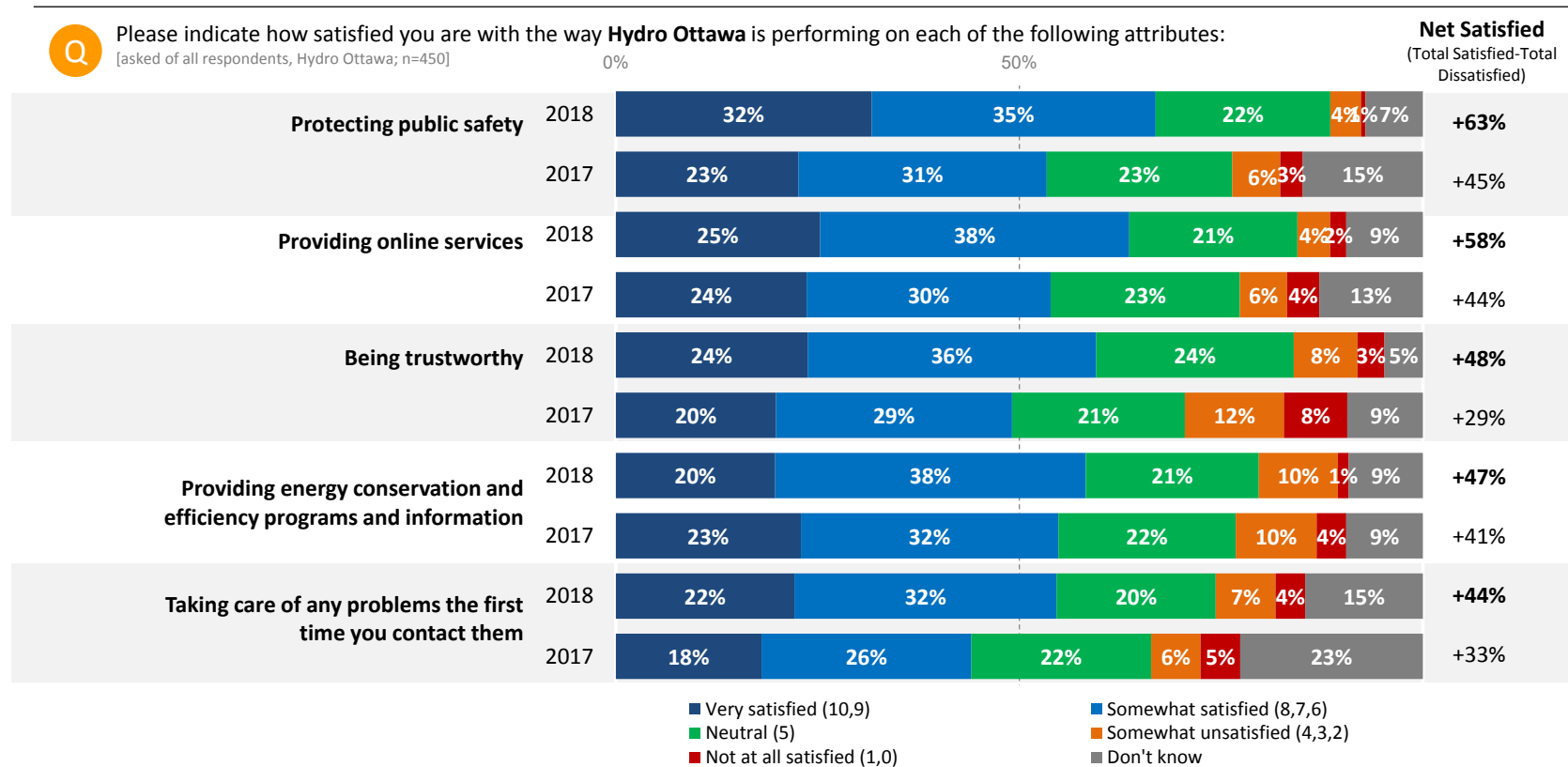
General Satisfaction | Provincial/National Comparison

Net Satisfaction

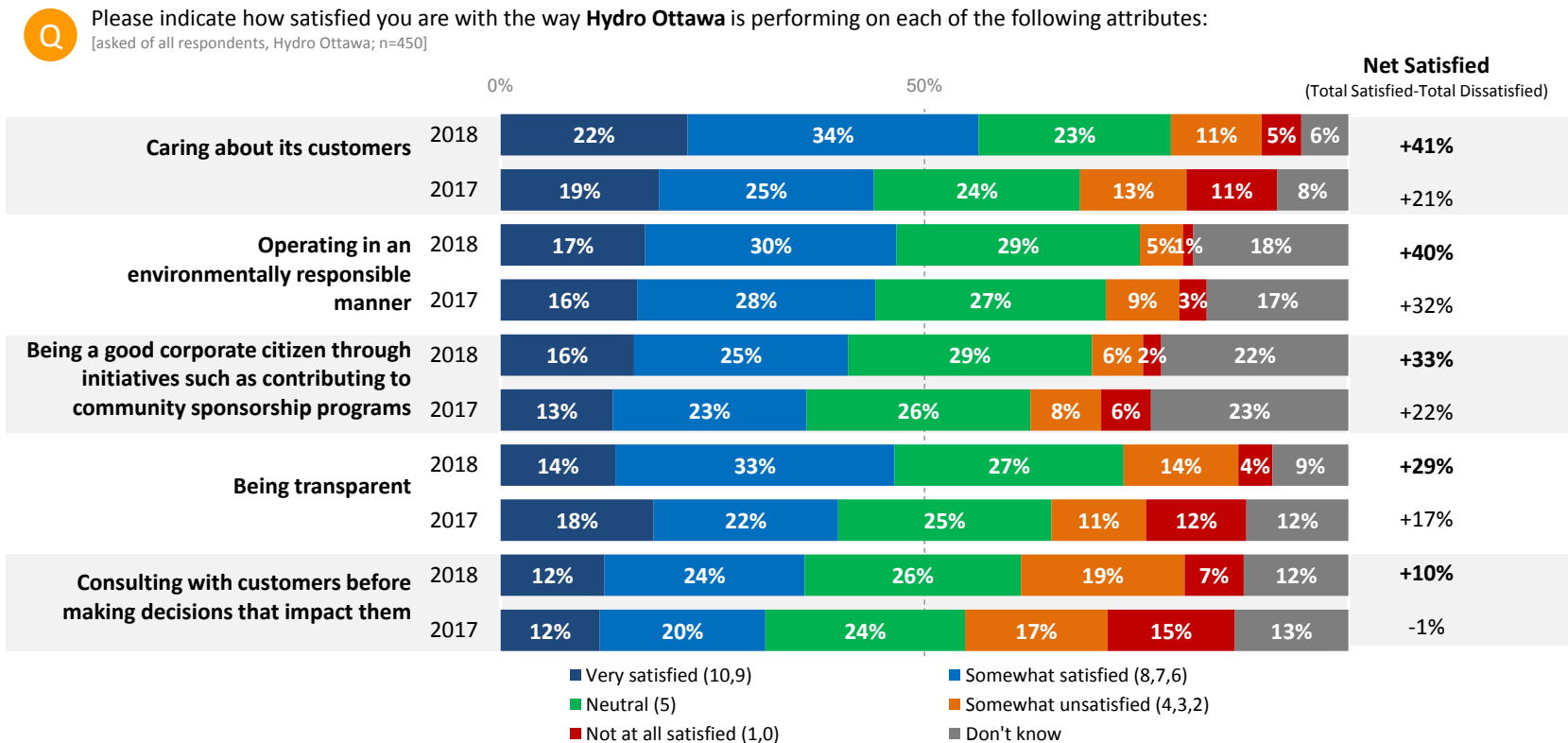
(Total Satisfied – Total Dissatisfied)



Tracking Brand Attributes: Satisfaction on the top five attributes has improved since 2017



Tracking Brand Attributes: All measures have improved; for caring about its customers, net satisfaction is up 20 points

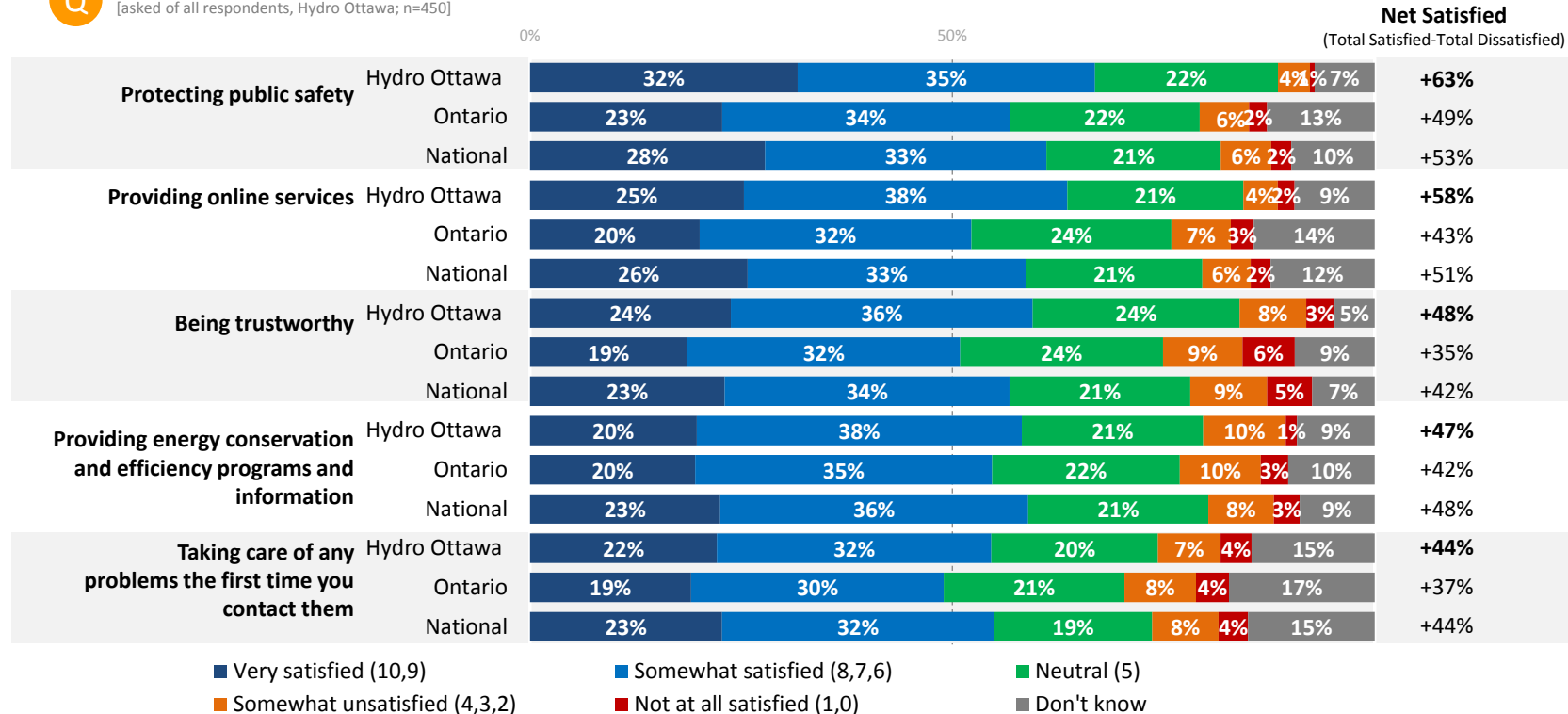


Provincial/National Comparison | Brand Attributes: Hydro Ottawa outperforms national average on public safety, online services, and trustworthiness



Please indicate how satisfied you are with the way **Hydro Ottawa** is performing on each of the following attributes:

[asked of all respondents, Hydro Ottawa; n=450]

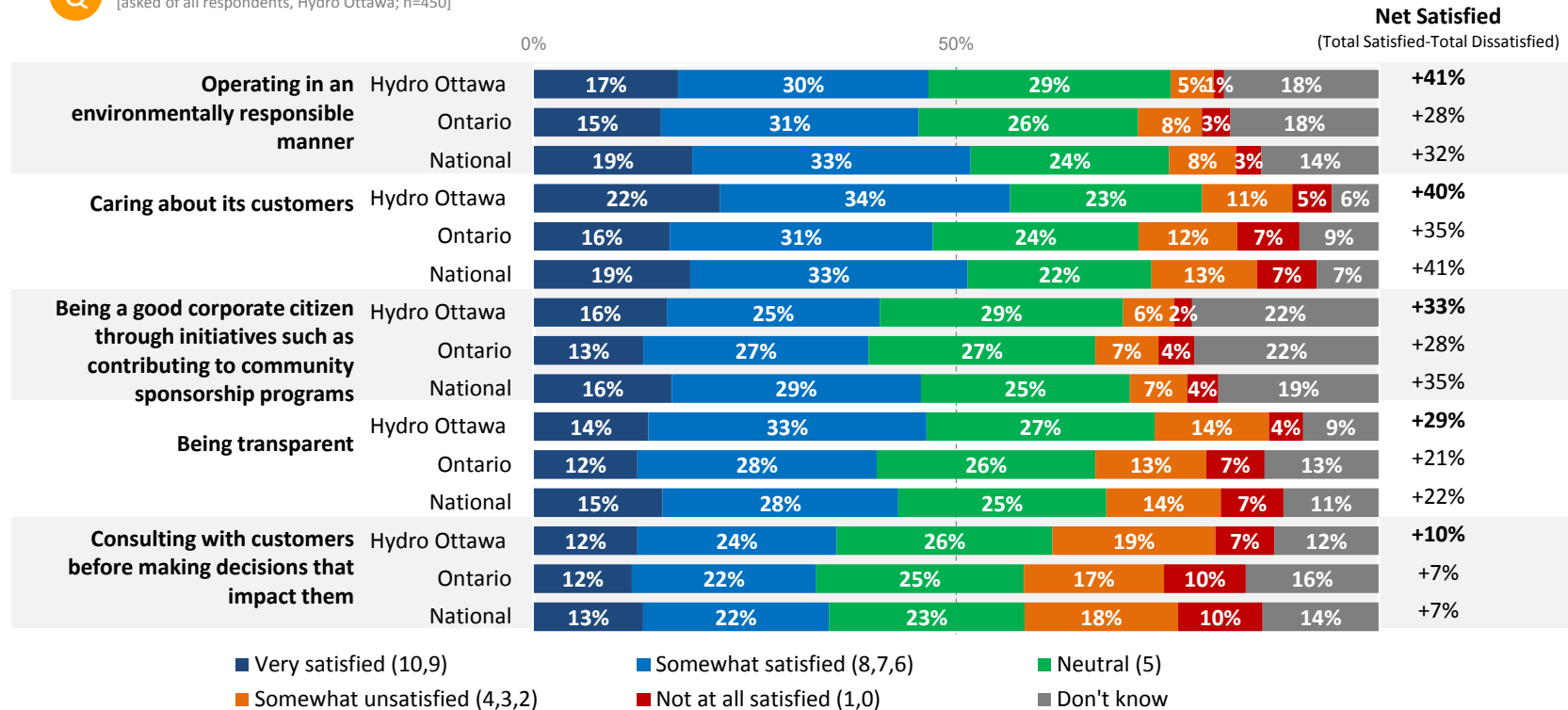


Provincial/National Comparison | Brand Attributes: Hydro Ottawa outperforming national average on all measures but conservation programs



Please indicate how satisfied you are with the way **Hydro Ottawa** is performing on each of the following attributes:

[asked of all respondents, Hydro Ottawa; n=450]

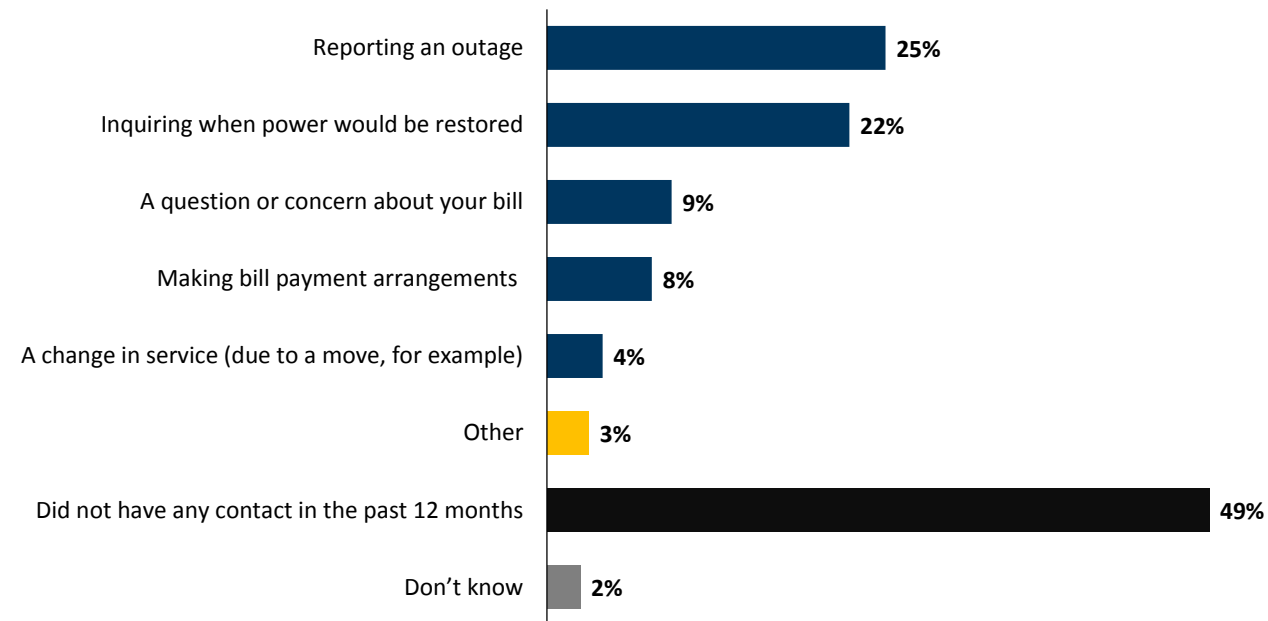


Distributor Contact: Nearly half (49%) did not have any contact with Hydro Ottawa in past year; 1-in-4 (25%) contacted the utility to report an outage



In the past 12 months, which (if any) of the following issues have you contacted Hydro Ottawa about? *Select all that apply.*

[asked of all respondents, Hydro Ottawa; n=450]



NOTES: Chart total is greater than 100% as multiple mentions were accepted



Reliability & Power Quality

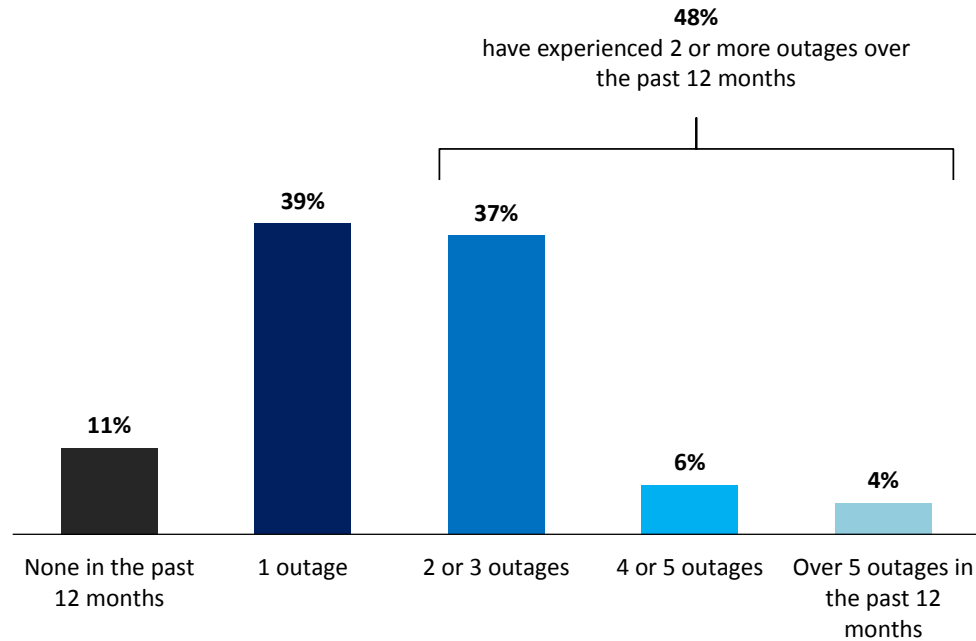


Summary: *Reliability & Power Quality*

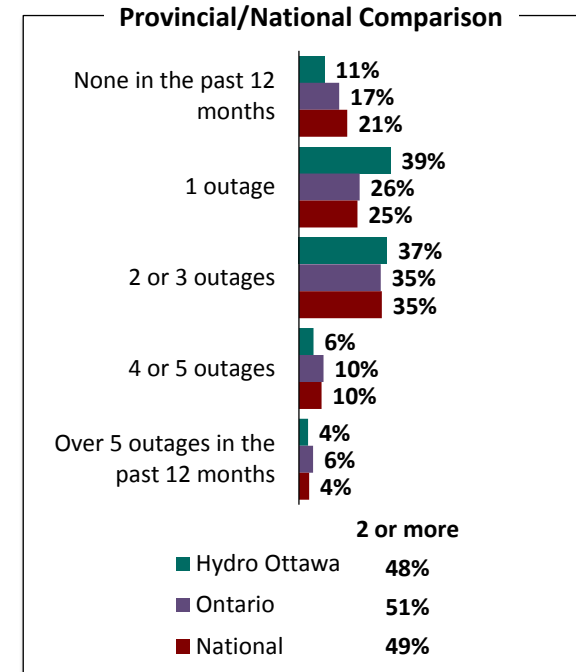
- The proportion of those who have experienced two or more outages in the past 12 months has increased seven points from 41% in 2017 to 48% this year.
- There have been substantial gains in net satisfaction on all reliability and quality measures:
 - Providing reliable electricity service (from +55% to +75%)
 - Quality of power delivered (from +54% to +74%)
 - Time to power restoration (from +49% to +62%)
 - Providing timely and accurate information about outages (from +9% to +47%)
 - Considering customers' needs when planning an outage (from +6% to +39%)
- Hydro Ottawa's net satisfaction score is above the provincial and national averages on all reliability and quality attributes. The top two attributes enjoy the widest gap.
 - Providing reliable electricity service (+75% vs +52% provincial vs +57% national)
 - Quality of power delivered (+74% vs +55% provincial vs +59% national)

Power Outages: In the past year, nearly half (48%) of Hydro Ottawa customers have experienced two or more outages

Q In the past 12 months, how many power outages do you recall experiencing at home?
[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (3%) not shown.

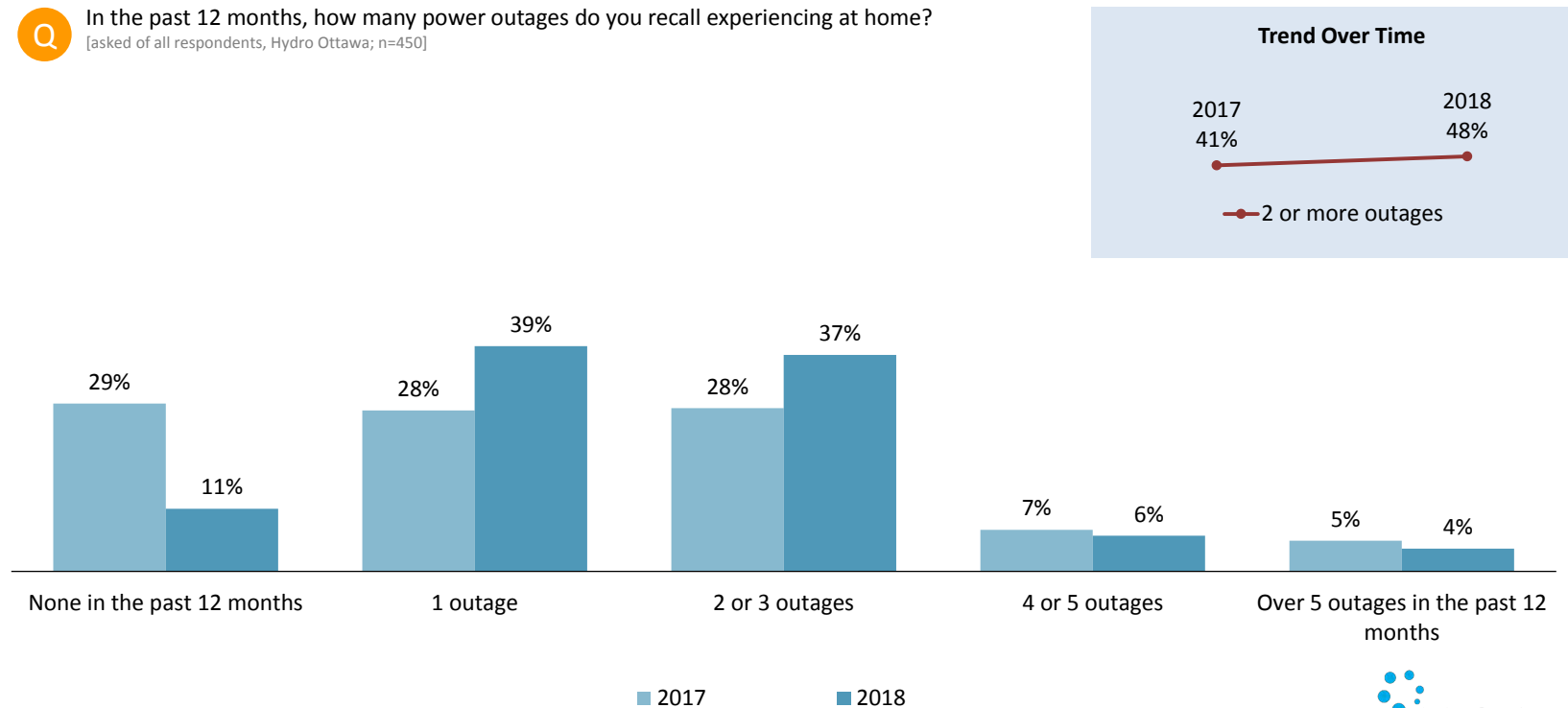


Power Outages: From a low of 41% in 2017, frequent outages have increased 7 points year-to-year; 'No outages' recall drops from 29% to 11% year-to-year



In the past 12 months, how many power outages do you recall experiencing at home?

[asked of all respondents, Hydro Ottawa; n=450]



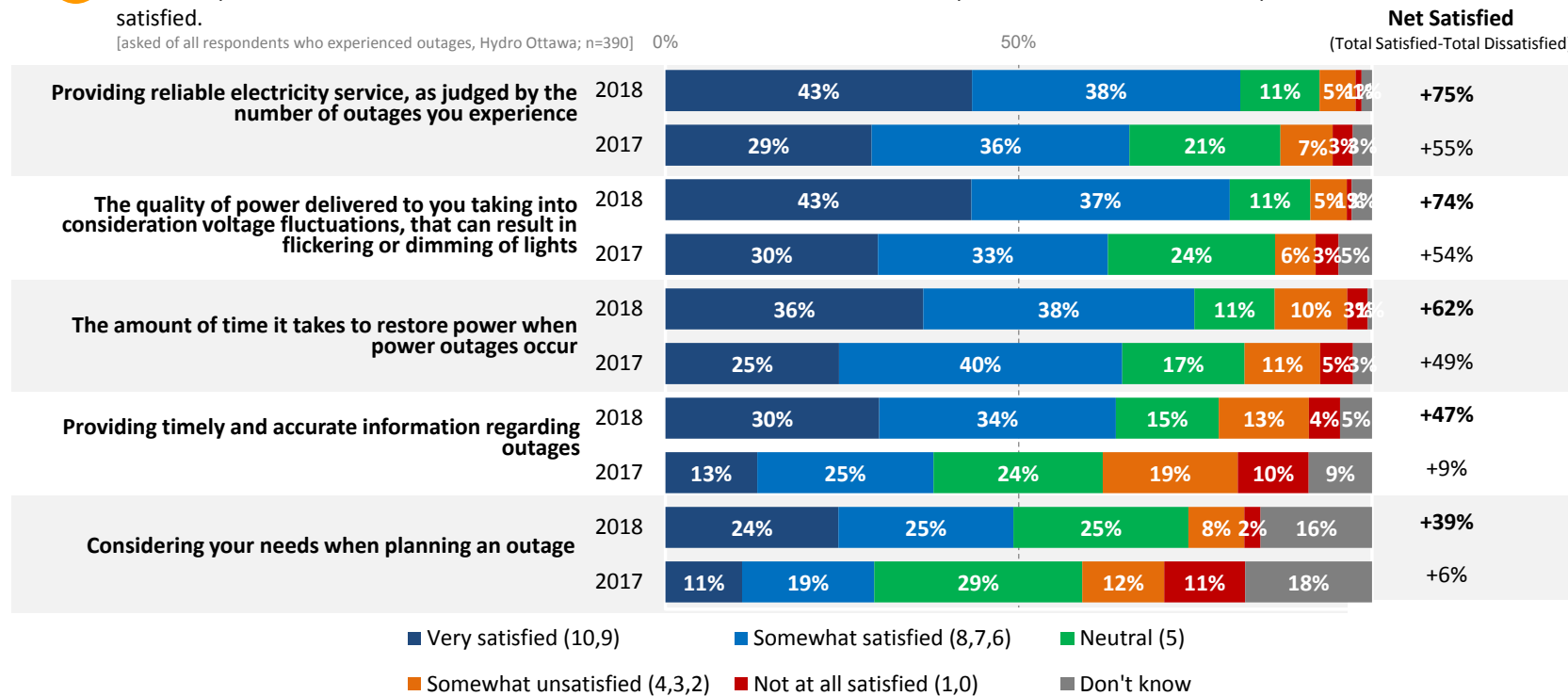
NOTE: 'Don't know' (3%) not shown.

Reliability & Quality Attributes | Tracking: Majority satisfied with reliability of Hydro Ottawa service, net satisfaction up 20 points year-to-year

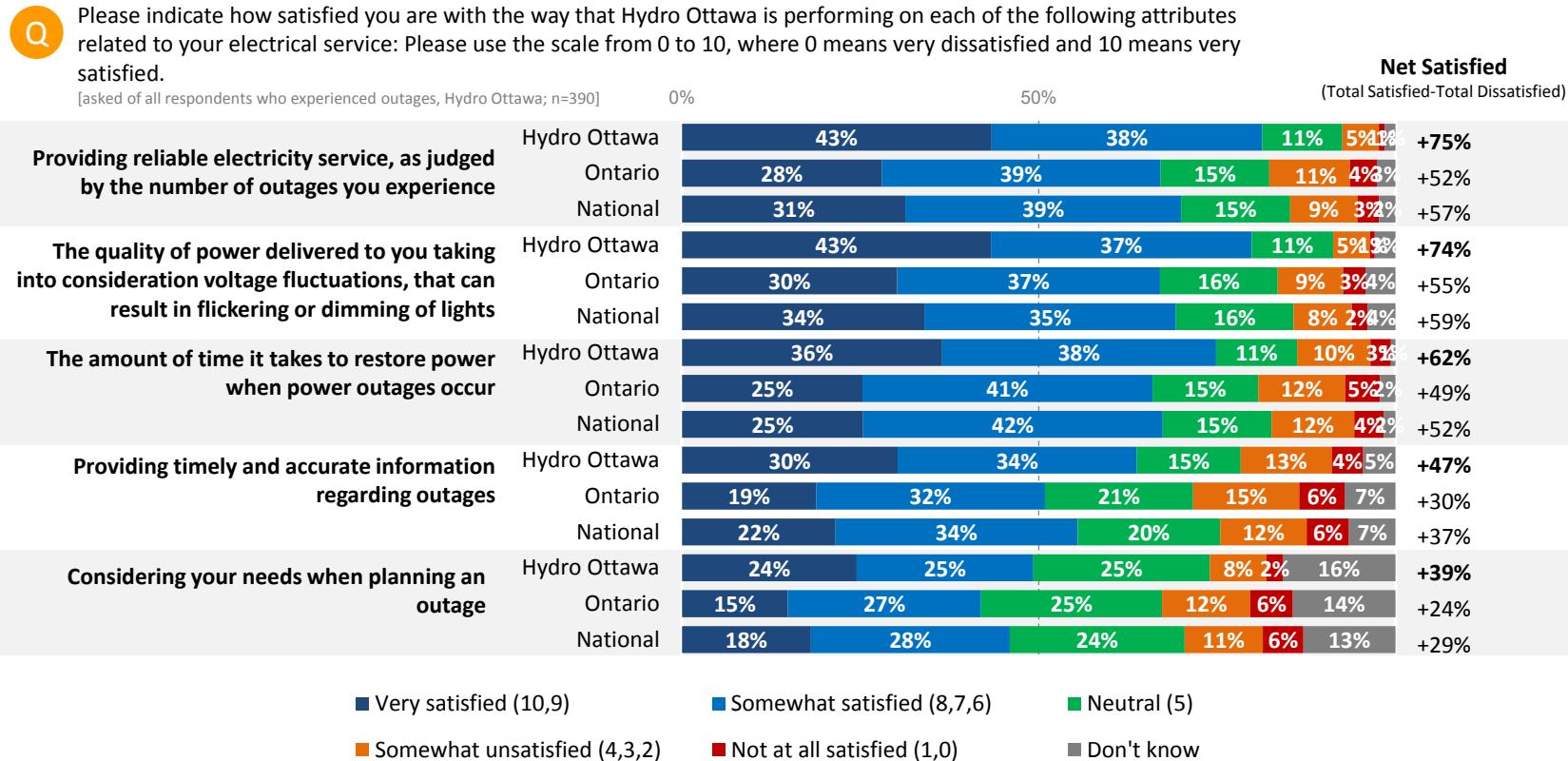


Please indicate how satisfied you are with the way that Hydro Ottawa is performing on each of the following attributes related to your electrical service: Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.

[asked of all respondents who experienced outages, Hydro Ottawa; n=390]



Reliability & Quality Attributes | Prov/National Comparison: Hydro Ottawa runs ahead of all national averages, 18 points ahead on net satisfaction with reliability



Planned Outages

(New in 2018)





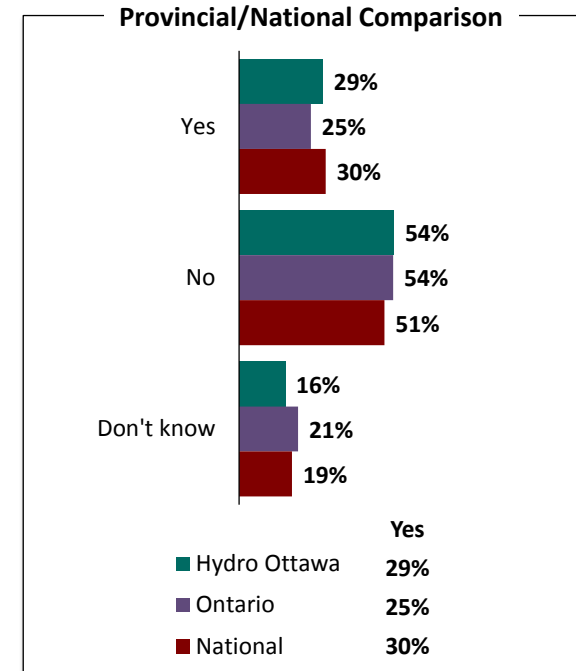
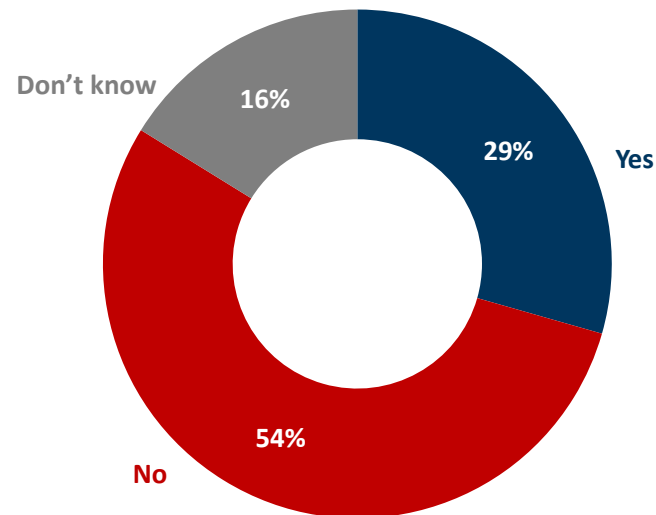
Summary: *Planned Outages*

2018 is the first time this survey asked questions about *planned* outages, specifically.

- Nearly 3-in-10 (29%) say they have been impacted by planned outages in the past two years. This is on par with the national average (30%) but marginally higher than the provincial average (25%).
- Among those who did experience a planned outage, most (76%) reported that Hydro Ottawa proactively communicated with them about the outage. This is on par with the national (75%) and provincial (74%) averages.
- Those who were able to recall communication from Hydro Ottawa about planned outages were generally satisfied with the communication (86%). The level of satisfaction is higher than both the provincial (77%) and national averages (80%). The level of intense satisfaction (51% very satisfied) is much higher than both averages (43% nationally and 41% provincially).
 - The difference is only directional due to the small sample size (Hydro Ottawa n=101).

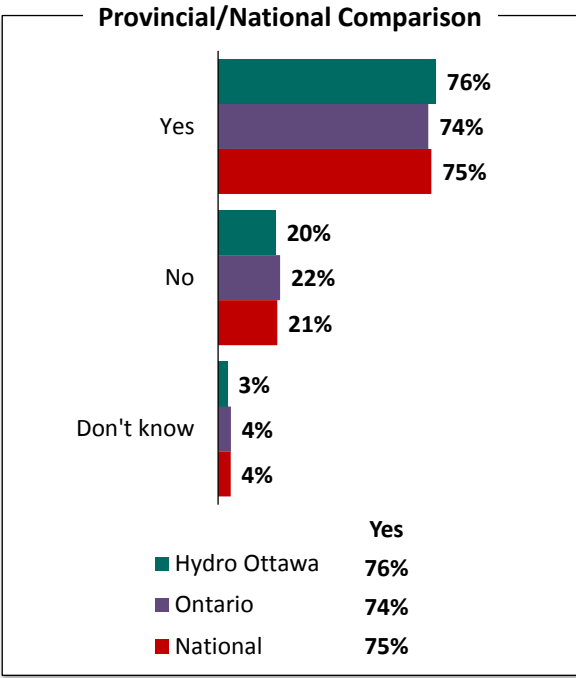
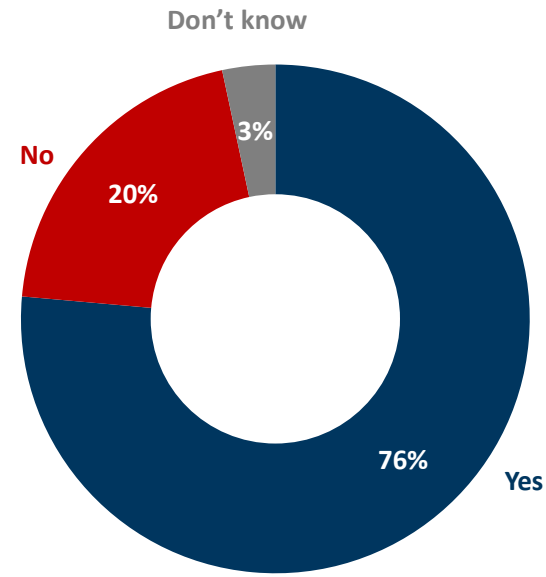
Planned Outages: 3-in-10 (29%) say they have been impacted by planned outages in the past two years, on par with national average

Q From time to time, your local utility has to turn off the power to repair or replace equipment. This work is generally planned in advance and these outages are called planned outages. Over the past 2 years, have you been impacted by any planned outages?
[asked of all respondents, Hydro Ottawa; n=450]



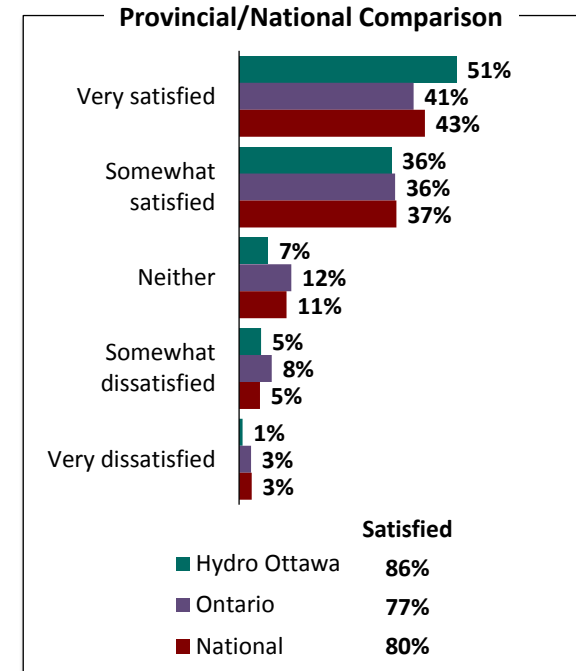
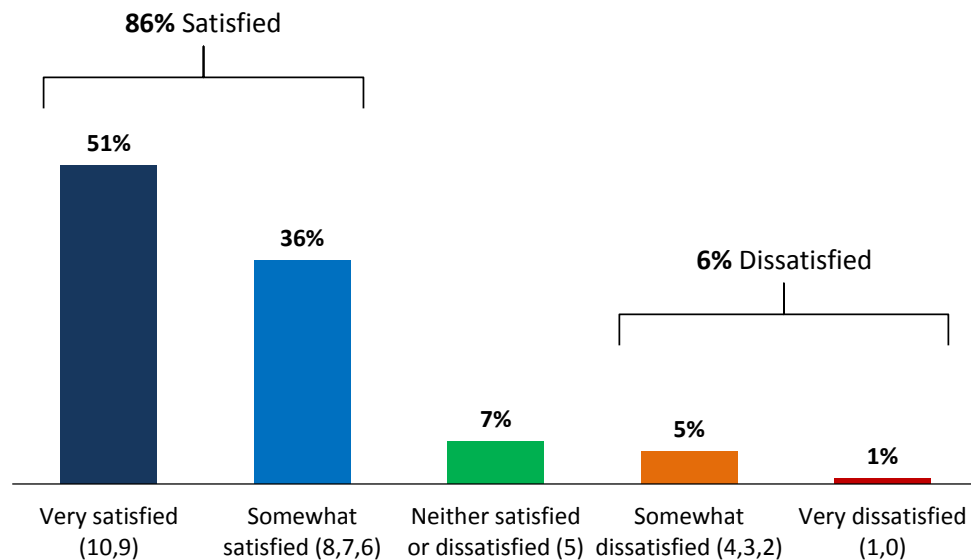
Proactive Communication: 3-in-4 (76%) of those experiencing planned outages were proactively contacted by Hydro Ottawa, on par with national average

Q Did Hydro Ottawa proactively communicate with you about the most recent planned power outage that you experienced?
[asked of respondents who have been impacted by planned outages within the past 2 years; Hydro Ottawa; n=132]



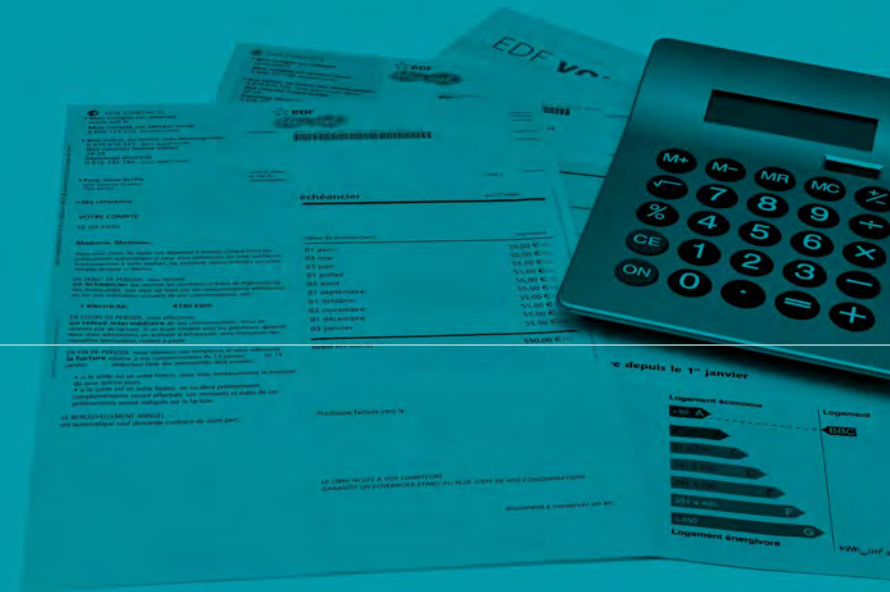
Satisfaction with Planned Outage Communication: Nearly 9-in-10 (86%) who received communication from Hydro Ottawa were satisfied

Q How satisfied are you with the way the company communicated with you about that planned outage? Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.
[asked of respondents who can recall being contacted by distributor during the most recent planned outage; Hydro Ottawa; n=101*]



* Caution: small sample size

Billing & Payment



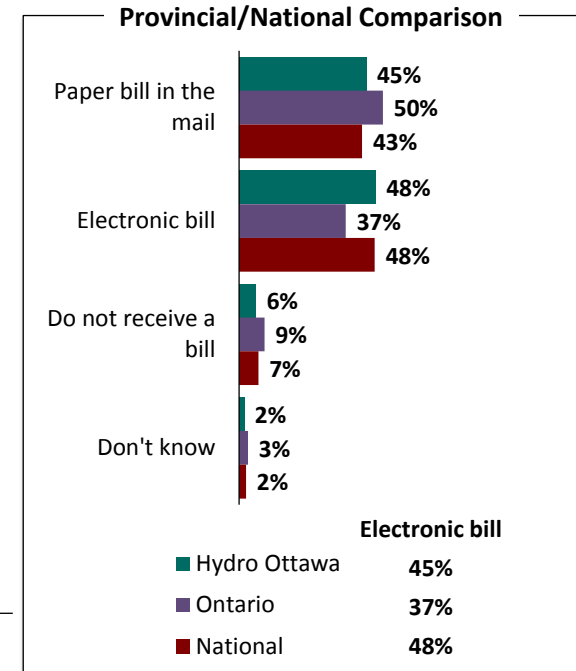
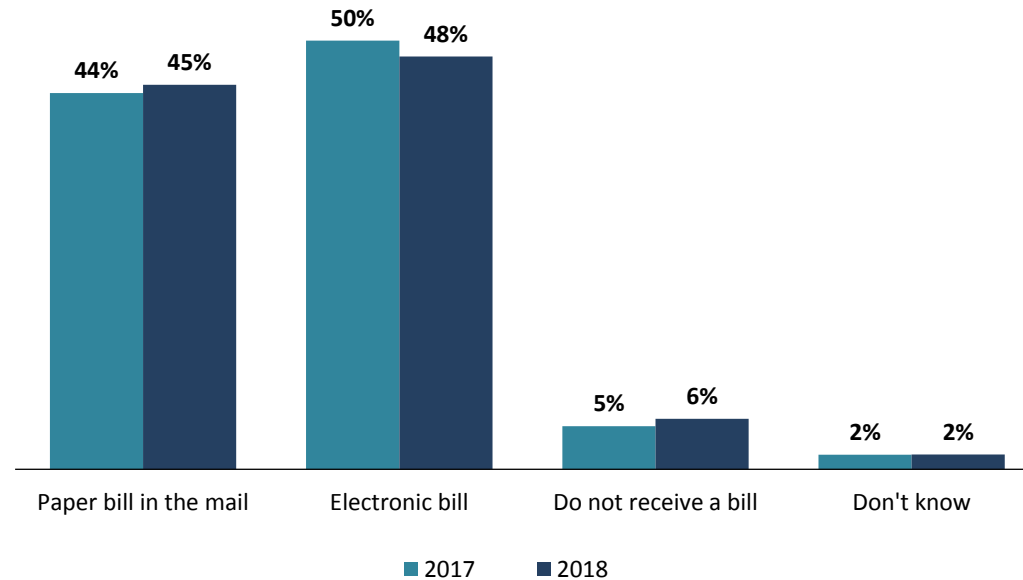


Summary: *Billing and Payment*

- About half (48%) report that they receive an electronic bill and another half (45%) report that they receive a paper bill in the mail from Hydro Ottawa.
- On e-billing, Hydro Ottawa is ahead of the provincial average (37%), but on par with the national average (48%).
- Hydro Ottawa has had at least seven-point gains on net satisfaction across all billing and payment attributes over last year, with an increase of at least six points in the intensity of satisfaction:
 - Providing convenient options to receive my bill (net satisfaction: from +73% to +80%)
 - Providing convenient options to pay my bill (from +65% to +74%)
 - Providing accurate bills (from +63% to +72%)
 - Providing bills that are easy to read and understand (from +53% to +70%)
- Hydro Ottawa is ahead of provincial average on all billing and payment attributes, with the biggest lead on “providing convenient options to pay my bill” (+80% vs +70% provincially).
- Hydro Ottawa’s net satisfaction score is on par with, or marginally ahead of, the national average on all those attributes.

Format of Electricity Bill: Hydro Ottawa (45%) is ahead of the provincial average (37%), but slightly behind the national average (48%) on e-billing

Q In what format do you receive your electricity bill?
[asked of all respondents, Hydro Ottawa; n=450]

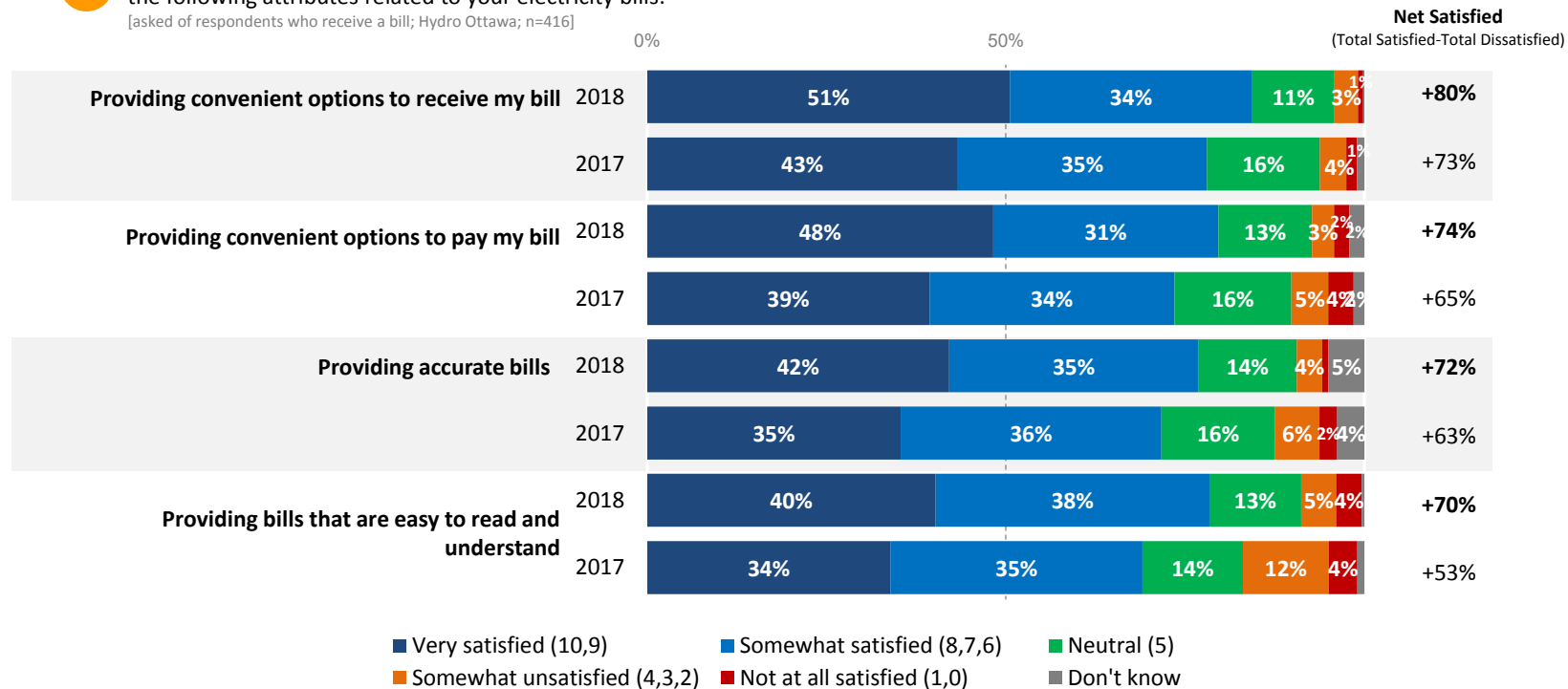


Billing & Payment Attributes | Tracking: Gains in total and net satisfaction on all attributes over 2017



For each item on the list, please indicate how satisfied you are with the way Hydro Ottawa is performing on each of the following attributes related to your electricity bills:

[asked of respondents who receive a bill; Hydro Ottawa; n=416]

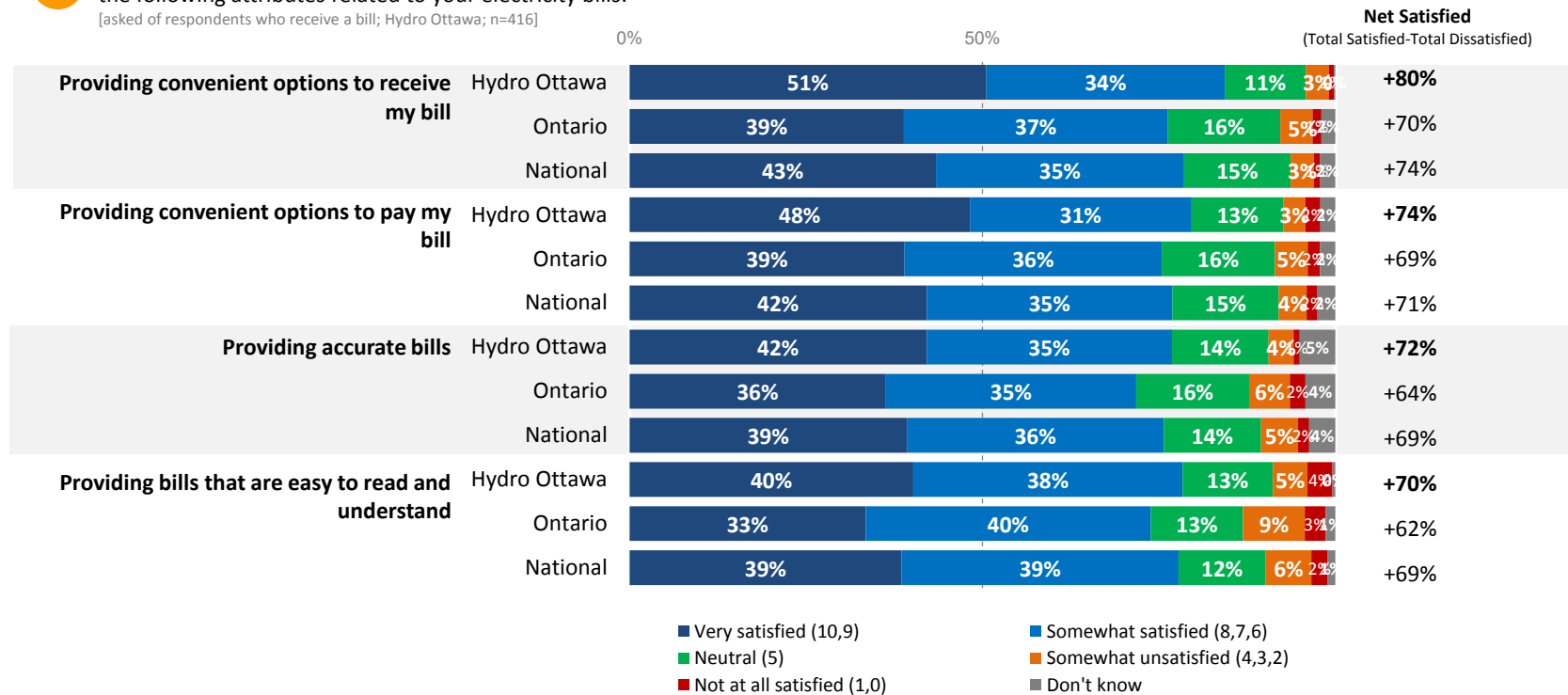


Billing & Payment Attributes | Tracking: Hydro Ottawa runs ahead of provincial average on all four measures



For each item on the list, please indicate how satisfied you are with the way Hydro Ottawa is performing on each of the following attributes related to your electricity bills:

[asked of respondents who receive a bill; Hydro Ottawa; n=416]



Communications



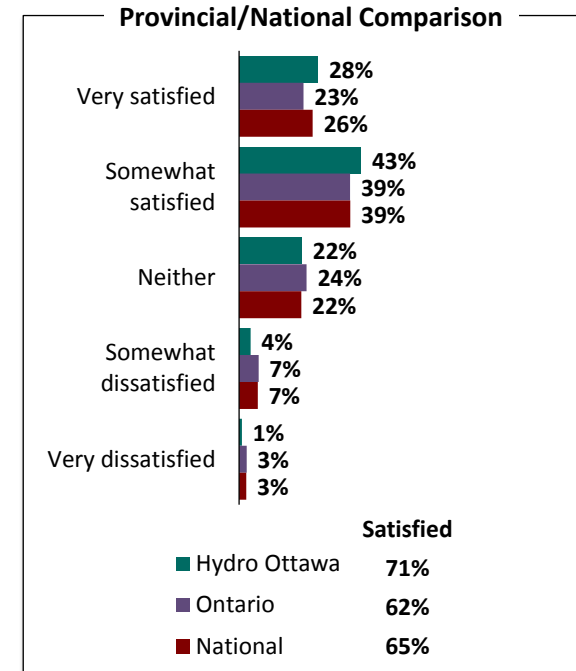
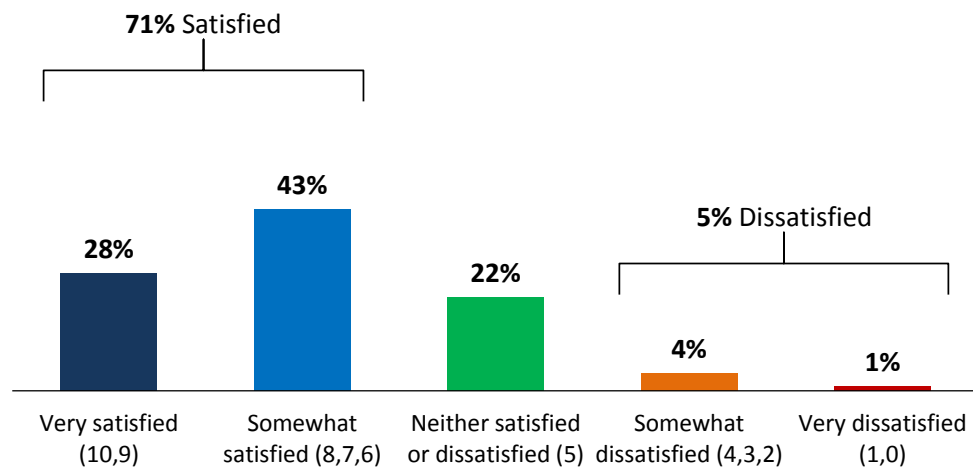


Summary: *Communications*

- At 7-in-10 (71%), satisfaction with the overall communications from Hydro Ottawa is ahead of both the provincial (62%) and national averages (65%).
- Satisfaction is 19 points higher than last year due to an 12-point gain in the proportion who are “*very satisfied*” (from 16% to 28%). Gains in satisfaction are primarily the result of a decrease in ambivalence (from 30% to 22%) and dissatisfied (from 13% to 5%).
- Net satisfaction with all forms of communication has increased since 2017, with the biggest gain on *outage notification* (from +8% to +39%).
- While net satisfaction is positive across all forms of communication, only *the website* and the *outage notification* have a level of total satisfaction that is greater than 50%.
- Net satisfaction for Hydro Ottawa’s forms of communication is either greater than or equal to the provincial average.
- Half (52%) feel their customer experience with Hydro Ottawa is similar to other companies, but a third (35%) say it is *better*. This is ahead of both the provincial (27%) and national (29%) averages.
- The proportion who say Hydro Ottawa provides a *better* customer experience has increased by 13 points since 2017 (from 22% to 35%).

Overall Communications: Above the provincial average, 7-in-10 (71%) are satisfied with Hydro Ottawa's communication

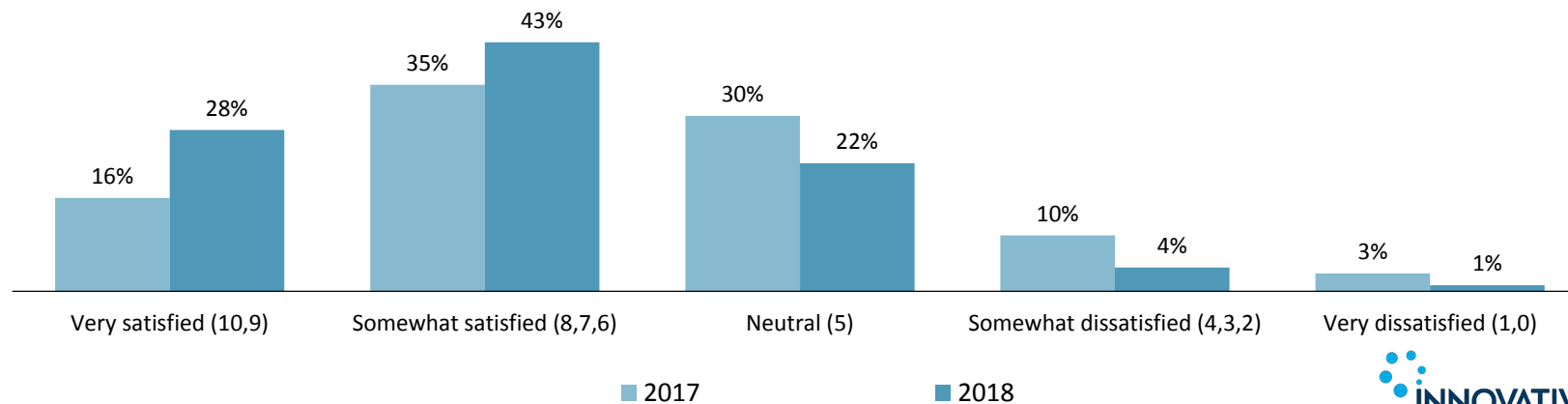
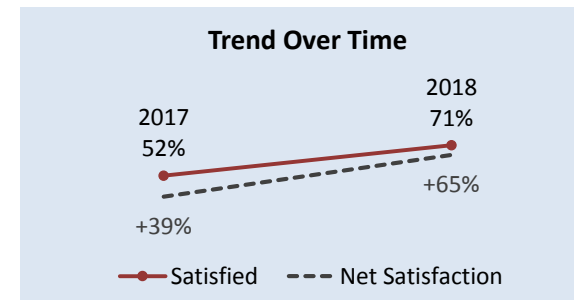
Q Please indicate how satisfied you are with overall communications from Hydro Ottawa. Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.
[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (2%) not shown.

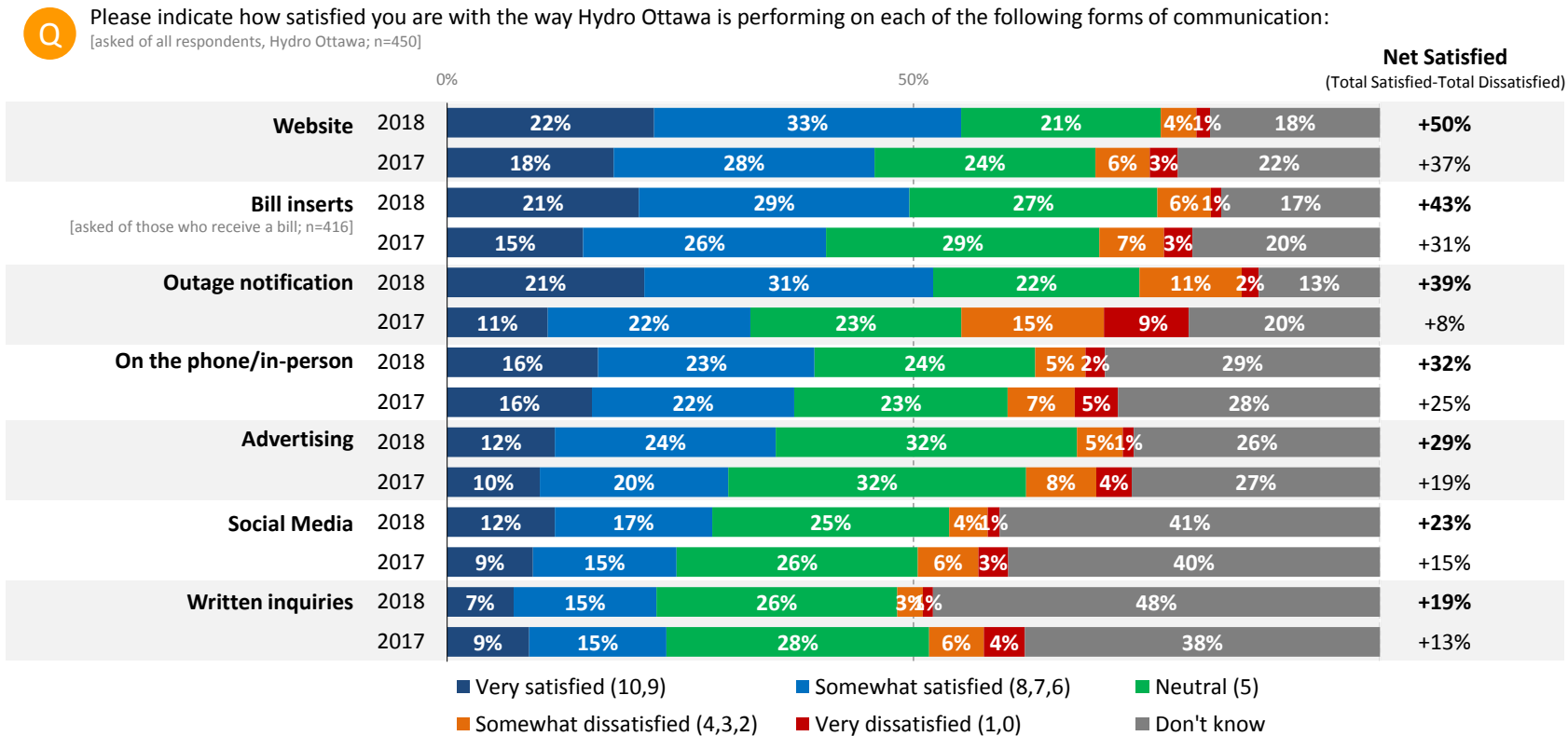
Overall Communications | Tracking: Over the past year, satisfaction with overall communication from Hydro Ottawa has increased 19 points

Q Please indicate how satisfied you are with overall communications from Hydro Ottawa. Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.
 [asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (2%) not shown.

Forms of Communication: Majority are satisfied with communications on bill inserts and website; net satisfaction has improved on all measures but written inquiries

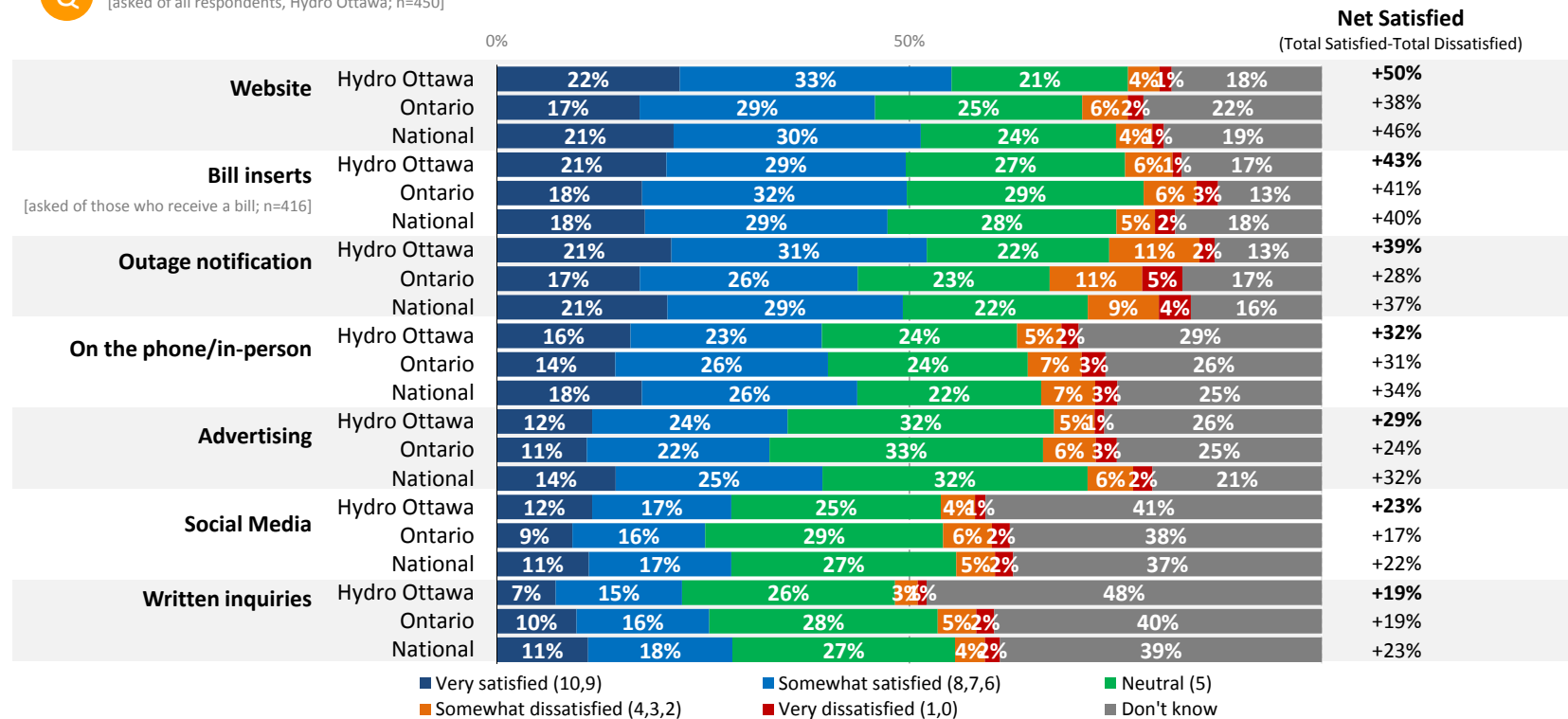


Forms of Communication: Hydro Ottawa outperforms Ontario-wide net satisfaction by 12 points on website, 11 points on outage notification



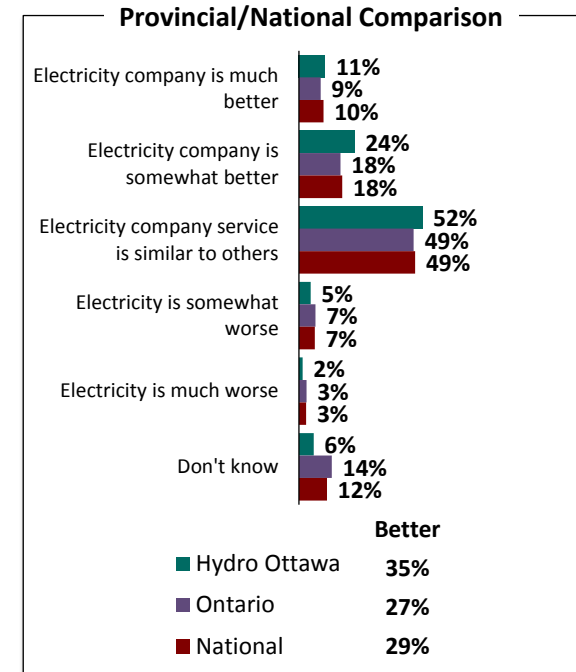
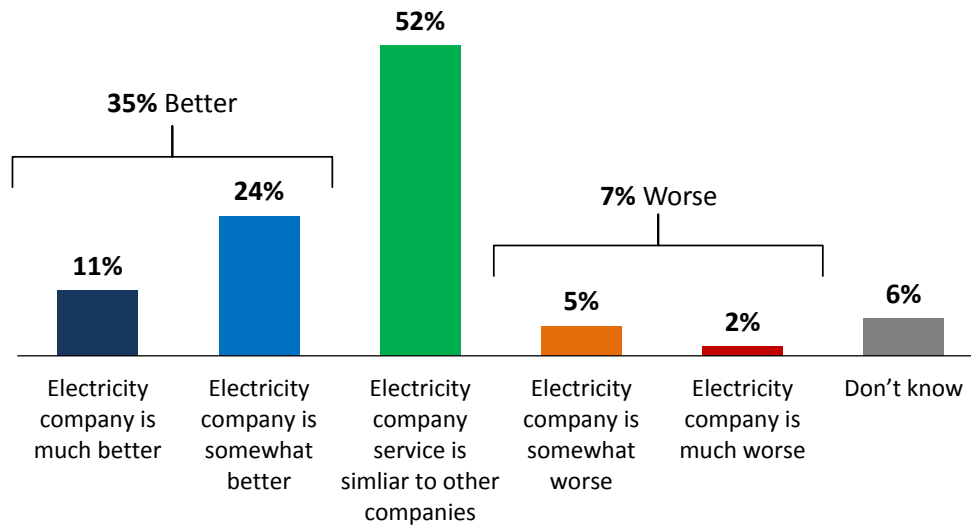
Please indicate how satisfied you are with the way Hydro Ottawa is performing on each of the following forms of communication:

[asked of all respondents, Hydro Ottawa; n=450]



Comparing Customer Experience: Most (52%) feel customer experience with Hydro Ottawa is on par with other service providers; 35% think it is better

Q How does your customer experience with Hydro Ottawa compare to that of other service providers you use (telephone, cable, TV/internet, natural gas, your bank)?
[asked of all respondents, Hydro Ottawa; n=450]

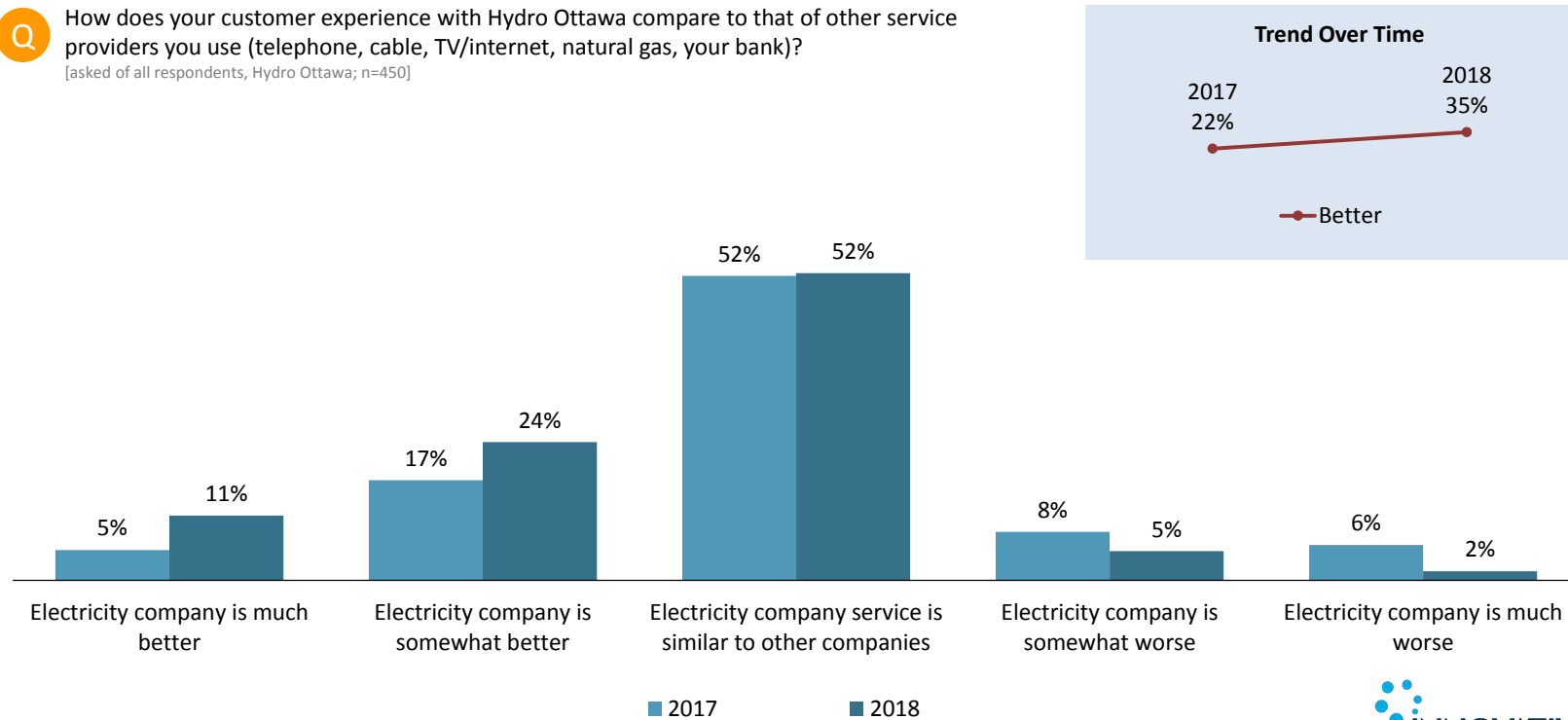


Comparing Customer Experience (Tracking): Opinion of customer experience with Hydro Ottawa has improved 12 points since 2017



How does your customer experience with Hydro Ottawa compare to that of other service providers you use (telephone, cable, TV/internet, natural gas, your bank)?

[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (15%) not shown.

Conservation

(New in 2018)



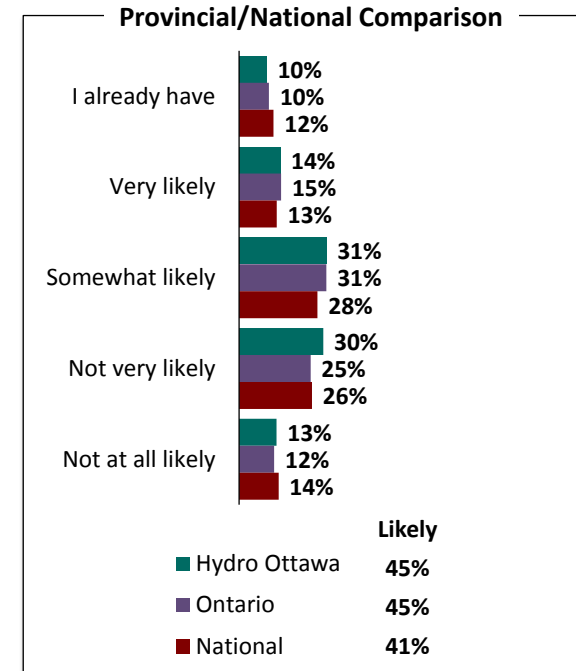
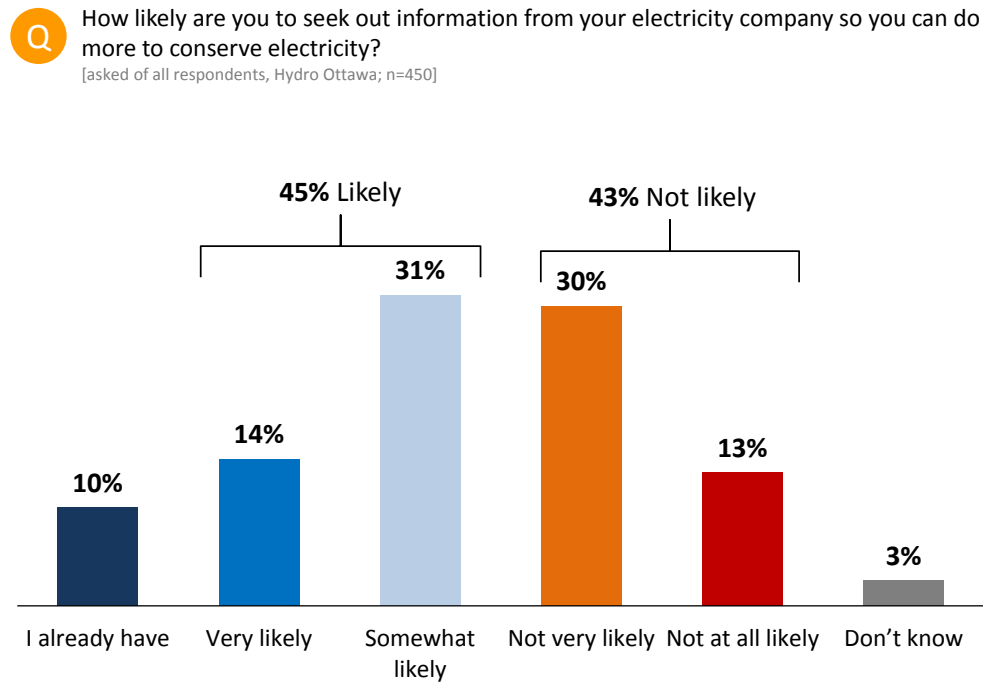


Summary: *Conservation*

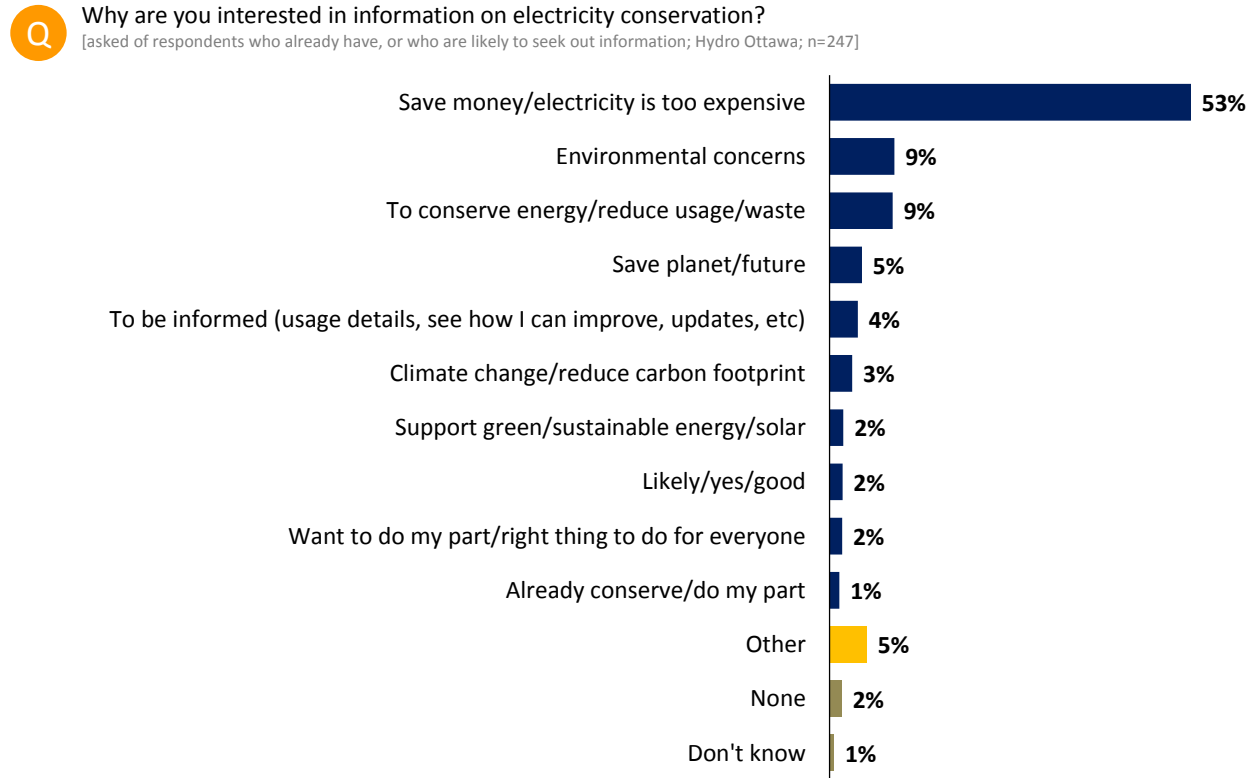
The 2018 survey included some new questions about conservation. Specifically, questions probed the likelihood of seeking information from electricity companies about conserving energy, in addition to the type of information that is of greatest interest.

- One-in-ten (10%) say they have already sought information about conservation from their electricity company, and nearly half (45%) say they are either “very” (14%) or “somewhat” (31%) likely to do so.
- The likelihood is on par with the provincial average (45%) and marginally above the national average (41%).
- Saving money (53%) is the primary reason for seeking information on electricity conservation.
- Of those who are not likely to seek conservation information from their electricity company, 16% say they are already doing it, 11% say they already know how to do it, and 10% say they can find the information themselves.
- In total, over half (56%) say they are most interested in conservation programs that include an incentive, with incentives on heating and cooling (20%) being the most popular. Tips and tools are the most popular non-incentive program at 23%.

Seeking Conservation Info: Majority are likely to seek out information or already have; 'likely' for Hydro Ottawa 4 points above national average



Reasons for Interest in Conservation: majority (53%) of interested would seek out conservation information to save money



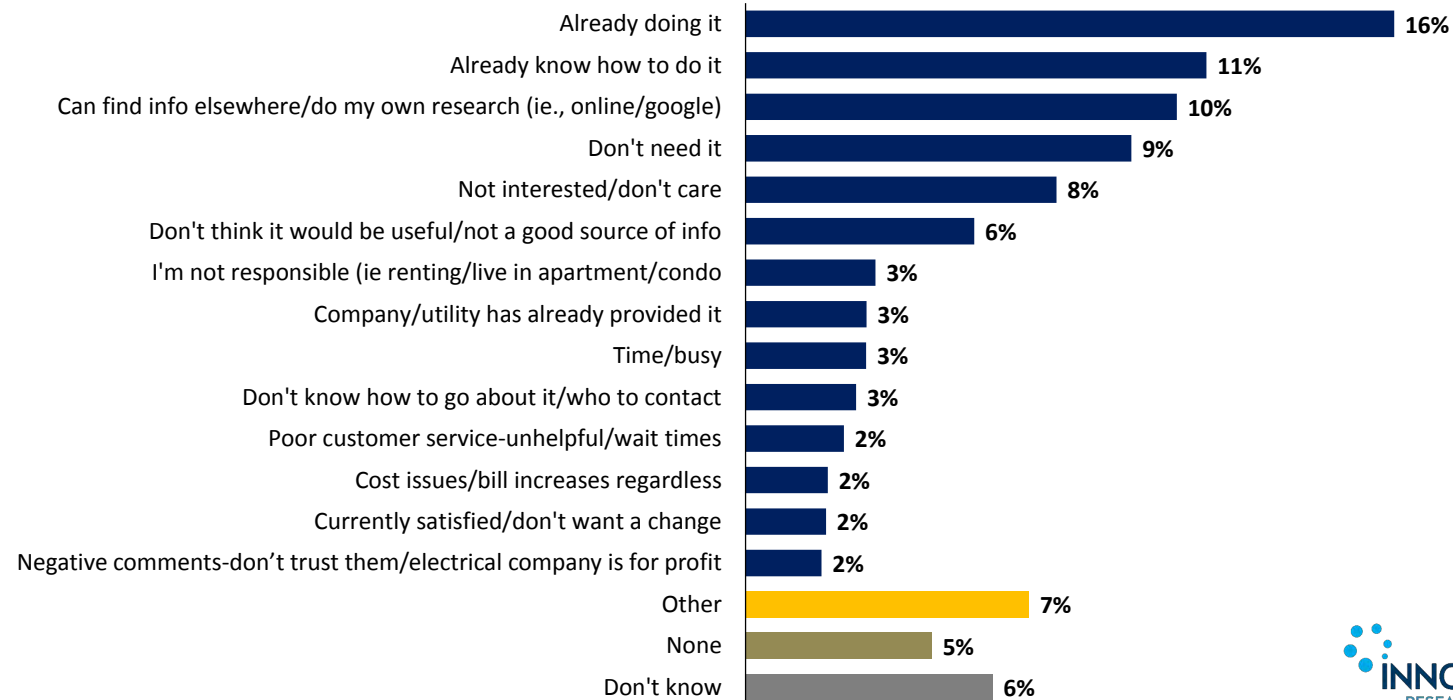
NOTE: 'Refused' (1%) not shown.

Reasons For Not Seeking Conservation Info: Top answers are 'already doing it' (16%), 'know how' (11%), and 'can do my own research' (10%)



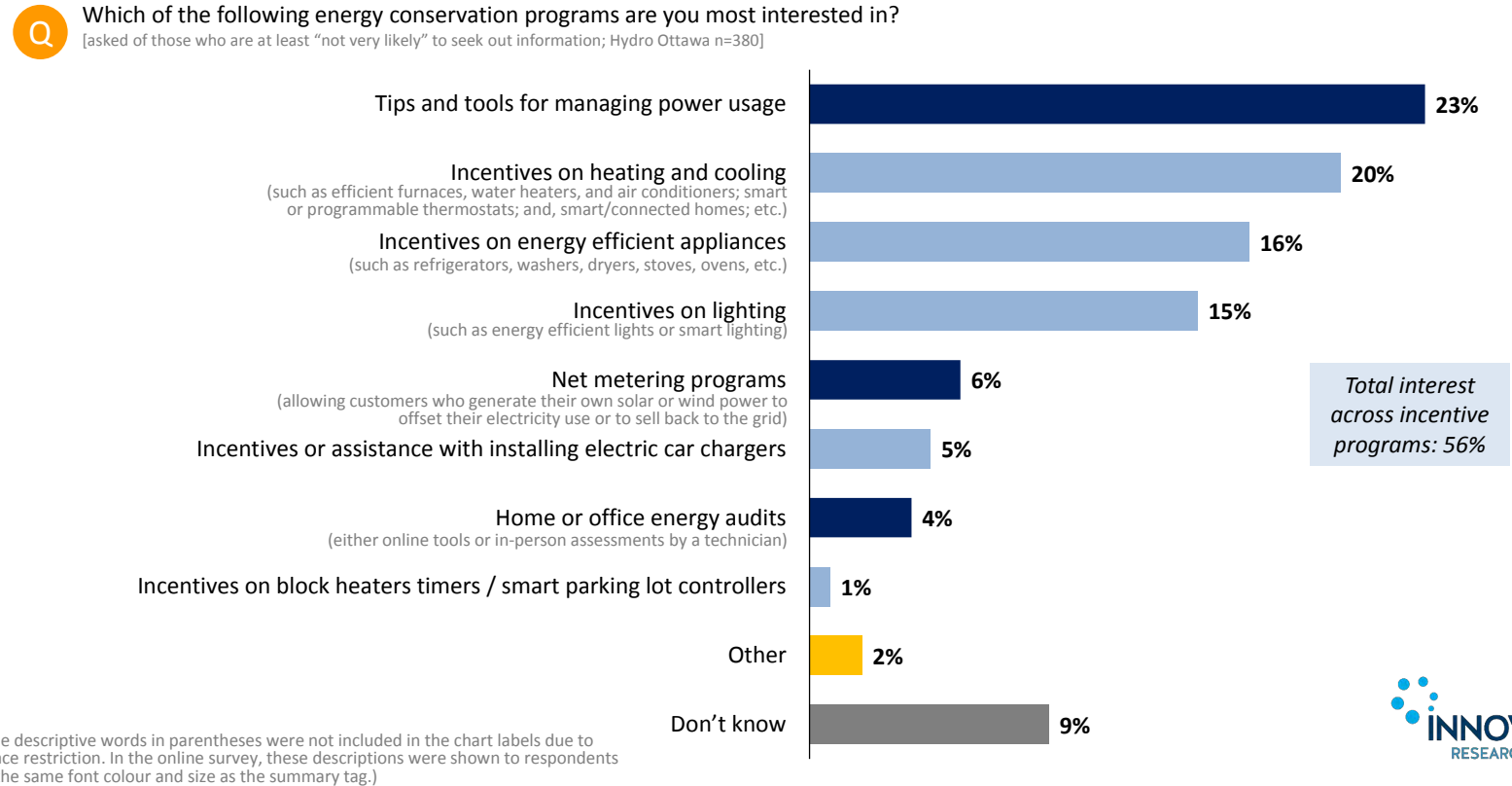
What would hold you back from seeking that type of information?

[asked of respondents who are not likely to seek out information; n=192]



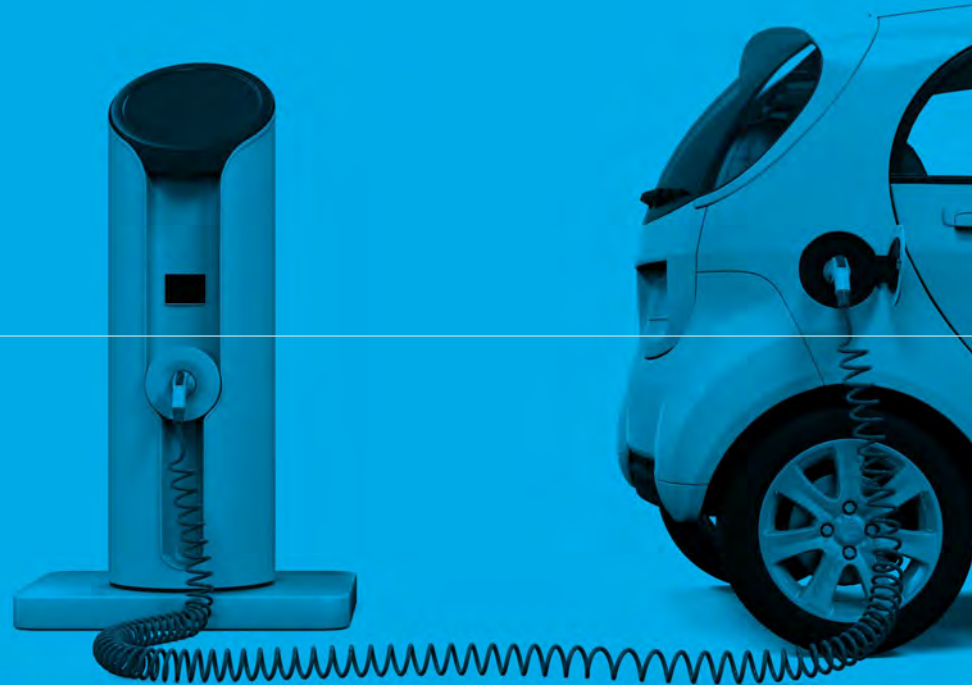
NOTE: 'Refused' (3%) not shown.

Conservation Programs: 56% of those likely to seek out information would be interested in a conservation program that involves incentives



Technology

(New in 2018)





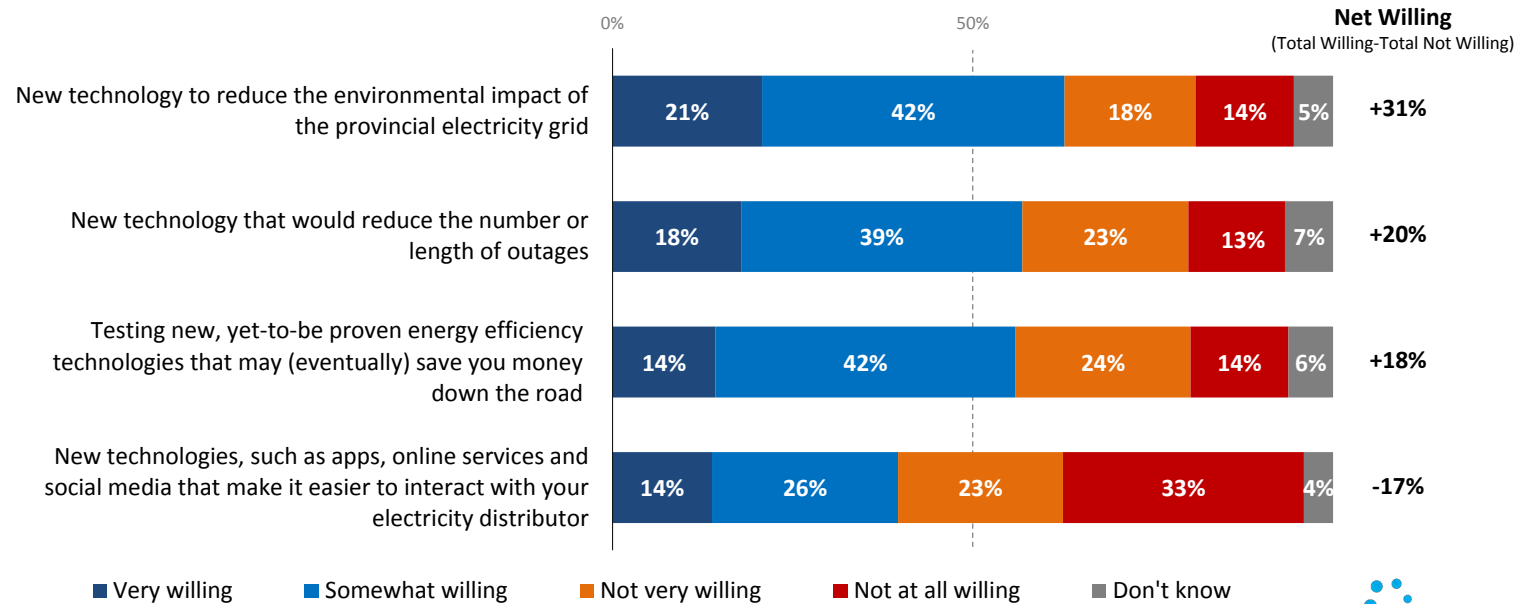
Summary: *Technology*

Technology is also a newly-added line of questioning in the 2018 survey. With all of the advances in technology, CEA members wanted to find out what people are willing to pay for, and what kind of technology they think electricity companies should make a priority.

- Net willingness to pay more for technology is higher if there is a benefit that is tangible to the customer. Net willingness to pay more is negative and lowest (-17%) for technology that makes it easier to interact with their distributor, compared to a net score of +31% for technology what would reduce the grid's environmental impact.
- Hydro Ottawa customers are substantially more likely to prioritize potential future savings than either the provincial or national averages. Provincially and nationally, opinion is divided between the environment and potential future savings.
- The proportion who have already bought an EV is as low among Hydro Ottawa customers as it is across Ontario and across Canada (all between 2%-3%), but the proportion who say they are at least somewhat likely (39%) to do so is on par with the provincial (39%) and national (37%) averages.
- Environmental benefits (11 out of 35 of those who purchased an EV or plan to purchase one) are the primary reason for interest in an EV, whereas cost (29%) is the main barrier.

Paying for Tech Innovation: Most would be willing to pay for new tech to reduce environmental impact, number of outages, and potential future savings

Q Sometimes new technology can save money in electricity systems. Other times it can add costs. Now we would like to ask you about some ways that that electricity companies can improve services to you that would add some costs to your bills. Please indicate how willing you would be to pay more for the following technological innovations from Hydro Ottawa.
[asked of all respondents, Hydro Ottawa; n=450]

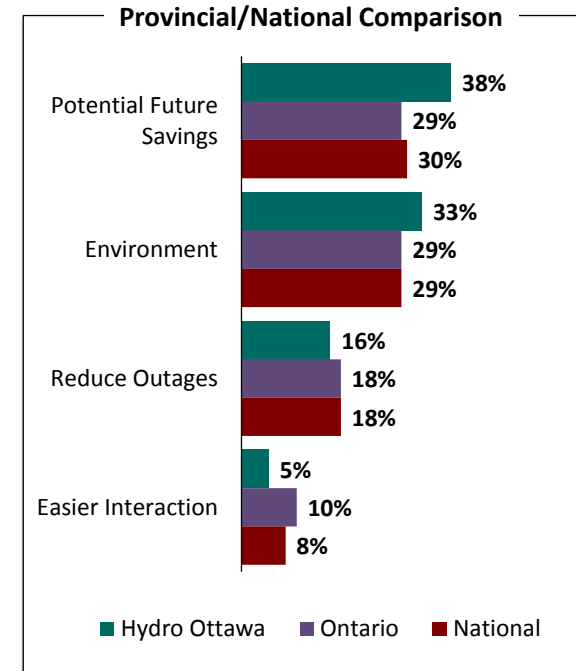
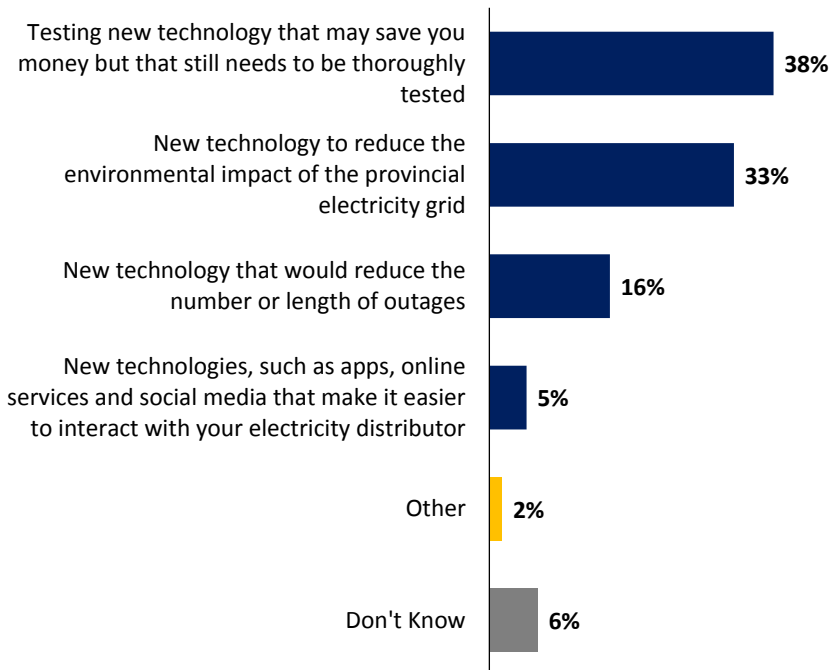


Technological Priorities: Top priority for over 1-in-3 (38%) is new tech that will save money, followed by reduced environmental impact of grid



When it comes to developing new technology, which of the following do you feel should be the main priority for your electricity distributor?

[asked of all respondents, Hydro Ottawa; n=450]



Technological Priorities: Millennials more likely to prefer new tech like apps to ease interaction; among those who struggle financially, cost savings is key



When it comes to developing new technology, which of the following do you feel should be the main priority for your electricity distributor?

[asked of all respondents, Hydro Ottawa; n=450]

	TOTAL	Age			Impact on Finances		
		18-34	35-54	55+	Impact	Neutral	No Impact
Testing new technology that may save you money but that still needs to be thoroughly tested	38%	32%	40%	39%	45%	39%	32%
New technology to reduce the environmental impact of the provincial electricity grid	33%	32%	31%	34%	23%	33%	44%
New technology that would reduce the number or length of outages	16%	17%	15%	16%	19%	13%	15%
New technologies, such as apps, online services and social media that make it easier to interact with your electricity distributor	5%	13%	6%	1%	7%	4%	3%

Technological Priorities: Those with most outages prefer cost savings tech by nearly 2-1 over environment, 50% of dissatisfied prefer cost savings tech

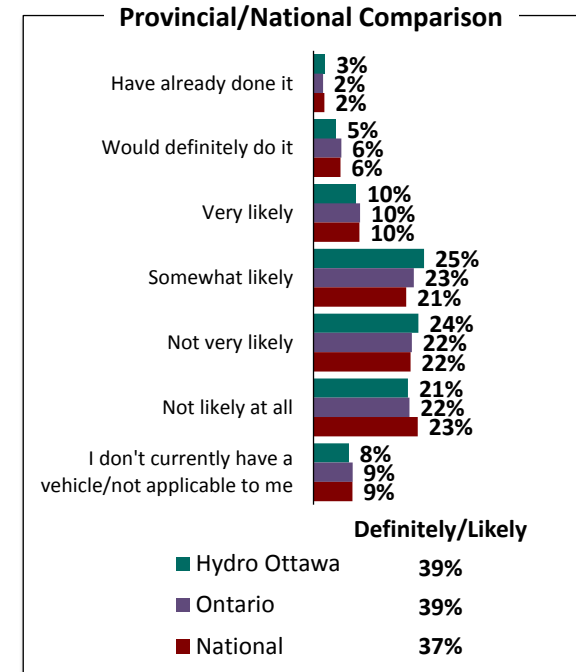
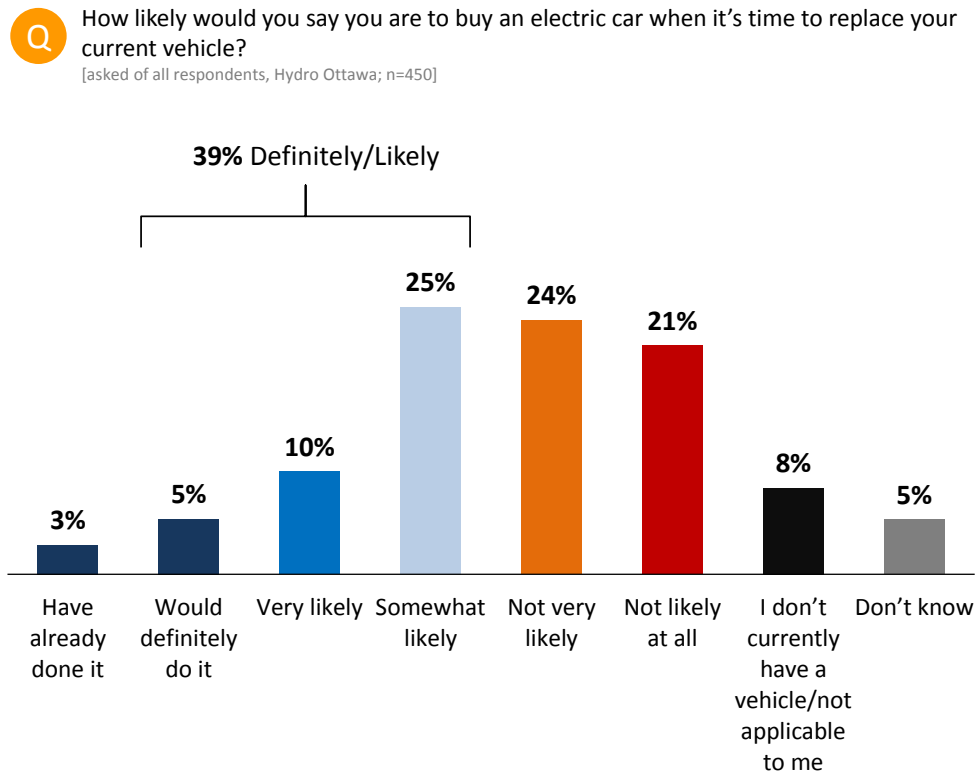


When it comes to developing new technology, which of the following do you feel should be the main priority for your electricity distributor?

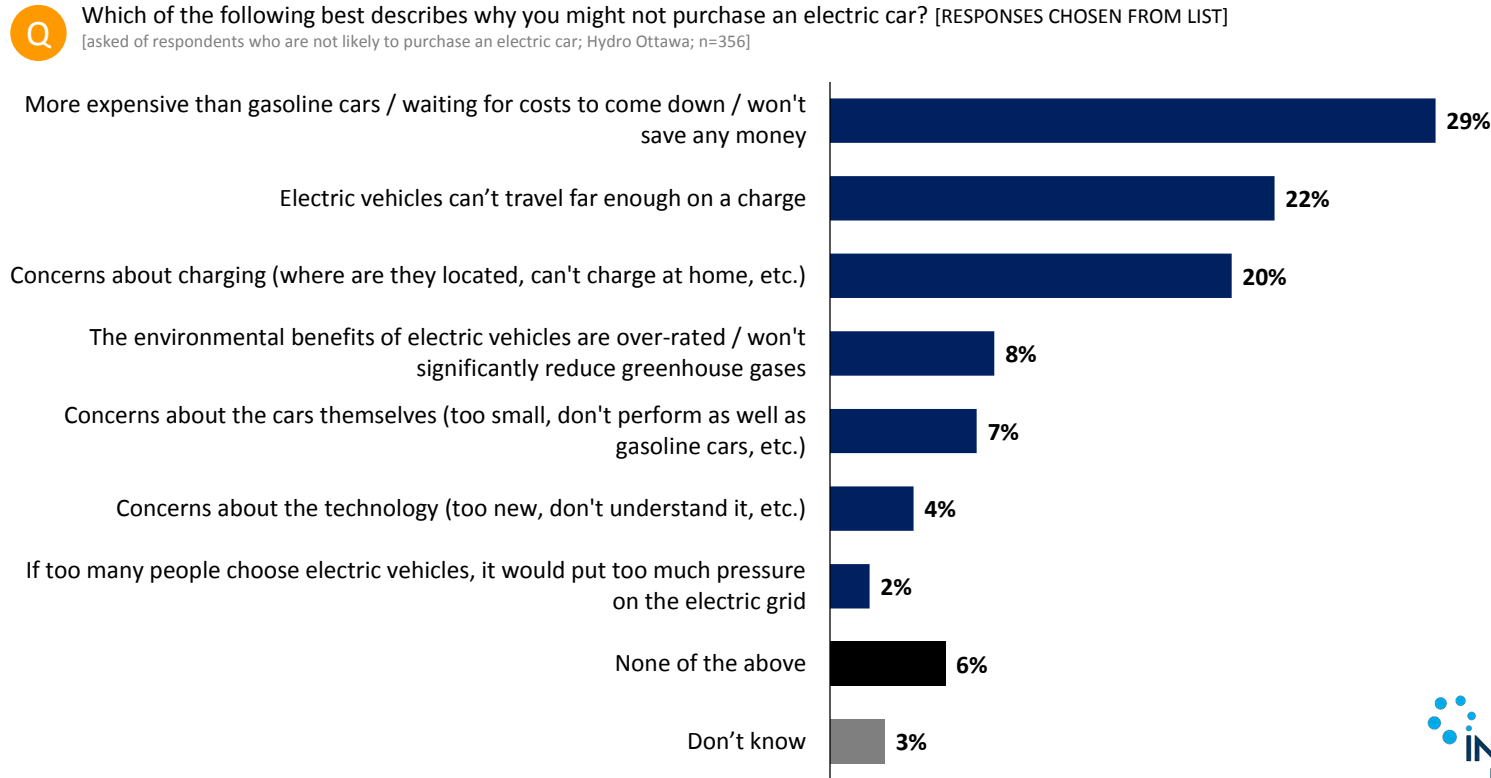
[asked of all respondents, Hydro Ottawa; n=450]

	TOTAL	# of Outages (Past 12 Months)			Satisfaction with Hydro Ottawa		
		Less than 2	2 or 3	3+	Satisfied	Neutral/DK	Dissatisfied
Testing new technology that may save you money but that still needs to be thoroughly tested	38%	43%	32%	45%	39%	29%	50%
New technology to reduce the environmental impact of the provincial electricity grid	33%	42%	42%	24%	33%	34%	25%
New technology that would reduce the number or length of outages	16%	9%	16%	17%	17%	17%	7%
New technologies, such as apps, online services and social media that make it easier to interact with your electricity distributor	5%	4%	5%	6%	4%	7%	8%

Buying Electric Vehicles: Only 3% have actually done so, but 4-in-10 (39%) say they are likely to buy an EV, on par with the provincial average

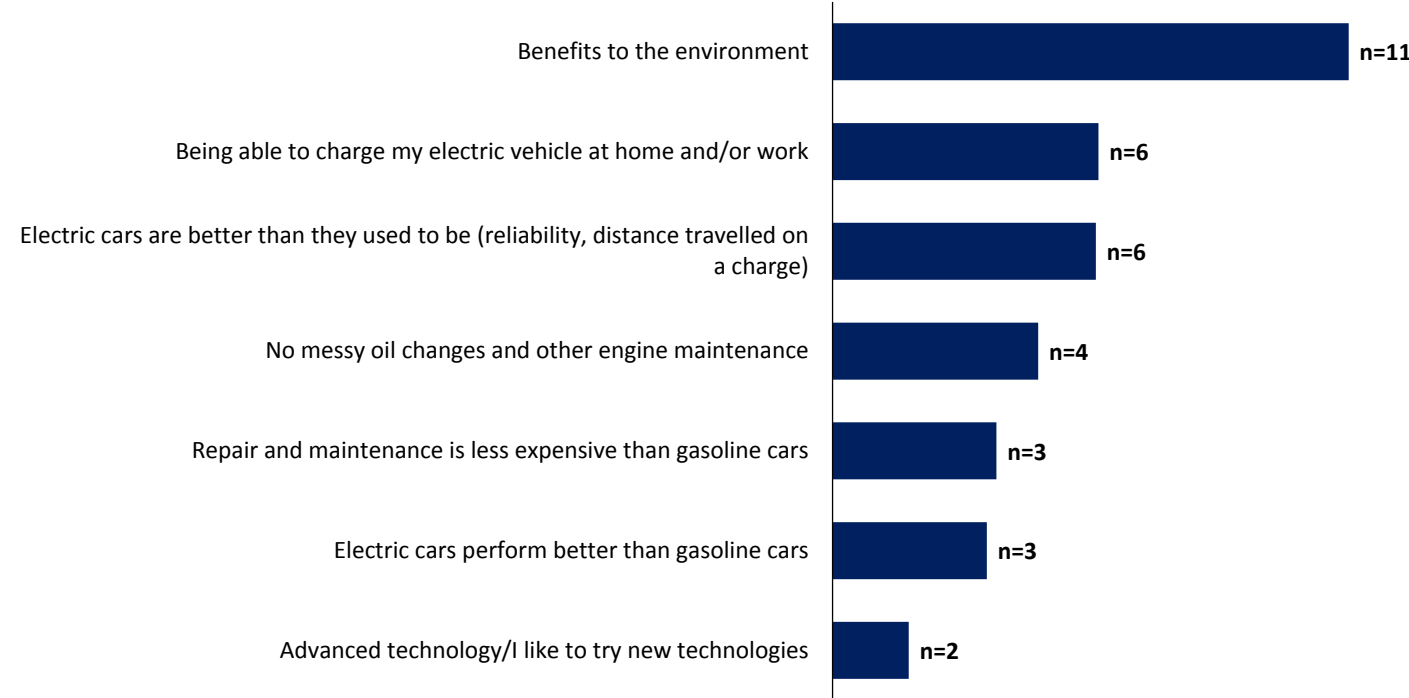


Reasons Against Purchasing an EV: 3-in-1 (29%) cite cost as a reason not to purchase an electric car



Why Purchased/Plan to Purchase an EV: A plurality (31%) of those who have purchased/plan to purchase EV cite benefits to the environment

Q Which of the following best describes why you have purchased or plan on purchasing an electric car? [RESPONSES CHOSEN FROM LIST]
[asked of respondents who have purchased or plan on purchasing an electric car; Hydro Ottawa; n=35]



Net Promoter Score (NPS)

(This metric was last asked on the 2016 survey)

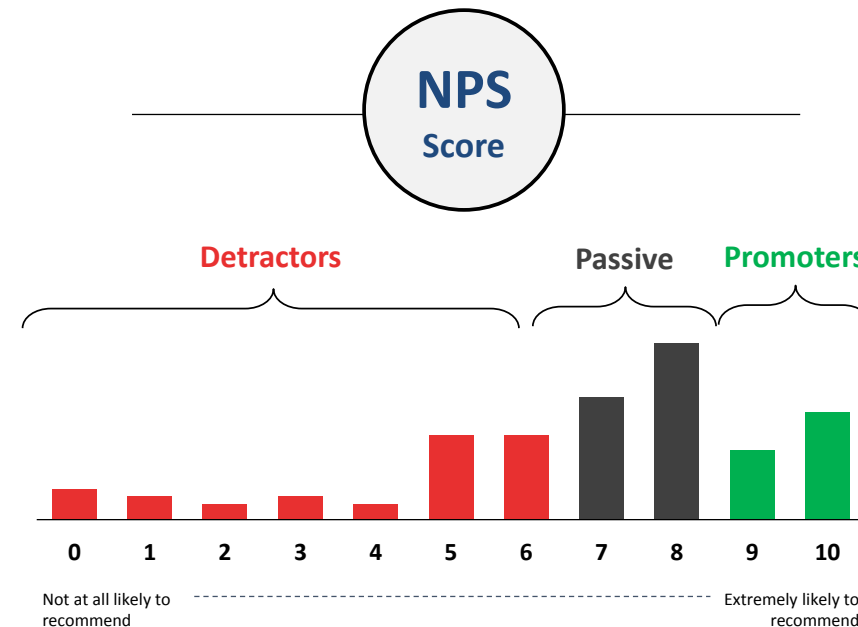
Endorsement: Calculating “Net Promoter Scores” (NPS)

A *Net Promoter Score* (NPS) is based on the fundamental perspective that every organization’s clientele can be divided into three categories: Promoters, Passives, and Detractors.

By asking one simple question — *If you had a choice between several possible providers of electricity, how likely would you be to recommend Hydro Ottawa to your friends, family and others as the preferred electricity distributor?* — you can track these groups and get a clear measure of the customer’s experience with your organization. Customers respond on a 0-to-10 point rating scale and are categorized as follows:

- **Promoters** (score 9-10) are loyal enthusiasts who would refer others to your organization if they had that option. These customers are an important source of strength for the brand. An estimated 80-90% of positive word-of-mouth come from *Promoters*.
- **Passives** (score 7-8) are satisfied but unenthusiastic customers who would be vulnerable to offerings from competitors, given the option of a choice.
- **Detractors** (score 0-6) are unhappy customers who can damage your brand and impede growth through negative word-of-mouth. Detractors are responsible for an estimated 80-90% of all the negative word-of-mouth. Furthermore, this group of customers complain more frequently, thereby consuming service resources at a much higher rate than other customers.

NOTE: ‘Don’t know’ removed from calculation



Comparing NPS Across Industries (US Data)

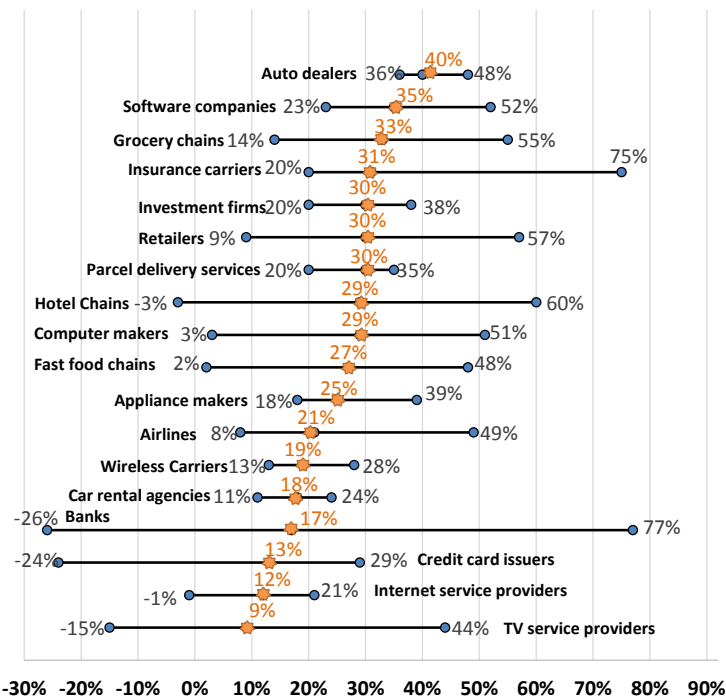
The Net Promoter Score (NPS) was created in the 90's to evaluate the growth potential of companies that operate in competitive markets. Typically, organizations with scores higher than their competitors tend to grow faster.

Because almost all CEA members operate primarily in regulated monopoly markets, NPS should only be considered a “rough proxy” for customer satisfaction.

To put NPS in context, this chart shows the average NPS for several industries in the U.S. This data was taken from a 2012 study surveying 5,000 U.S. consumers evaluating multiple companies that compete in various industries.

As the chart shows, it is not uncommon for organizations in various sectors to have a negative NPS.

Range of Net Promoter Scores (NPS) Across US Industries

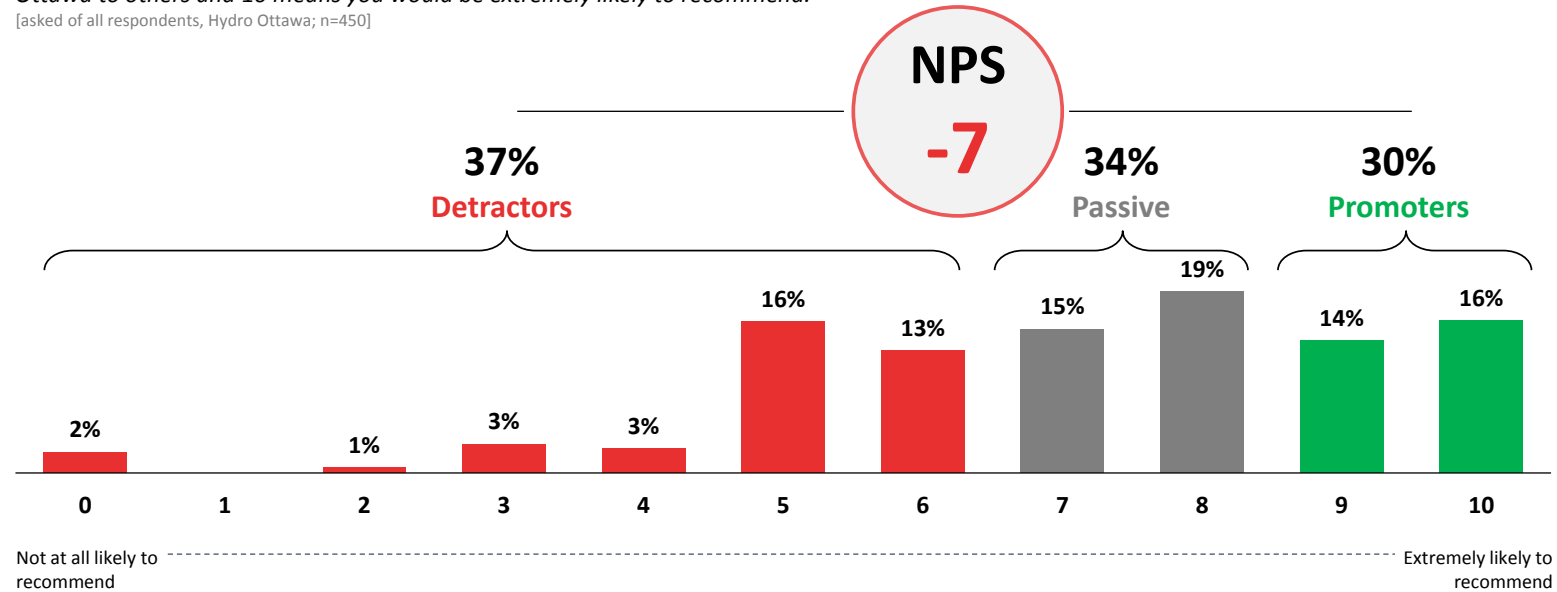


Source: Temkin Group Q3 2012 Survey

Net Promoter Score: Negative NPS as respondents are slightly more likely to be detractors than promoters; 1-in-3 (34%) are passive

Q If you had a choice between several possible providers of electricity, how likely would you be to recommend Hydro Ottawa to your friends, family and others as the preferred electricity distributor? Please use a scale from 0 to 10, where 0 means you would not be at all likely to recommend Hydro Ottawa to others and 10 means you would be extremely likely to recommend.

[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (4%) removed from calculation

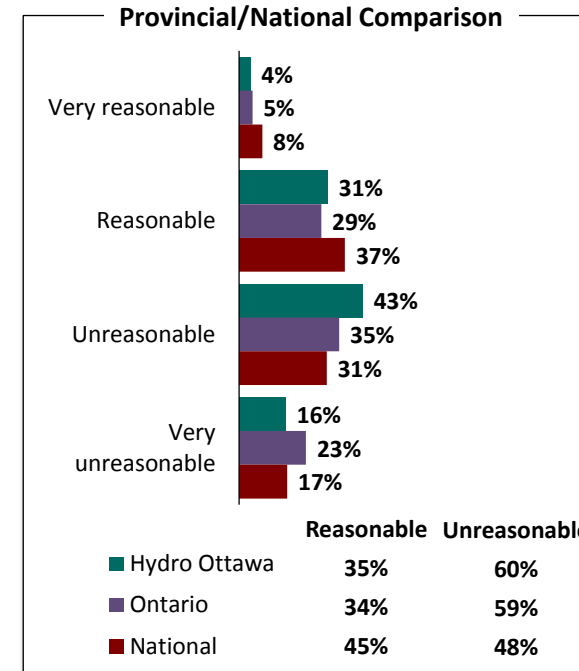
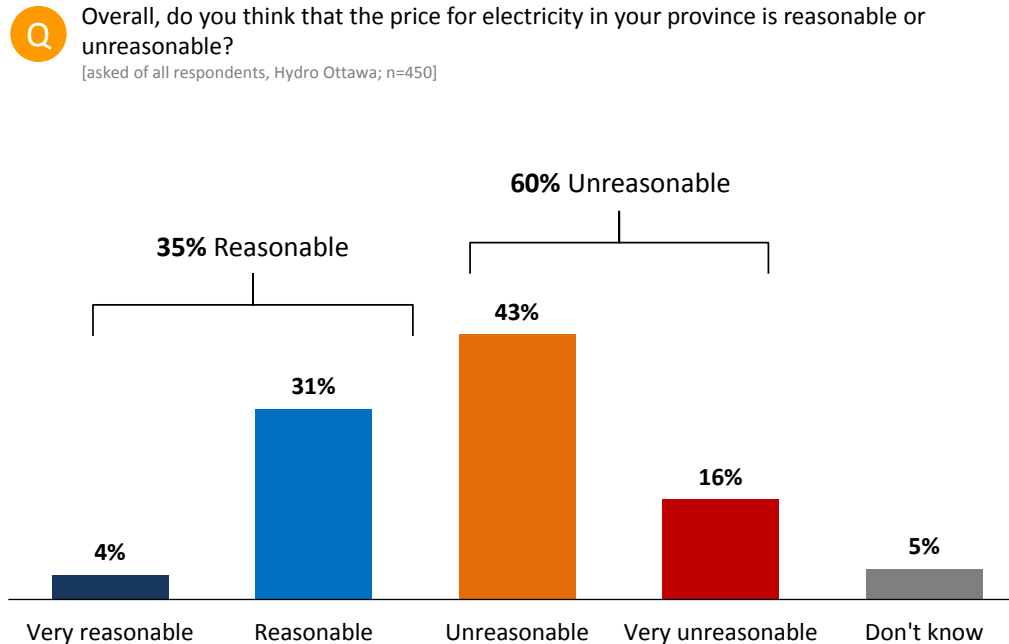
Price



Summary: *Price*

- Perception of electricity prices in Ontario is unchanged since 2017, with 35% deeming prices reasonable. However, 6-in-10 (60%) feel the price is unreasonable, on par with last year's figure (59%).
- Hydro Ottawa respondents are consistent with provincial averages in perceptions of prices being reasonable (34%) and unreasonable (59%).
- Nationally, survey respondents are 10 points more likely to say the price is reasonable (45%) and less likely to say it is unreasonable (48%).
- Those who struggle financially with their electricity bill are much more likely to feel electricity prices are unreasonable than those who do not struggle (-48% vs +14% net reasonable).
- Perception of value for money has also remained steady, with 33% agreeing that they get good value. Hydro Ottawa is slightly ahead of the provincial average (28%) but marginally below the national average (37%).

Reasonable Price?: 6-in-10 (60%) feel electricity price in province is unreasonable; on par with provincial average, but 12 points higher than national

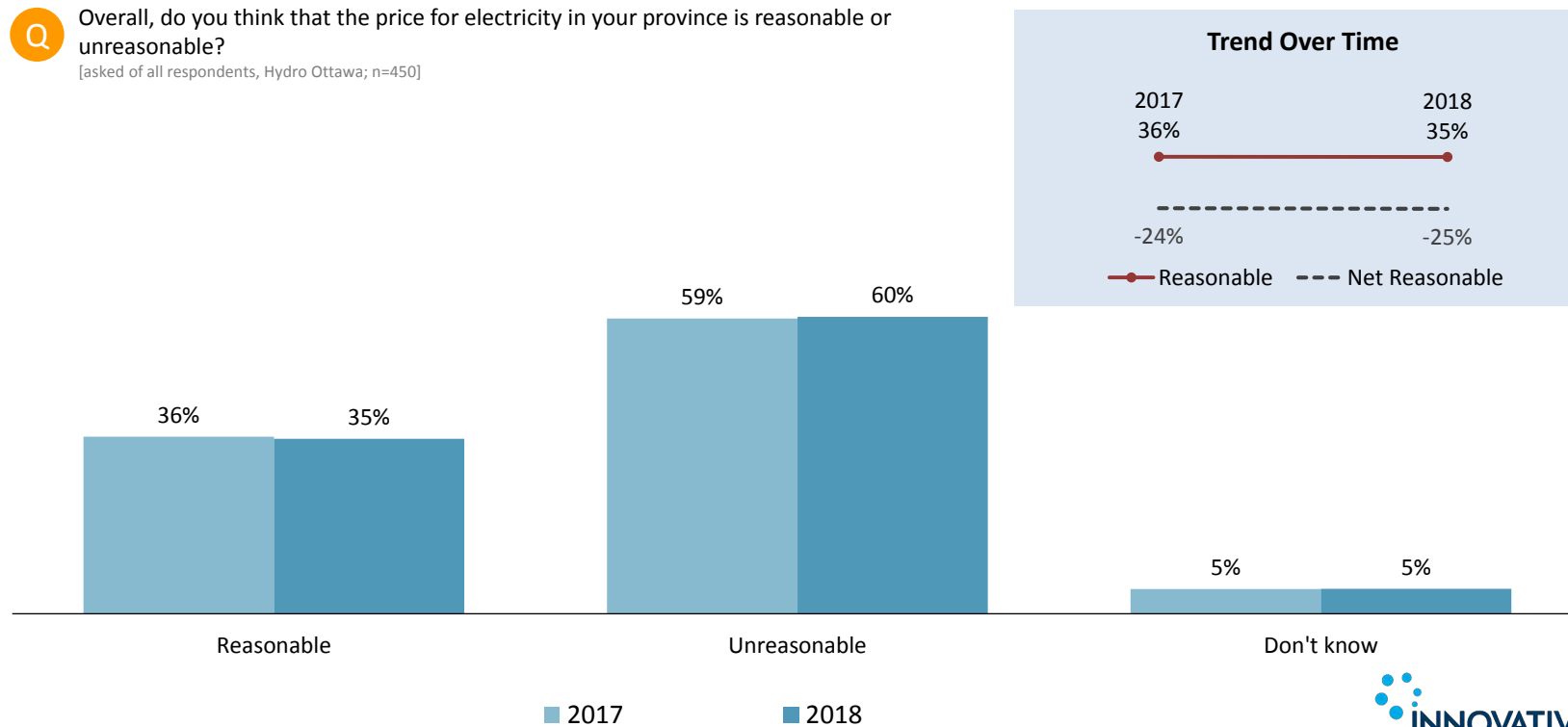


Reasonable Price? | Tracking: The proportion who say the electricity price in Ontario is reasonable remains steady year-to-year (36%)



Overall, do you think that the price for electricity in your province is reasonable or unreasonable?

[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (6%) not shown.

Price Assessment by Bill Format: Hydro Ottawa customers who receive an e-bill are slightly more likely to think the price of their electricity is ‘reasonable’

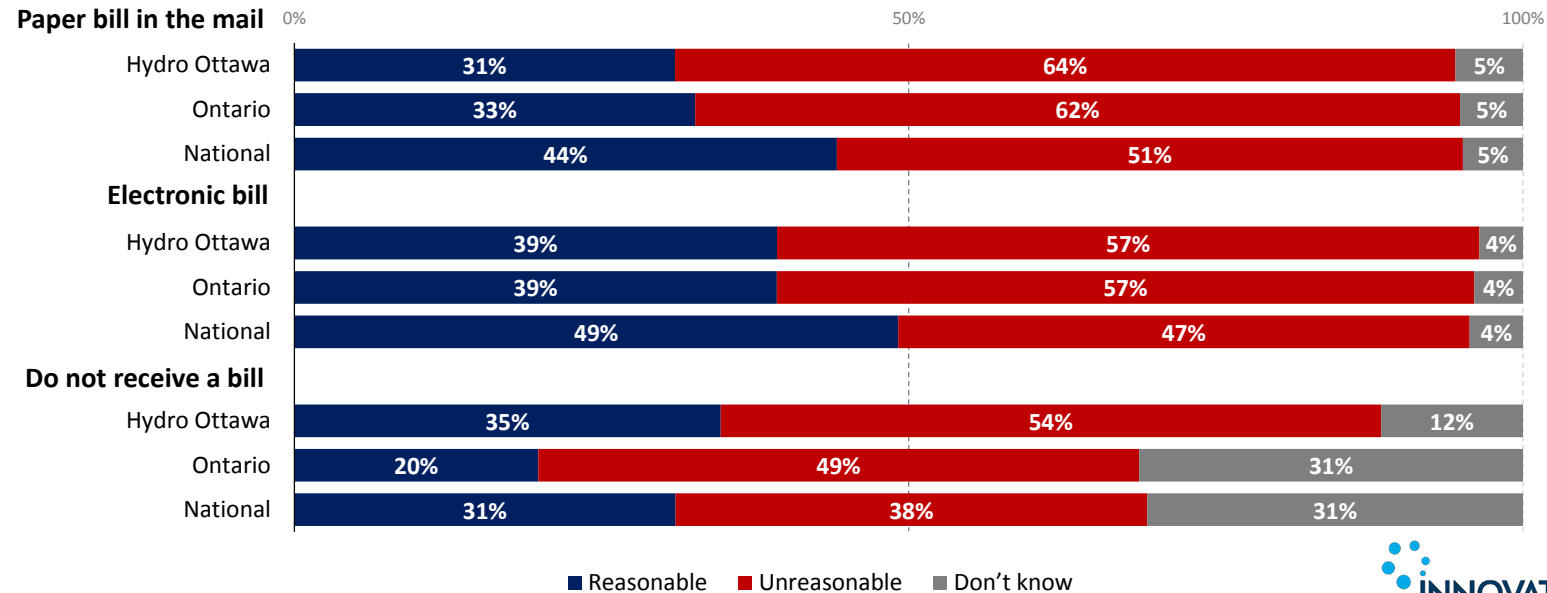


Overall, do you think that the price for electricity in your province is very reasonable, reasonable, unreasonable, or very unreasonable?

BY

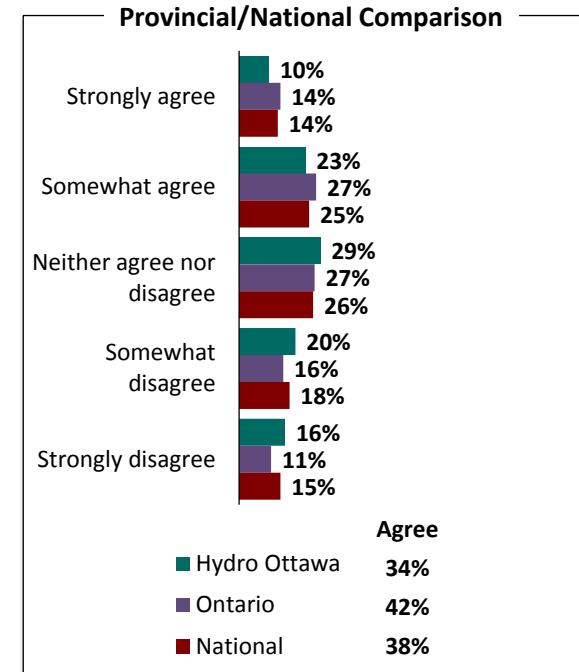
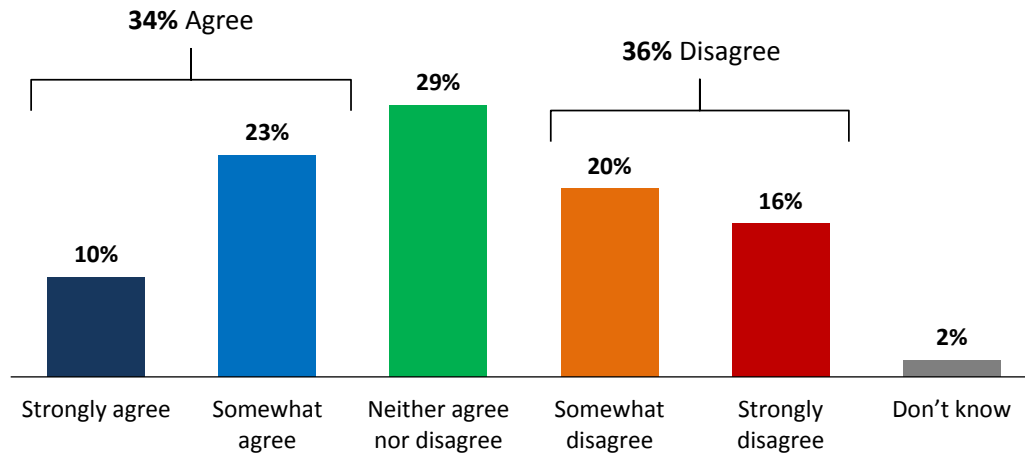
Bill format

[asked of all respondents, Hydro Ottawa; n=450]



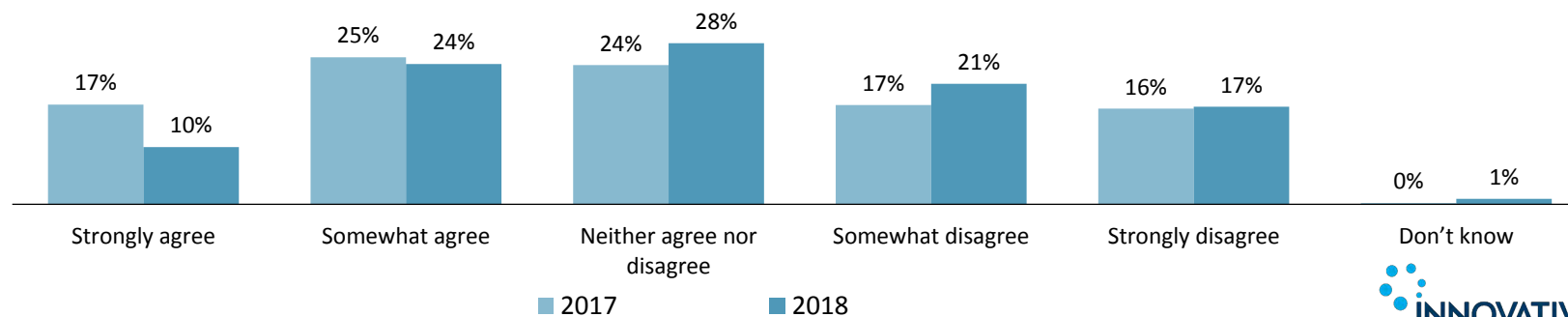
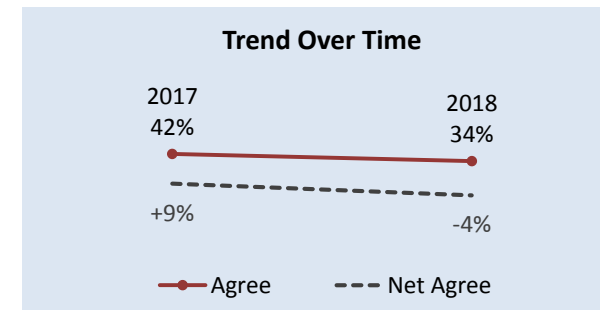
Financial Impact: 1-in-3 (34%) feel an impact on their finances from electricity costs, 8 points below the provincial average

Q Do you agree or disagree with the following statements?
My electricity bill has major impact on my finances and requires I do without other important priorities.
[asked of all respondents, Hydro Ottawa; n=450]



Financial Impact | Tracking: 34% of those who receive a bill say it has an impact on their finances; down 8 points year-to-year

Q Do you agree or disagree with the following statements?
My electricity bill has major impact on my finances and requires I do without other important priorities.
[asked of all respondents; for tracking purposes, data filtered to show only those who receive a bill; Hydro Ottawa; n=416]



Perception of Price by Bill Impact: Perception of price improves as financial impact of electricity bill lessens

Q Overall, do you think that the price for electricity in your province is very reasonable, reasonable, unreasonable, or very unreasonable?
BY
My electricity bill has a major impact on my finances and requires I do without some other important priorities.
[asked of all respondents, Hydro Ottawa; n=450]

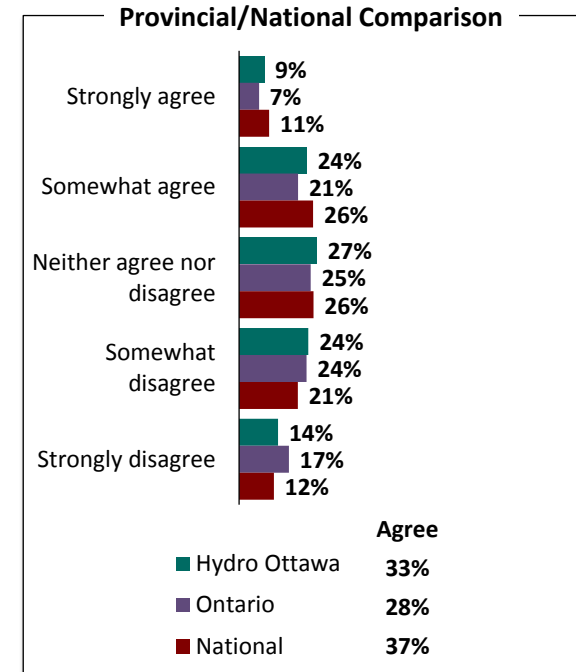
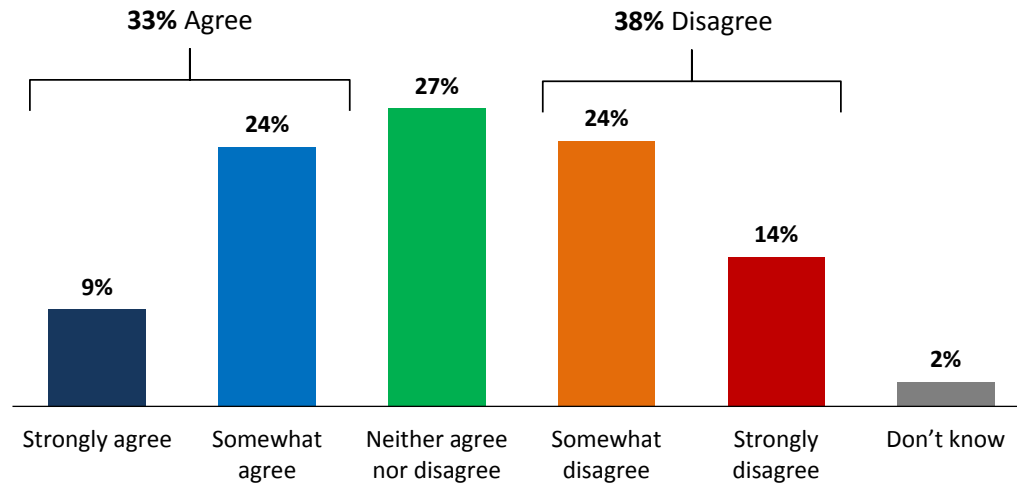
Do you agree or disagree with the following statement:
My electricity bill has a major impact on my finances and requires I do without some other important priorities.

	Strongly agree	Somewhat agree	Neither	Somewhat disagree	Strongly disagree	Overall
Very reasonable	13%	1%	3%	1%	7%	4%
Reasonable	13%	27%	28%	39%	48%	31%
Unreasonable	23%	56%	48%	44%	33%	43%
Very unreasonable	51%	15%	16%	9%	8%	16%
Net Reasonable	-48%	-43%	-33%	-13%	+14%	-25%

NOTE: 'Don't know' not shown

Value for Money: Opinion split on perception of value for money; total agreement (33%) is higher than the Ontario average (28%)

Q Do you agree or disagree with the following statements?
Thinking of all regular household bills, I receive good value for the price I pay for electricity.
[asked of all respondents, Hydro Ottawa; n=450]



Value for Money | Tracking: Perception of value for money is steady year-to-year

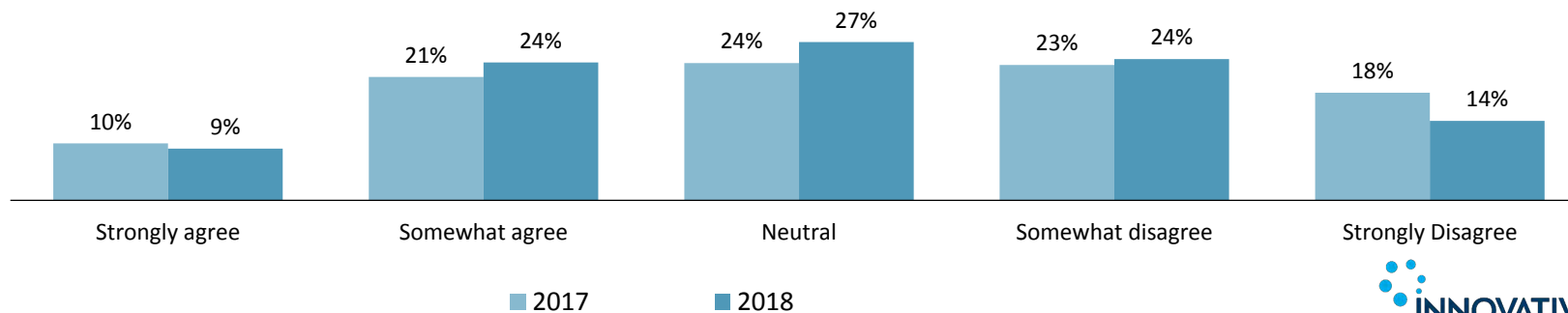
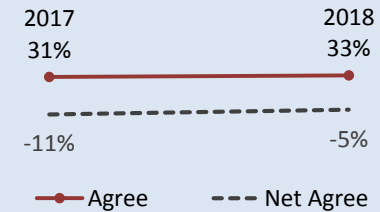


Do you agree or disagree with the following statements?

Thinking of all regular household bills, I receive good value for the price I pay for electricity.

[asked of all respondents, Hydro Ottawa; n=450]

Trend Over Time



NOTE: 'Don't know' (3%) not shown.

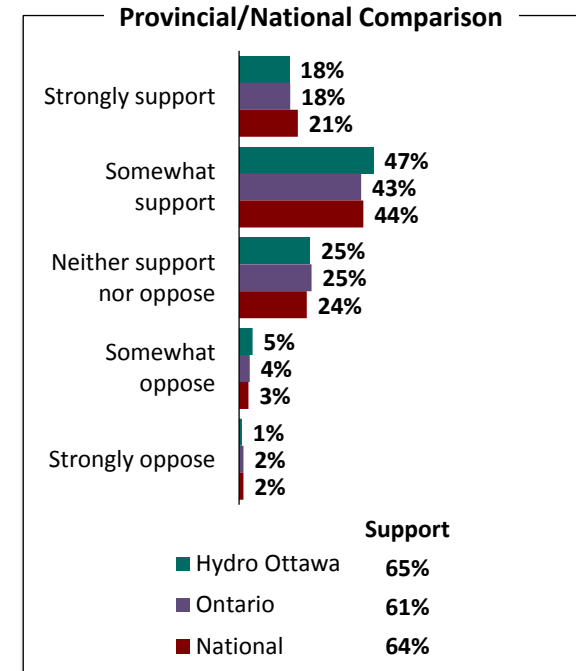
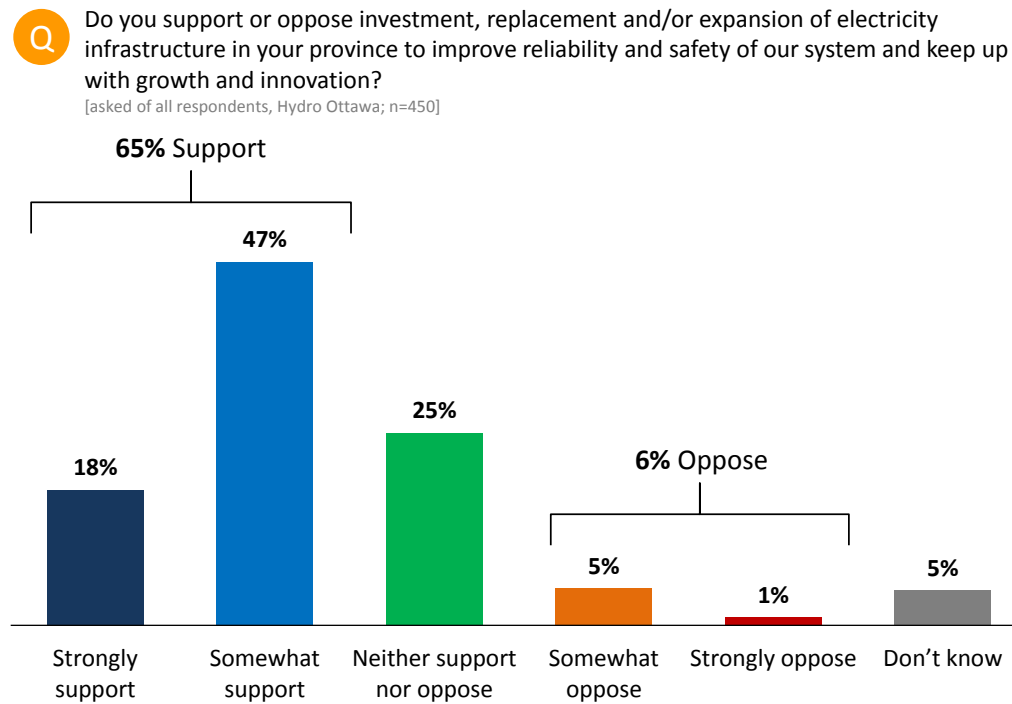
General Attitudes



Summary: *General Attitudes*

- Two-in-three (65%) Hydro Ottawa customers support investment in electricity infrastructure, which is higher than the provincial average (61%) and on par with the national average (64%).
- Support for investment is marginally higher than it was in 2017 (65% vs 60%), mainly a result of an increase in the portion saying “*somewhat support*” (from 41% to 47%).
- Overall, social permission for a price increase to invest in the provincial system increases from 47% in 2017 to 52% this year. This is largely a result of those saying “*A bad idea that I oppose*” decreases (from 47% to 40%).
- Social permission for a price increase is highest (73%) among those who strongly support infrastructure investment.
- Hydro Ottawa customers (32%) are on par with the provincial average (30%) on satisfaction with provincial government management of the electricity system. Hydro Ottawa’s level of satisfaction is marginally lower than the national average (36%).
- The satisfaction with government management is higher than in 2017 (32% vs 26% in 2017). Those who say they are dissatisfied dropped drastically from 52% to 35%.

Infrastructure Investment: 2-in-3 (65%) support infrastructure investment, on par with national average

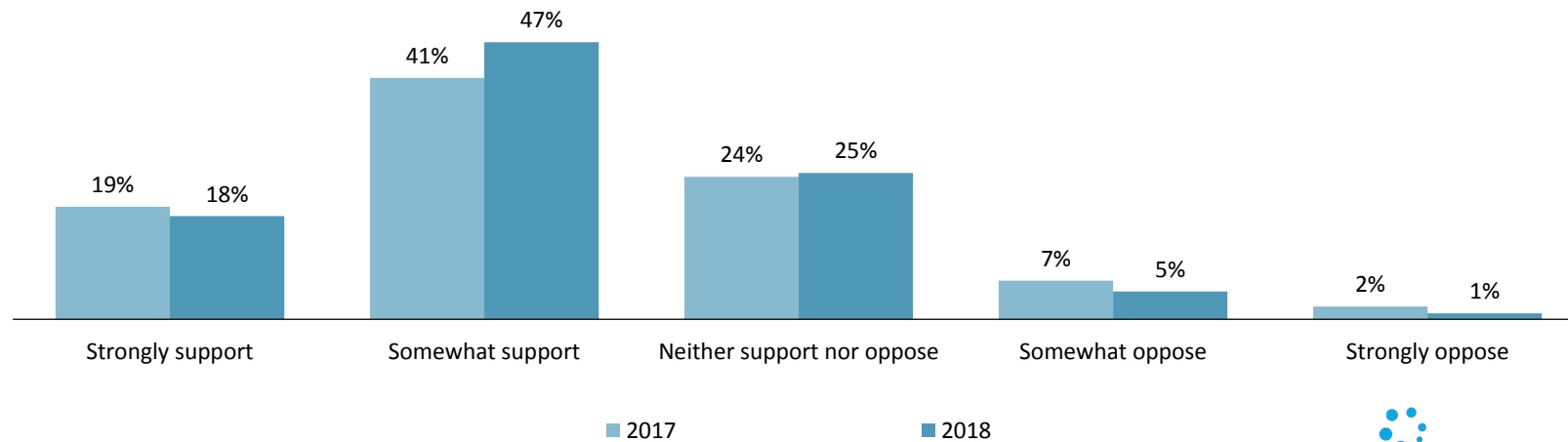
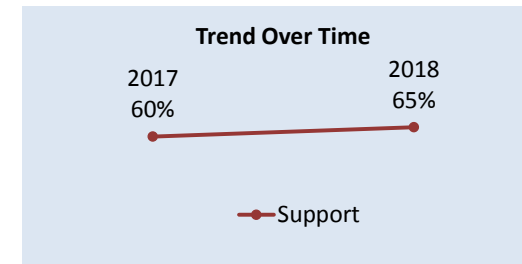


Infrastructure Investment | Tracking: Support (65%) for infrastructure has increased five points year-to-year



Do you support or oppose investment, replacement and/or expansion of electricity infrastructure in your province to improve reliability and safety of our system and keep up with growth and innovation?
 (2014-2016: Given everything you have read, seen or heard ...
 Do you support or oppose investment in and expansion of the generation, transmission and distribution of electrical power in your province?)

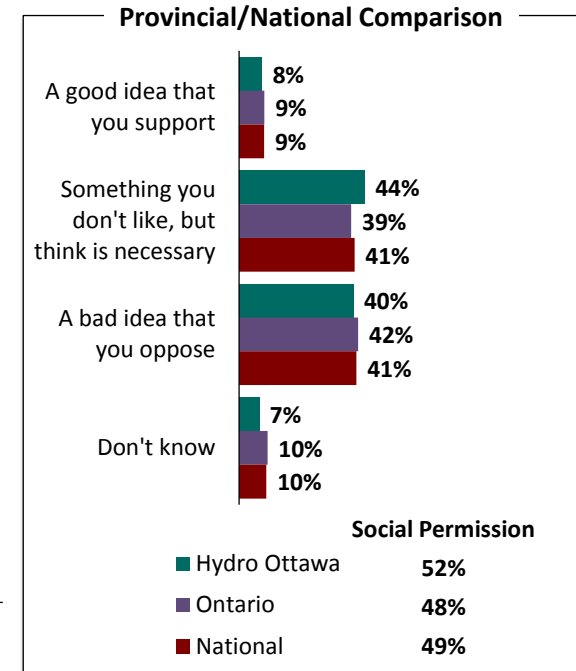
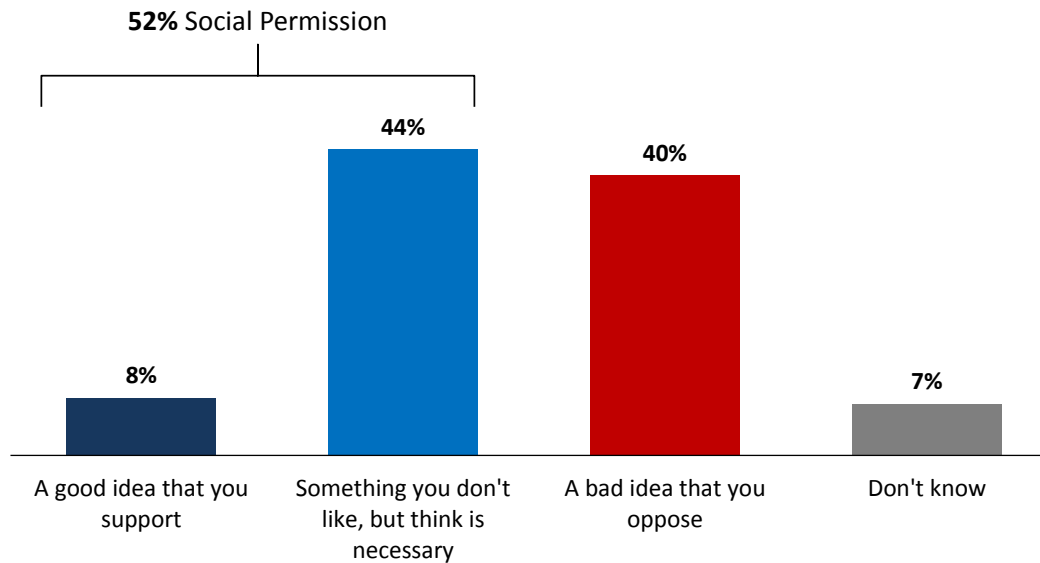
[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (4%) not shown.

Permission on Price Increase: Majority (52%) would permit increase to the price of electricity for investments; higher than the Ontario and national averages

Q Do you think increasing the price of electricity to invest in our province's electric system is...
[asked of all respondents, Hydro Ottawa; n=450]

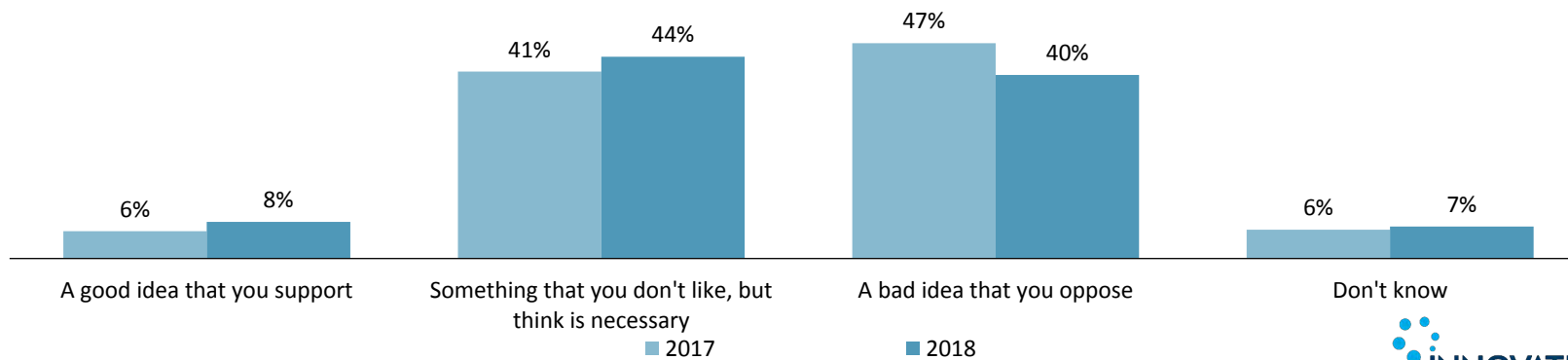
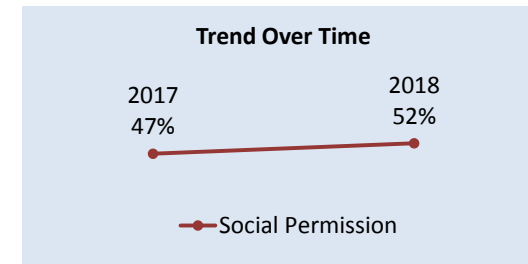


Social Permission on Price Increase | Tracking: Social permission on price has increased five points to a majority (52%) in 2018



Do you think increasing the price of electricity to invest in our province's electric system is...

[asked of all respondents, Hydro Ottawa; n=450]



NOTE: 'Don't know' (7%) not shown.

Social Permission by Support for Infrastructure Investment: Social permission for price increase grows as support for infrastructure investment increases

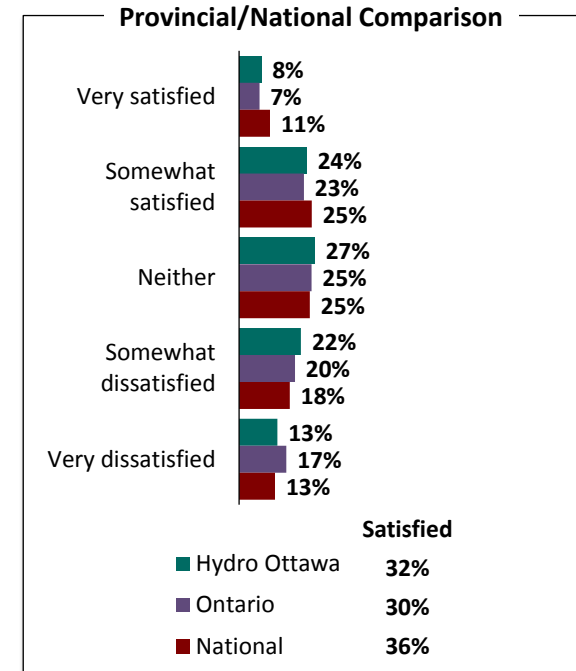
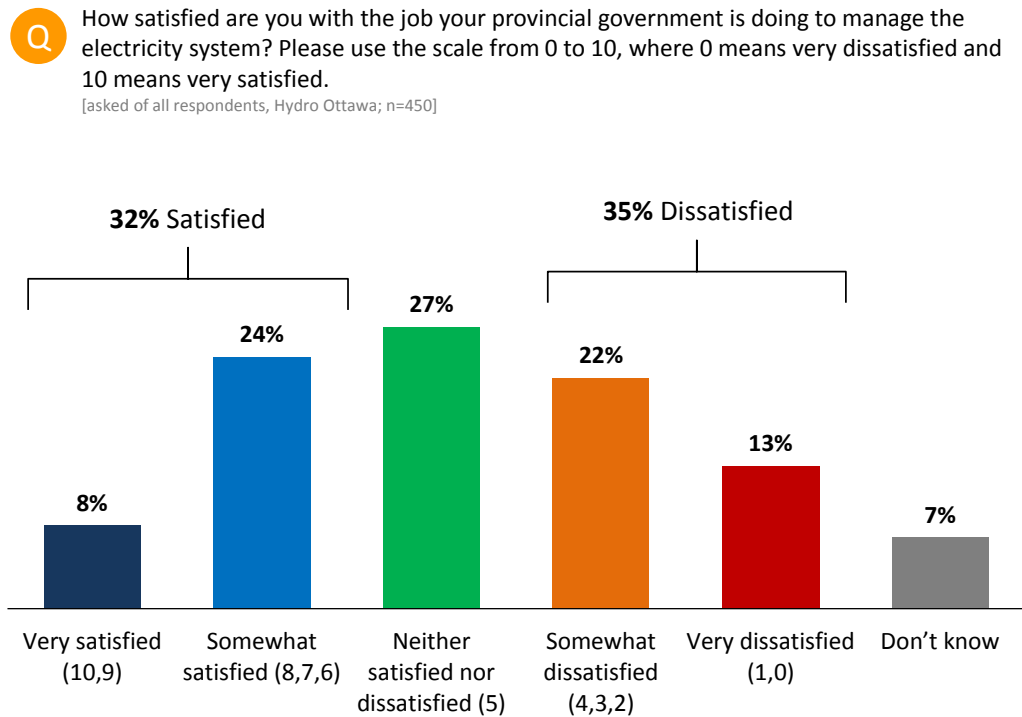
Q Do you think increasing the price of electricity to invest in our province’s electric system is...
BY
Do you support or oppose investment, replacement and/or expansion of electricity infrastructure in your province to improve reliability and safety of our system and keep up with growth and innovation?
[asked of all respondents, Hydro Ottawa; n=450]

Do you support or oppose investment, replacement and/or expansion of electricity infrastructure in your province to improve reliability and safety of our system and keep up with growth and innovation?

	Strongly support	Somewhat support	Neither	Somewhat/Strongly oppose *	Overall
A good idea that you support	19%	8%	4%	7%	8%
Something you don’t like, but think it is necessary	54%	49%	38%	22%	44%
A bad idea that you oppose	23%	37%	53%	67%	40%
Social Permission	73%	56%	42%	30%	52%

NOTE: ‘Don’t know’ not shown.
* Due to small sample size (n=27), results should be interpreted with caution.

Provincial Gov't: Opinion split on government management, but intense dissatisfaction (13%) higher than intense satisfaction (8%)

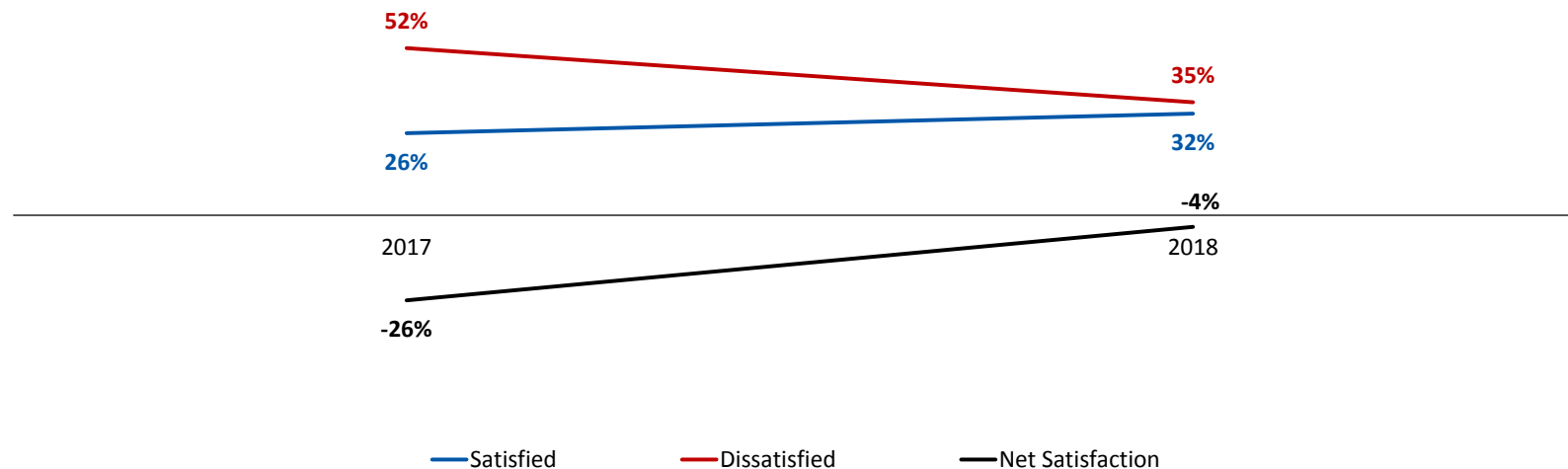


Gov't Performance (Tracking): Net and total satisfaction with provincial government management have improved markedly since 2017



How satisfied are you with the job your provincial government is doing to manage the electricity system? Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.

[asked of all respondents, Hydro Ottawa; n=450]



Regression Analysis

What drives general satisfaction and NPS?

Using Regression Analysis

What is Regression Analysis?

Regressions are another means of determining importance.

- A regression allows us to take all the questions that may explain the key question we are interested in and see which of these is the most important. Regressions do this by holding all the likely suspects constant and varying one question at a time to see which questions (explanatory variables) have the greatest impact on the key question (dependent variable).

Satisfaction Regression Analysis ►►

- In this study what aspects of respondents' demographics and public opinion drive their overall satisfaction with their electricity company?
- We use the factors that fed into the CSI but also add respondents' demographics, attitudes, and experiences to the model to see what matters most when everything else is held constant
- When respondents were asked about their overall satisfaction they were asked *specifically* about Hydro Ottawa.

Attitudes and Brand Attributes Factored ►►

- In addition to the factor analysis of company attributes previously described, key attitudes about the electricity system, price, and the environment were again factored to reduce overlap in the regression models.
- The following slides describes the result of this analysis.

Regression Analysis: *The Full Model*

Customer Focus

- Consulting with customers before making decisions
- Being transparent
- Caring about its customers
- Being trustworthy

Public Good

- Operating in an environmentally responsible manner
- Providing energy conservation and efficiency programs
- Protecting public safety
- Being a good corporate citizen

Quality & Reliability

- Providing reliable electricity service
- The amount of time it takes to restore power
- The quality of power delivered to you
- Providing timely and accurate information re: outages
- Considering your needs when planning an outage

This **Quality & Reliability** factor includes the variables from the **Outage Preparation** factor from the previous analysis.

Billing Practices

- Providing convenient options to pay my bill
- Providing convenient options to receive my bill
- Providing bills that are easy to read and understand
- Providing accurate bills

Outage Communication

- Recall experiencing a planned outage P12M
- Communications during planned outage were proactive
- Satisfaction with planned outage communication

Standalones

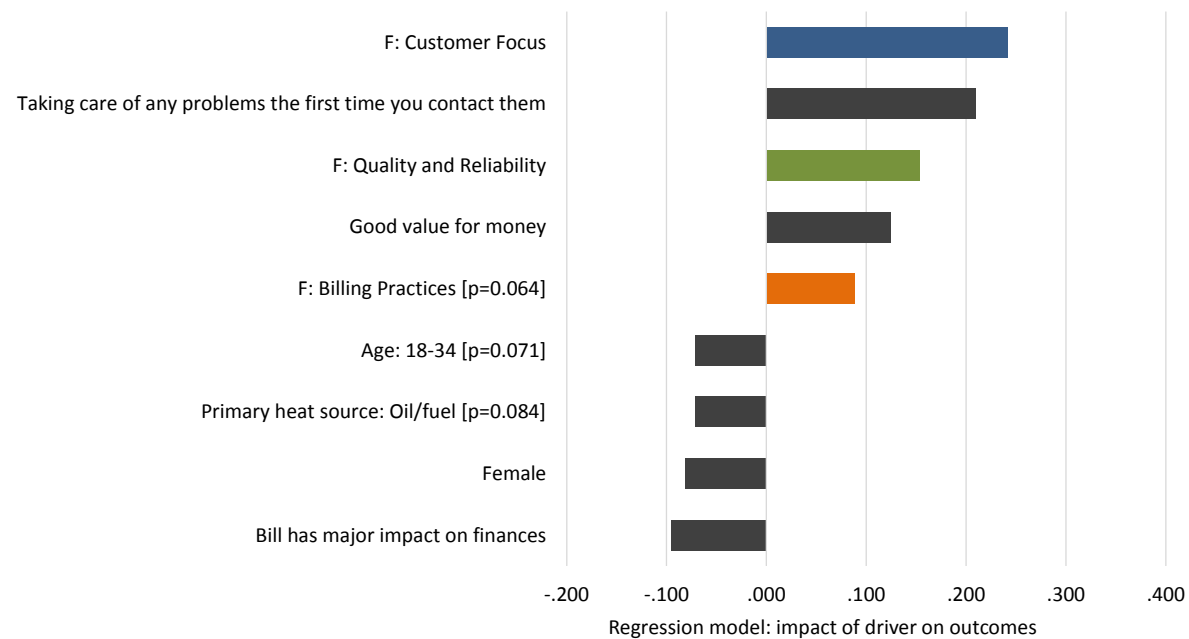
- Taking care of problems the first time you contact them
- Overall communication
- Providing online services
- Number of power outages experienced in the last 12 months
- Price reasonable for electricity in province
- Good value for money

Controls

- Basic demos (age, gender, education, income)
- Primary heat source
- Hydro Ottawa better than other companies
- Bill has major impact on finances
- Satisfaction with provincial government's management of electricity system

Regression Analysis: *General Satisfaction*

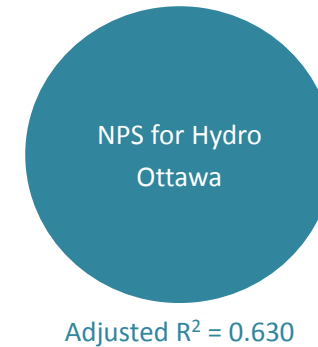
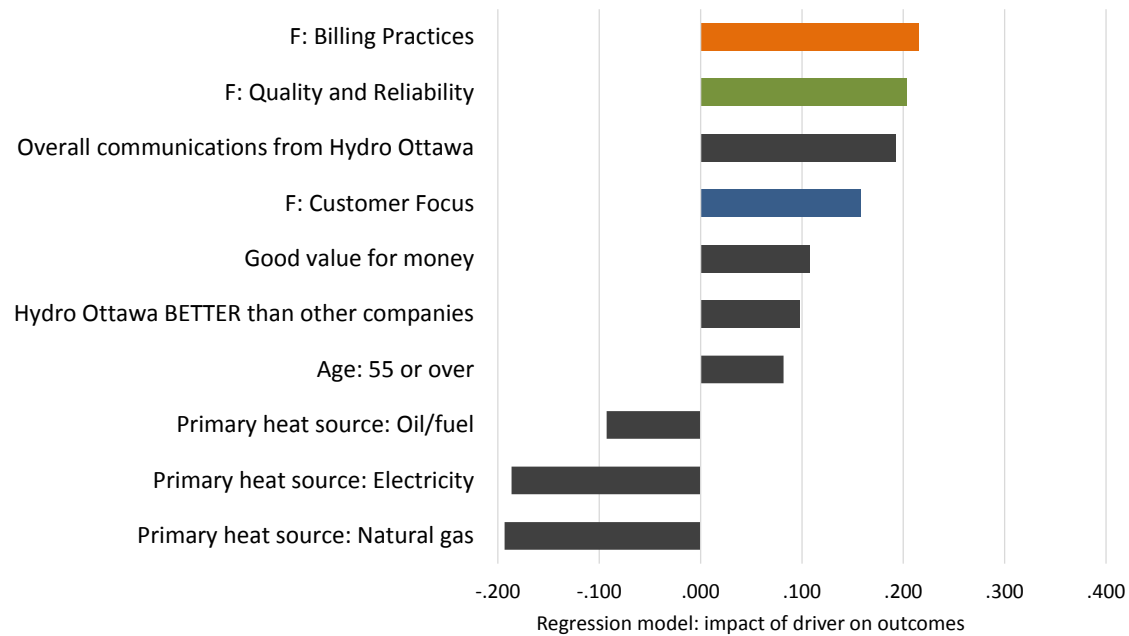
Customer Focus is, by far, the largest driver of satisfaction, followed by the perception of having problems taken care of the first time customers contact Hydro Ottawa, and *Quality and Reliability*. Struggling to pay electricity bills has a small negative effect.



NOTE: Chart shows standardized beta scores. All drivers significant at a 95% confidence interval unless indicated otherwise.

Regression Analysis: *Net Promoter Score (NPS)*

The strongest drivers of NPS are *Billing Practices*, *Quality and Reliability*, and overall communications. Having electricity and natural gas as a primary heat source has a negative effect on the NPS.



NOTE: Chart shows standardized beta scores. All drivers significant at a 95% confidence interval unless indicated otherwise.



Building Understanding.

Personalized research to connect you and your audiences.

For more information, please contact:

Greg Lyle

President

416-642-6429

glyle@innovativeresearch.ca

Jason Lockhart

Vice President

416-642-7177

jlockhart@innovativeresearch.ca

Innovative Research Group Inc.
56 The Esplanade, Suite 310
Toronto ON | M5E 1A7
www.innovativeresearch.ca

Appendix: Environmental Controls

A closer look

Environmental Controls: *Uncontrollable External Factors*

It is important to distinguish between what is within, and what is outside of an electrical utility's influence or control when it comes to drivers of satisfaction.

Perceptions of electricity companies often tend to move with general perceptions of **provincial government performance in the sector** rather than in response to the utility itself.

In addition, perceptions of utilities are strongly correlated with **financial circumstances**. In tough times, perception and preference can change because customers are struggling with their bills, not because of anything the company has – or as not – done.

Control questions help distributors distinguish between two factors that impact public perception:

- a) utility-driven programs; and
- b) uncontrollable external factors.

In this survey, we include two environmental control questions to help capture external phenomena:



Government Performance: *How satisfied are you with the job your provincial government is doing to manage the electricity system?*



Financial Circumstances: *The cost of my electricity bill has major impact on my finances and requires I do without some other important priorities.*

Summary: *Change Outside Controls*

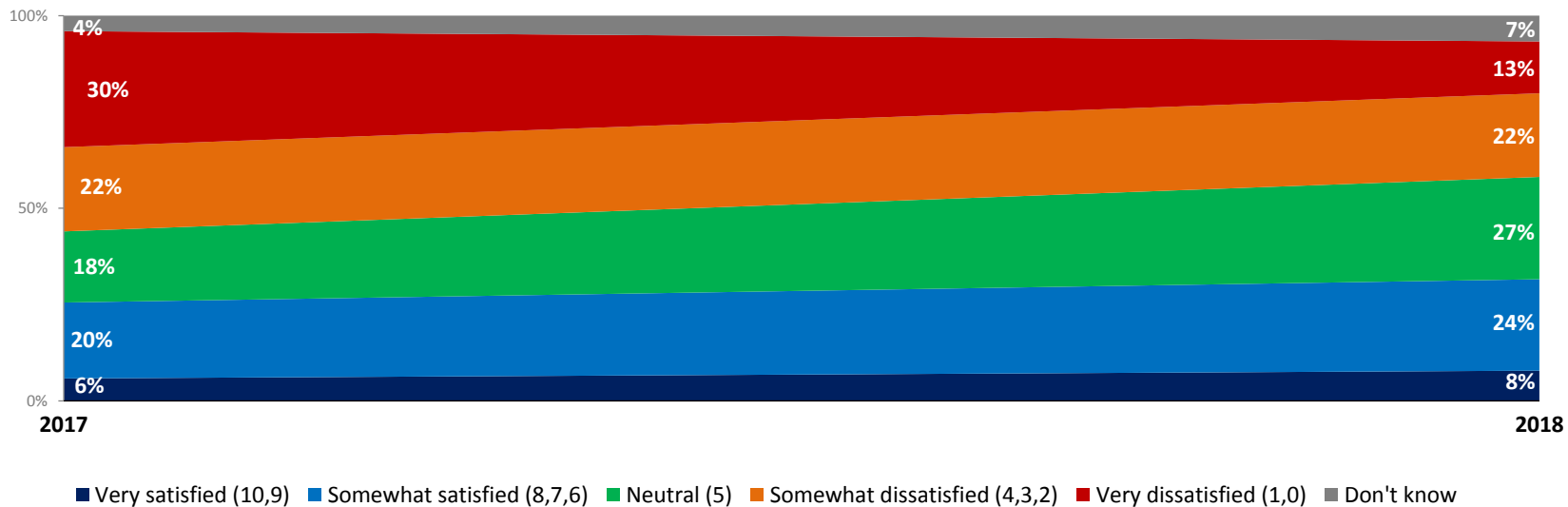
- The satisfaction with government management increases from 26% in 2017 to 37% this year. Those who say they are dissatisfied dropped drastically from 52% to 35%.
- The perception of Hydro Ottawa among those who are happy with the government is steady year-to-year. Those who are dissatisfied with the government are more satisfied and less dissatisfied with Hydro Ottawa than in 2017.
- With a continuing upward trend on utility satisfaction among those unhappy with government management, it appears that Hydro Ottawa is not only keeping happy people happy, but they are also overcoming dissatisfaction with government management.
- Perceived impact of electricity bills on financial circumstances has diminished. Regardless of whether the bills have an impact on their financial circumstances, utility satisfaction has increased (and dissatisfaction has decreased).
- As such, the increase in general satisfaction is not a result of external factors. The actions of the utilities are also contributing to the higher levels of satisfaction.

Gov't Performance | Tracking: While the level of satisfaction with government management is largely steady, the portion saying dissatisfied decreases



How satisfied are you with the job your provincial government is doing to manage the electricity system? Please use the scale from 0 to 10, where 0 means very dissatisfied and 10 means very satisfied.

[asked of all respondents, Hydro Ottawa; n=450]



Government Performance: Those who are dissatisfied with government management are more satisfied with Hydro Ottawa than they were last year

% Satisfied with Electricity Company

Satisfaction with provincial gov't management of electricity system	2017	2018
Very satisfied (10,9)	99%	95%
Somewhat satisfied (8,7,6)	87%	80%
Neutral (5)	46%	59%
Somewhat dissatisfied (4,3,2)	57%	64%
Very dissatisfied (1,0)	35%	62%

% Dissatisfied with Electricity Company

Satisfaction with provincial gov't management of electricity system	2017	2018
Very satisfied (10,9)	0%	0%
Somewhat satisfied (8,7,6)	5%	5%
Neutral (5)	9%	8%
Somewhat dissatisfied (4,3,2)	15%	14%
Very dissatisfied (1,0)	30%	24%



Significantly different from previous year at 95% confidence level



Significantly different from previous year at 90% confidence level

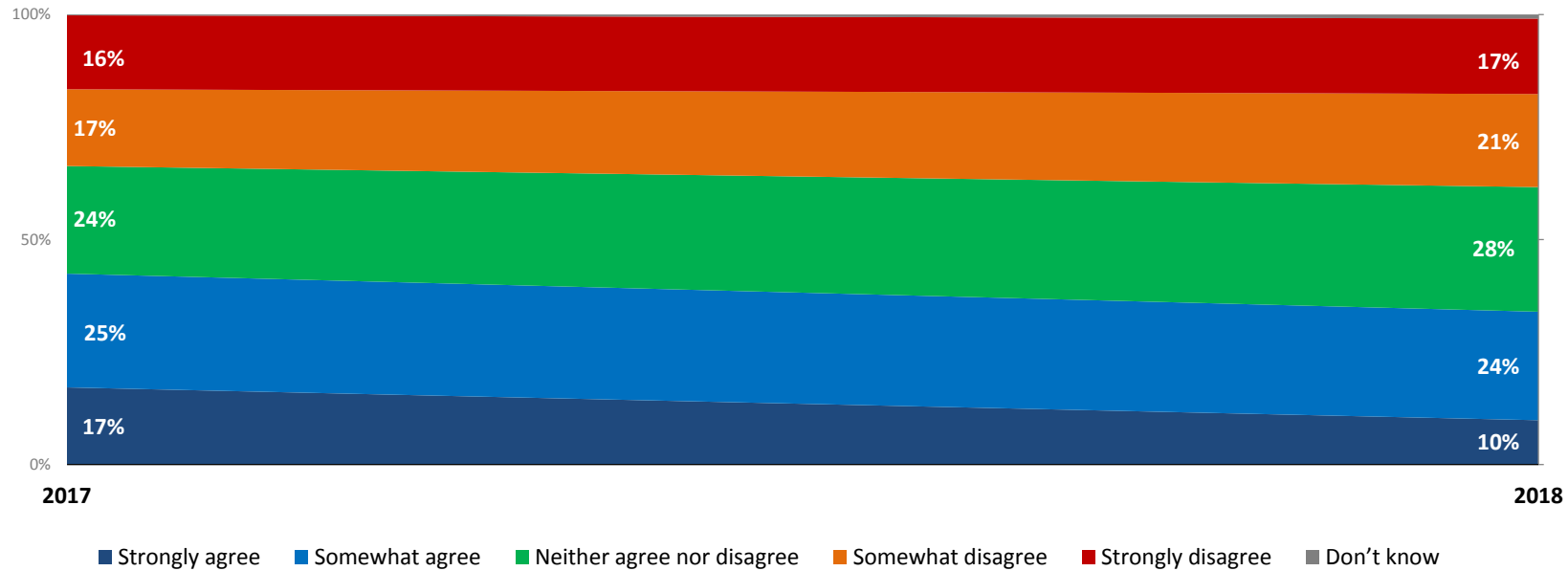
Financial Circumstances | Tracking: A third (34%) feel their bill impacts their finances, down from 42% last year



Do you agree or disagree with the following statement:

My electricity bill has major impact on my finances and requires I do without other important priorities.

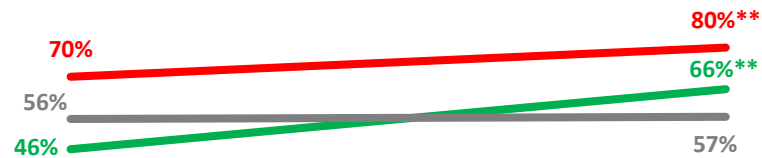
[for tracking purposes, data filtered to show only those who receive a bill; Hydro Ottawa; n=416]



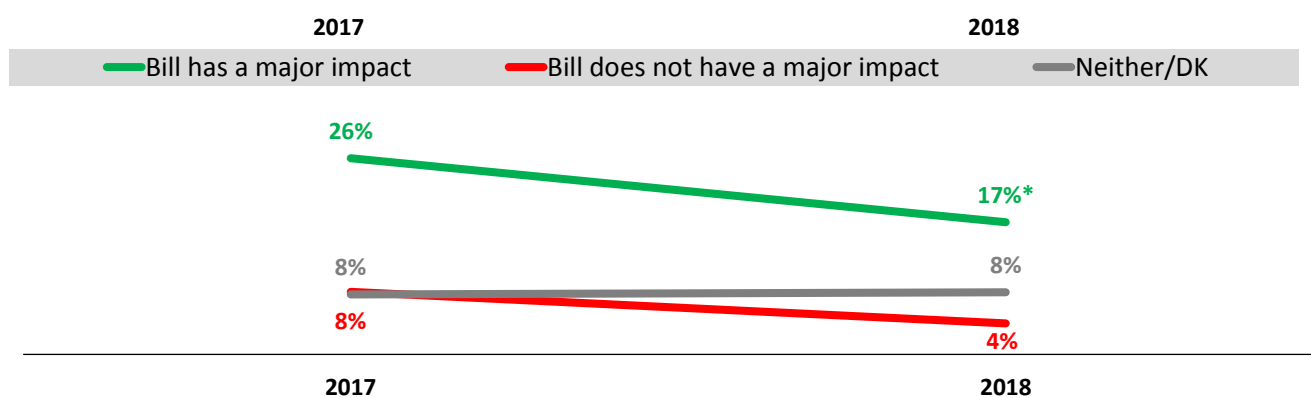
Financial Circumstances: Gains in satisfaction among those who struggle financially, as well as those who don't



% Satisfied
with Electricity
Company



% Dissatisfied
with Electricity
Company



* Significantly different from the wave prior at 90% confidence level

** Significantly different from the wave prior at 95% confidence level

Financial Circumstances: Significant gains in satisfaction among those who struggle financially, as well as directionally for those who don't

% Satisfied with Electricity Company

Electricity bill has major impact on finances	2017	2018
Strongly agree	35%	52%
Somewhat agree	53%	73%
Neither agree nor disagree	57%	57%
Somewhat disagree	70%	80%
Strongly disagree	71%	81%

% Dissatisfied with Electricity Company

Electricity bill has major impact on finances	2017	2018
Strongly agree	35%	32%
Somewhat agree	19%	11%
Neither agree nor disagree	8%	8%
Somewhat disagree	10%	4%
Strongly disagree	7%	4%



Significantly different from previous year at 95% confidence level



Significantly different from previous year at 90% confidence level

CUSTOMER ENGAGEMENT ON THE 2021-2025 APPLICATION

1. INTRODUCTION

In accordance with the Customer Focus outcome that anchors the OEB's Renewed Regulatory Framework ("RRF"), Hydro Ottawa conducted a customer engagement process to gather customer opinion on planned expenditures and outcomes for the utility's 2021-2025 Custom Incentive Rate-setting ("Custom IR") Application. This process resulted in the identification of customers' needs and preferences. These results, and the analysis thereof, have been used by Hydro Ottawa to inform the plans and proposals set forth in this Application.

2. CUSTOMER CONSULTATION ON CUSTOM IR APPLICATION

Detailed results of Hydro Ottawa's consultation are provided in the consolidated Customer Engagement Overview report produced by Innovative Research Group Inc. ("Innovative"). Innovative is a national consulting firm with expertise in public opinion research and experience in energy policy. Hydro Ottawa retained Innovative to assist with the design and execution of the customer consultation process. The consolidated report prepared by Innovative (hereafter referred to as the "Customer Engagement Report") is appended to this Schedule as Attachment 1-2-2(A).

Beginning in January 2019, Hydro Ottawa and Innovative collaboratively tested and implemented a customer engagement strategy for this Application. In order to maximize the effectiveness of the customer engagement process, Hydro Ottawa set out to achieve the following:

- Ensure all Hydro Ottawa customers, regardless of where they live or operate, or how much electricity they use, had an equal opportunity to participate;
- Ensure a representative sample of customers were engaged;
- Inform customers about the distribution system and electricity industry;
- In addition to random sampling, provide a voluntary process to allow any customer the opportunity to provide comment; and

- Gather meaningful feedback from customers, specifically when it comes to their needs, the outcomes that are important to them, and their preferences regarding the pacing and prioritization of specific investments.

In order to facilitate feedback, a two-phased approach was developed that was both iterative and responsive to each stage of feedback. Undertaking a two-phased approach provided Hydro Ottawa with an opportunity to demonstrate how customer feedback was incorporated into the utility's draft plans, and then clearly respond to actionable feedback gathered during the second phase. Incorporating customer feedback into Hydro Ottawa's plans was a key objective of this customer engagement, and this two-phased approach helped facilitate its achievement.

Between January and October 2019, Hydro Ottawa gathered feedback from more than 20,000 customers through its customer engagement efforts. In context, this means that Hydro Ottawa engaged with nearly 6% of its entire customer base, which represents the largest engagement exercise in the utility's history. Moreover, according to Innovative, Hydro Ottawa's consultation represented the single largest proportion of customers ever engaged by an electricity distributor in Ontario for the purpose of informing the development of a rate application.¹

2.1. PHASE I

The purpose of Phase I was to solicit customers' input on their needs and preferences in relation to the outcomes and goals that the utility should focus on over the 2021-2025 period. This initial phase of engagement was conducted in early 2019 at the beginning of Hydro Ottawa's planning cycle in order to ensure that the draft plan took into consideration the views of customers.

Phase I was an iterative process, wherein each activity informed the next. An initial round of exploratory focus groups was conducted amongst residential and small business customers. The primary objective of these groups was to obtain insights into what customers expect of Hydro Ottawa and what customer priorities are, both in the context of valued outcomes and the

¹ Customer Engagement Report, page 1.

1 choices impacting customers that the utility will need to make. For more details on these focus
2 groups, please see pages 15-26 of the Customer Engagement Report.

3
4 In turn, the results of these exploratory focus groups informed the questions that were asked of
5 residential and small business customers in a subsequent series of telephone and online
6 surveys. Running parallel telephone and online surveys served two primary purposes:

- 7
8 1. To gather feedback and insights on priorities, preferences, and needs from low-volume
9 customers.

10
11 Feedback from these surveys helped Hydro Ottawa's planners and engineers inform the
12 design of its Distribution System Plan² ("DSP") and Business Plan,³ which were shared
13 in draft outline form with customers during Phase II of this engagement.

- 14
15 2. To establish baselines and develop weights that allowed Hydro Ottawa to move to an
16 online methodology for its low-volume customer engagement program.

17
18 Establishing a baseline and understanding the difference between customers with
19 known email addresses (i.e. the email sample) and the broader customer base is a
20 critical step for utilities that wish to migrate to representative online survey
21 methodologies in the second phase of their customer engagement. Where significant
22 differences exist between the email sample and the broader customer base (e.g.
23 demographics, firmographics, attitudes, and opinions), the insights gained from these
24 parallel surveys can be used to develop weights, which can minimize these differences.

25
26 The Phase I sample validation process included comparing known variables (e.g. region and
27 electricity consumption) across the overall population to the sample of the population with email
28 addresses. Through this process, Innovative was able to conclude that no "group" was
29 substantially underrepresented in the email sample.

² See Exhibit 2-4-3.

³ See Exhibit 1-1-9.

1 Key findings from Phase I of the customer engagement were the following:

- 2
- 3 • The clear majority of residential and small business customers are satisfied with the
- 4 current service they receive from Hydro Ottawa.
- 5 • Despite being the top priorities, customers do not simply expect Hydro Ottawa to focus
- 6 exclusively on price and reliability.
- 7 • Among competing priorities, price, reliability, and investing in new technology are the top
- 8 three priorities for both residential and small business customers.
- 9

10 With regards to expenditure trade-offs that customers value most, generally residential and
11 small business customers were willing to consider paying more to enable Hydro Ottawa to do
12 the following: invest in aging infrastructure; equip employees with the tools they need to do their
13 job safely and efficiently; proactively invest in system capacity; and modernize the grid. This
14 willingness on the part of customers was accompanied by an understanding that, while
15 investments in these areas will result in costs being incurred, they may eventually save money
16 down the line. For example, both residential and small business customers are strongly
17 supportive of investments to replace the system's aging infrastructure in order to maintain
18 system reliability, even if such investments result in increases to electricity bills by a few dollars
19 over the next few years.

20

21 The residential and small business (low-volume) customer preferences from Phase I are
22 summarized in the "Customer Engagement: Needs and Preferences Planning Placemat" of the
23 Customer Engagement Report (see page 73). The priorities identified by customers guided
24 Hydro Ottawa planners, to ensure that customer feedback was brought into the planning
25 process in the early stages. Utilizing the input from Phase I, Hydro Ottawa planners developed a
26 draft plan that included an estimated baseline cost, and identified a number of investment areas
27 where spending could be increased, or in some cases decreased, in order to align with
28 customer needs and expectations.

Further details of the Phase I residential and small business engagement are provided on pages 29-36 of the Customer Engagement Report.

2.2. PHASE II

Phase II of the customer engagement focused on presenting investment trade-offs to customers and gathering feedback on Hydro Ottawa's draft plan. The primary goals of this phase were threefold:

- To confirm customer needs, preferences, and priorities, as identified in Phase I;
- To solicit customer feedback on the substance of Hydro Ottawa's proposed plans and the subsequent rate impacts, including customer preferences where trade-offs existed; and
- To solicit customer feedback on Hydro Ottawa's planning development process, including the customer engagement process.

To achieve these goals, Hydro Ottawa and Innovative developed a series of "workbooks" to serve as the primary engagement tool to gather additional insight about customers' needs and preferences prior to the completion of the utility's DSP and Business Plan.

The workbooks were intended to both provide customers with adequate background information on Hydro Ottawa and its draft business and investment plans, as well as to gather feedback on trade-offs between specific expenditures and their associated costs. The trade-off questions were presented as a choice between approach-options – i.e. accelerated approach, proposed baseline approach, or decelerated approach. These options included the estimated impact that each approach would have on electricity bills.

Workbooks were designed for residential, small business, mid-market, and large commercial customers. The workbooks were hosted online and, with the exception of the large commercial segment, made available to customers in both English and French. The workbooks can be viewed in their entirety in the Customer Engagement Report.

1 Use of the workbook was driven, in part, by the preferred choice of methodology for Phase II of
2 the engagement. For the purpose of Phase II, Hydro Ottawa migrated from the generalizable,
3 pure-telephone methodology that was deployed in Phase I to a generalizable, pure-online
4 methodology. This shift in approach was attributable to and enabled by the robust email
5 coverage that Hydro Ottawa enjoys amongst residential and small business customers (i.e. the
6 utility has email addresses on file for over 60% of these customers).

7
8 The use of an interactive workbook format and a purely online methodology helped to achieve
9 several important benefits:

- 10
11 • Better presentation of information through the use of visuals, such as diagrams and
12 pictures;
- 13 • Ability to ask more questions, as respondents are more likely to spend a longer time
14 participating in an online survey than on the phone; and
- 15 • Reduced costs, as online surveys are less costly to administer than telephone surveys.

16 17 **2.2.1. Low-Volume (Residential and GS <50 kW) Customer Workbook**

18 Hydro Ottawa's low-volume (residential and small business) customer engagement workbook
19 featured two streams: representative and voluntary. In the representative stream, each
20 customer received a unique URL that could be linked back to their annual consumption, region,
21 and rate class. In total, the workbook was sent to approximately 183,000 residential customers
22 and 9,300 small business customers. The voluntary stream created an open process that
23 allowed anyone who wanted to be heard an opportunity to express themselves. Voluntary
24 completion of the workbook was solicited through promotion on Hydro Ottawa's website, bill
25 inserts, digital advertisements, social media, and other tactics such as Contact Centre scripting.

26
27 The workbook content was tested through two customer focus groups prior to release, with a
28 number of adaptations made as a result. The workbook provided customers with specific
29 information about Hydro Ottawa's planning process, how it solicited feedback from customers,
30 and information about the utility's cost benchmarking performance. The results of the Phase I

1 engagement were summarized and customers were again asked to rank priorities to evaluate if
2 the needs and preferences that should inform Hydro Ottawa's business and investment plans
3 had changed. Program-specific information – including activities, outcomes, and estimated bill
4 impacts – were shared in respect of trade-offs where customer input was sought. In addition,
5 customers participating in the online workbook were shown the estimated net bill impact of their
6 trade-off choices and allowed to change their responses if desired.

7
8 In total, more than 19,300 residential and small business customers completed the workbook.

9
10 The results indicated that a strong majority of Hydro Ottawa customers supported either what
11 was then included in the utility's draft plans, or an approach that would accelerate the pace of
12 investment. At a high-level, customer responses signalled the following:

- 13
14
- 15 ● The majority of residential and small business customers support an accelerated
16 approach to investments in both overhead and underground distribution systems.
 - 17 ● Despite being one of the lower-ranked priorities in Phase I, most customers are
18 supportive of Hydro Ottawa taking measures to prepare for severe weather events,
19 knowing that these investments would cost them more on their monthly bills.
 - 20 ● The majority of customers feel that Hydro Ottawa should proceed with its approach to
21 "serving a growing city" which would slow distribution system capacity to critical
22 investments only.
 - 23 ● The majority of small business customers are supportive of technological investments
24 that are intended to save money and reduce costs, whereas residential customers are
25 more divided.
 - 26 ● While most customers support Hydro Ottawa's general approach to technological
27 investments, they are split on whether investments should:
 - 28 ○ Increase productivity, and improve customer service and reliability; or
 - 29 ○ Improve productivity, reduce operating costs, and lower rates over the 2021-2025
period.

2.2.2. Mid-Sized/Large Commercial Customer Workshops and Workbook

Hydro Ottawa likewise engaged Innovative to undertake customer engagement with mid-market (GS > 50 kW - 999 kW) and commercial (1MW+) customers. A two-staged approach employed both qualitative and quantitative research methods. This approach was designed to allow these larger business customers multiple opportunities to provide feedback, both in-person and as part of a broadly distributed online workbook.

2.2.2.1 In-person Customer Engagement Workshops

Hydro Ottawa held two consultation sessions in Ottawa on September 17, 2019 for the purpose of providing information to, and gathering feedback from, business customers. The aim of these consultations was to create a forum for mid-market and large commercial (Key Account) customers to learn about Hydro Ottawa's preliminary five-year business plan and proposed expenditure investments and decisions, to discuss issues related to the draft plans, and to identify customer preferences and needs to assist in shaping the final plan.

A total of 24 customers participated. These customers were recruited by telephone from a randomly generated list of mid-market customers as well as by invitations to Hydro Ottawa's list of Key Account customers. Representatives from customer organizations were those individuals who either manage or oversee their respective business' electricity bills.

The workshop began with a one-hour presentation and Q&A session from Hydro Ottawa, and included information about the distribution system and electricity industry, the challenges facing the system, the utility's investment plans, and the operational and estimated financial impacts of the proposed rate application. After the presentation, customers were divided into equal-size groups and taken to breakout rooms to begin moderator-led focus group discussions, approximately 90 minutes in length. Similarly, an information workbook was provided to the participants as an educational tool. Participants were then asked to independently respond to the questions therein.

2.2.2.2 *Mid-Market and Commercial Customer Online Workbook*

In addition to the workshops, all mid-market and large commercial customers were given the opportunity to complete an online workbook. This online workbook was sent via a unique URL to all Hydro Ottawa mid-market and commercial customers who have previously provided the utility with an email address. Over the course of nearly one month, customers were encouraged on several occasions to complete the workbook – both via email reminders, as well as direct outbound calls from Hydro Ottawa employees.

In total, the workbook was sent to more than 1,200 mid-market and 70 large commercial customers via email. In total, 13 mid-market and large commercial customers completed the workbook.

At a high-level, the responses from these customers indicated the following:

- Reliability is the critical top priority for almost all customers and they are willing to pay what is required to ensure a constant supply of electricity.
- Most large commercial customers acknowledge rising prices to be a reality and that 0.3% of the entire bill is “nothing to lose sleep over.”⁴ Mid-market customers are more likely than larger commercial customers to say they are concerned with the overall price of electricity and to take issue with the increase in the distribution portion of the bill.
- Overall, mid-market and large commercial customers are very satisfied with the services they receive from Hydro Ottawa.
- Despite small sample sizes, it appears that a larger proportion of mid-market and commercial customers are more likely to feel that the utility should either proceed with investments in overhead and underground as outlined in the draft plan, or reduce the level of spending.
- Large commercial customers note that reliability is crucial, so critical infrastructure should be maintained without risk. However, run-to-failure is considered by this segment to be acceptable for non-critical equipment and when there is no impact to safety. In

⁴ Customer Engagement Report, page 299.

1 contrast, mid-market customers are more in favour of a proactive approach rather than a
2 reactive approach to reliability investments. Run-to-failure is viewed by mid-market
3 customers as being a more costly approach and an unacceptable strategy for running a
4 distribution system.

6 **2.3. KEY TAKE-AWAYS**

7 Overall, nearly 21,000 customers provided feedback on Hydro Ottawa's 2021-2025 Rate
8 Application, representing nearly 6% of the total customer base.

9
10 The outcomes of both Phase I and Phase II of the consultation are summarized and analyzed in
11 more detail on the following pages of the Customer Engagement Report:

- 12
13 1. Phase I Reference Survey Report – pages 29-36.
- 14 2. Residential and Small Business Priorities – pages 54-69.
- 15 3. Residential and Small Business, Phase I and II Representative Report – pages 98-173.
- 16 4. Voluntary Non-Representative Report – pages 234-294.
- 17 5. Mid-Market and Commercial Report – pages 296-347.

18
19 Overall, a majority of customers who engaged in the consultation and provided feedback on
20 their priorities, needs, and preferences have indicated that they are prepared to pay for the level
21 of investment included in Hydro Ottawa's draft plans.

22
23 With respect to how customer feedback was ultimately incorporated into Hydro Ottawa's
24 investment and business plans, there are several sections within the DSP which shed light on
25 how customer input is reflected in the utility's plans for pacing capital investments such that
26 customer priorities can be met while pressure on rates and costs is simultaneously contained.⁵
27 In addition, each project proposal set forth in Attachment 2-4-3(E): Material Investments
28 identifies specific benefits that are set to accrue to customers from the planned expenditures in
29 the distribution grid and in non-system assets such as fleet, facilities, information technology,

⁵ For example, see sections 1, 4, 5, and 8 of Exhibit 2-4-3: Distribution System Plan.

1 and tools. And finally, Hydro Ottawa's formal Business Plan likewise speaks to how the utility
2 has designed its capital and operational plans to reflect the needs and priorities of customers, in
3 both general and specific ways.⁶

⁶ See section 7 of Exhibit 1-1-9: Business Plan for more information.



Customer Engagement

2021-2025 Rate Application

November 2019

Prepared for:

Hydro Ottawa Limited
2711 Hunt Club Rd.
Ottawa, ON
K1G 3S4



Customer Engagement Overview

November 2019

Confidentiality

This Overview and all the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited ("Hydro Ottawa").

Acknowledgement

This overview has been prepared by Innovative Research Group Inc. ("INNOVATIVE") for Hydro Ottawa. The conclusions drawn, and opinions expressed are those of the authors.

Innovative Research Group Inc.

56 The Esplanade, Suite 310
Toronto, Ontario M5E 1A7
Tel: 416.642.6340
Fax: 416.640.5988
www.innovativeresearch.ca



Table of Contents

Introduction	1
Customer Engagement Key Findings	2
Phase I: Understanding Needs and Preferences	2
Phase II: Presenting Choices within Hydro Ottawa's 2021-2025 Draft Plan	5
Customer Engagement Approach	9
Phase I Approach	9
Phase II Approach	11

Table of Appendices

PHASE I

Appendix 1.0 – Low-Volume Customer Focus Group Report

Appendix 2.0 – Reference Survey Report

Appendix 3.0 – Needs and Preferences Planning Placemat

Appendix 4.0 – Reference Survey Questionnaires

 Appendix 4.1 - Residential Reference Survey Telephone Questionnaire

 Appendix 4.2 – Small Business Reference Survey Telephone Questionnaire

PHASE II

Appendix 5.0 – Residential and Small Business Representative Report

Appendix 6.0 – Residential and Small Business Voluntary Report

Appendix 7.0 – Mid-Market and Commercial Report

Appendix 8.0 – Residential and Small Business Online Workbook Layout

Introduction

In early 2019, Innovative Research Group Inc. (INNOVATIVE) was engaged by Hydro Ottawa to assist in meeting the utility's customer engagement commitments under the Renewed Regulatory Framework for Electricity Distributors (RRFE).

Hydro Ottawa is in the process of developing its 2021-2025 rate application and set out to gather meaningful feedback from its customers, specifically when it comes to their needs, the outcomes important to them, and their preferences regarding the pacing and prioritization of specific investments.

Between January and October 2019, Hydro Ottawa gathered feedback from nearly 21,000 customers through its customer engagement efforts - in context, that means that Hydro Ottawa, through INNOVATIVE, engaged with nearly 6% of its entire customer base.

To the best of INNOVATIVE's knowledge, this engagement represents the single largest proportion of customers engaged by any LDC for the purpose of a rate application in Ontario to date.

Throughout this customer engagement, a concerted effort was made to ensure that all customers - regardless of where they live or operate, or how much electricity they use - had an equal opportunity to participate, whether through voluntary or random sampling. In order to facilitate this robust feedback, INNOVATIVE and Hydro Ottawa developed a two-phased approach which was both iterative and responsive to each stage of feedback.

Undertaking a two-phased approach also enabled Hydro Ottawa a clear opportunity to demonstrate how customer feedback was incorporated into the utility's draft plans, and then clearly respond to actionable feedback gathered in Phase II. Incorporating customer feedback into Hydro Ottawa's plans was a key objective of this customer engagement, and this two-phased approach helped facilitate its achievement.



Understanding that the way customers want to be engaged is changing. Hydro Ottawa's current approach leveraged methods that weren't robustly applied in the utility's last rate application customer engagement. With over 60% email coverage amongst residential and small business customers, particular focus was placed on engaging a representative sample of customers using online methods. This online-centered approach was the focal point of this customer engagement, and contributes largely to the successful participation rate.

This document contains the results of both phases of customer engagement, with a focus on the generalizable results of the representative sample from Phase II.

Customer Engagement Key Findings

Phase I: Understanding Needs and Preferences

The first phase of Hydro Ottawa's 2019 customer engagement took place between **January and March 2019**. The purpose of this initial phase of engagement was to provide input on customers' needs and preferences as they relate to the outcomes and goals that the utility should focus on over the 2021-2025 period, as well as develop a detailed understanding of the differences between customers with known email addresses (email sample) and the broader customer base (telephone sample). This initial phase of engagement was conducted at the beginning of Hydro Ottawa's planning cycle in order to ensure that the draft plan distinctly took into consideration the views of customers.

In January 2019, an initial round of exploratory focus groups was conducted amongst residential and small business customers. One primary objective of these groups was to obtain insights into what customers expect of Hydro Ottawa, and what customer priorities are, both in context of valued outcomes and the choices impacting customers that the utility will need to make.

Hydro Ottawa's customer engagement was an iterative process, wherein each phase and activity informed the next. The results of these exploratory focus groups (see **Appendix 1.0** for summary), played an important role in informing the questions that were asked in a subsequent series of telephone and online surveys. Results from these subsequent surveys formed the bulk of the insights gathered in Phase I of the customer engagement.

In addition to OEB direction on LDC rate application filings contained in the RRFE, its Handbook for Utility Rate Applications notes the following: *"The OEB expects a utility's rate application to provide an overview of customer needs, preferences and expectations learned through the utility's customer engagement activities."*¹ This section provides an overview of customer needs, preferences and expectations as gathered through parallel online and telephone surveys. Full results can be found in **Appendix 2.0**.

Customer Needs

Overall, most residential and small business customers are satisfied with the level of service that Hydro Ottawa provides.

Overall Satisfaction with Hydro Ottawa

Overall Satisfaction with Hydro Ottawa	Phase I Telephone Survey	
	Residential	Small Business
Satisfied	88%	85%
Neutral	7%	8%
Dissatisfied	4%	6%

¹ Handbook for Utility Rate Applications, p. 12 (October 13, 2016)

Comprehending customer needs means understanding the gap between the services and experience customers want and the services and experience customers are receiving. To uncover this gap, we asked what Hydro Ottawa could do to improve its services. As such, in addition to overall high levels of satisfaction with Hydro Ottawa, most residential and small business customers do not believe that there is anything specific that the utility can do to improve services. These results indicate that Hydro Ottawa is meeting its customers' needs.

Hydro Ottawa Customer Needs (Appendix 2.0)

Hydro Ottawa Customer Needs	Phase I Telephone Survey	
	Residential	Small Business
1 st	Nothing (51%)	Nothing (48%)
2 nd	Lower or reduce rates (20%)	Lower or reduce rates (16%)

Customer Priorities

Based on a preliminary audit on Hydro Ottawa's past and ongoing customer engagement efforts, as well as the initial exploratory focus groups, a list of potential utility outcomes or goals was identified. This list featured eight utility outcomes or goals.

- *Delivering electricity at reasonable distribution rates*
- *Ensuring reliable electrical service*
- *Finding internal efficiencies and ways to find cost savings*
- *Upgrading the electrical system to better respond to and withstand the impact of adverse weather*
- *Replacing aging infrastructure that is beyond its useful life*
- *Providing quality customer service and enhanced communications*
- *Helping customers with conservation and cost saving*
- *Investing in new technology that could help reduce future distribution electricity costs*

As gleaned from the Phase I surveys, customers don't just expect Hydro Ottawa to focus on one or two outcomes or goals, they are all important. In fact, both residential and small business customers selected "*ensuring reliable electrical service*" as the most important priority that Hydro Ottawa should focus on.

Importance of Outcomes (Appendix 2.0)

Importance of Hydro Ottawa Outcomes*	Phase I Telephone Survey	
	Residential	Small Business
Reliability	95%	97%
Distribution rate	92%	93%

* Customers who said either "*extremely important*" or "*somewhat important*".

Among competing outcomes or goals, *price, reliability, and investing in new technology* are the top three priorities for both residential and small business customers.

Hydro Ottawa Customer Priorities (Appendix 2.0)

Hydro Ottawa Customer Priorities	Phase I Telephone Survey	
	Residential	Small Business
1 st	Distribution rates	Distribution rates
2 nd	Reliability	Reliability
3 rd	Investing in new technology	Investing in new technology

Beyond developing a strong understanding of the needs and outcome priorities with residential and small business customers, the Phase I surveys also explored general trade-offs between several types of investments and cost. These questions were intended to provide initial input for Hydro Ottawa planners in putting together the initial draft plans. In fact, the results from these surveys were summarized in a “*Customer Engagement: Needs and Preferences Planning Placemat*” (see **Appendix 3.0**) which was shared with Hydro Ottawa planners, helping to ensure that customer feedback was brought into the planning process in the early stages.

What investment trade offs do customers value most?

Overall, the desire for electricity to be delivered at reasonable distribution rates is a top-of-mind priority for residential and small business customers, when considering the issues from an overview. However upon closer reflection, customers are generally willing to consider paying more to invest in aging infrastructure; equip staff with equipment and IT systems; proactively invest in system capacity; and modernize the grid, given the provision that investments in these areas may eventually save money down the line.

To illustrate, both residential and small business customers are strongly supportive of investments to replace the system’s aging infrastructure to maintain system reliability; even if that increases electricity bills by a few dollars over the next few years (as specified in the question).

Support for Investments in Aging Infrastructure to Maintain Reliability

System Renewal	Phase I Telephone Survey	
	Residential	Small Business
Invest what it takes to maintain reliability	72%	63%
Defer investments to lessen bill impacts	21%	23%

Using the input from the Phase I customer engagement, Hydro Ottawa planners developed a draft plan that included an estimated baseline cost, and identified a number of investment areas where spending could be increased, or in some cases decreased, in order to align with customer needs and expectations.

The Phase II customer engagement focused on presenting these investment trade-offs to customers and gathering feedback on Hydro Ottawa's draft plan. The next section will summarize the findings from these activities.

Phase II: Presenting Choices within Hydro Ottawa's 2021-2025 Draft Plan

In the Phase II customer engagement, INNOVATIVE and Hydro Ottawa developed a "workbook" intended to serve as the primary engagement tool. This workbook was designed to both provide customers with an adequate background on Hydro Ottawa and its draft business plans, as well as to gather feedback on trade-offs between specific investments and customer costs. The trade-off questions were presented as a choice between approach-options – i.e. accelerated approach, proposed baseline approach, or, where appropriate, a decelerated approach – which included the impact each approach would have on electricity bills.

The workbook, which can be found in its entirety in **Appendix 8.0**, was hosted on an online platform, and featured a unique feature which we call a "bill calculator". Where possible, Hydro Ottawa provided an estimate of the specific cost impacts of various levels of investment, and presented the choices as bill impacts, unique to each rate class.

Once customers finished sharing their thoughts on the decisions presented in the workbook, they had an opportunity to review their responses and the estimated total rate impact of those choices. They were able to change their responses until they felt they had found the right mix of investments and estimated rate impact. This feature allowed for a unique customer experience, allowing them to engage with their utility in a new way and provide more informed feedback.

A strong majority of Hydro Ottawa customers support either what is currently included in the utility's draft plan, or an approach that accelerates the pace of investment.

In fact, the majority of residential and small business customers support an accelerated approach to investments in both the overhead and underground distribution system. Despite small sample sizes, it appears that a larger proportion of mid-market and commercial customers are more likely to feel that the utility should either proceed with investments in overhead and underground as outlined in the draft plan, or reduce the level of spending.

Pacing Investments in the Overhead Distribution System

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Accelerated approach	58%	56%	5/13	52%
Included in Draft Plan	30%	27%	5/13	26%
Reduced approach	12%	17%	3/13	22%

Pacing Investments in the Underground Distribution System

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Accelerated approach	38%	34%	1/13	32%
Enhanced approach	24%	22%	3/13	27%
Included in Draft Plan	29%	29%	7/13	24%
Reduced approach	9%	15%	2/13	16%

For these overhead and underground investments, an extra layer of analysis was completed to examine potential differences between those who directly benefit from the projects and those who do not.

As illustrated below using the residential results, there are very limited differences between those who receive service via overhead wires and underground cables when it comes to their level of support for investments in the overhead distribution system. Therefore, customers support investments in both the underground and overhead system regardless of whether they directly benefit or not.

Pacing Investments in the Overhead Distribution System by Service Type

Representative Workbook	Residential		
	Total	Overhead	Underground
Accelerated approach	58%	61%	58%
Included in Draft Plan	30%	28%	31%
Reduced approach	12%	10%	11%

Despite being one of the lower ranked priorities in Phase I, most customers are supportive of Hydro Ottawa taking measures to prepare for severe weather events, knowing that these investments would cost them more on their monthly bills.

Preparing for Potential Increases in Severe Weather

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Pay more for increased measures to prepare	82%	76%	8/13	80%
Do not invest in measures to prepare for severe weather	18%	24%	5/13	20%

While support for increased investments in the underground and overhead systems, as well as preparing for potential increases in severe weather are strong, customers are generally more split when it comes to investments in improving reliability and proactively increasing system capacity. In fact, the majority of customers feel that Hydro Ottawa should proceed with its approach to “serving a growing city” which would slow distribution system capacity to critical investments only.

Reliability Investments

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Accelerated approach	44%	43%	3/13	42%
Included in Draft Plan	39%	34%	5/13	33%
Limited approach	10%	13%	5/13	13%
Reduced approach	7%	9%	0/13	13%

Serving a Growing City

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Accelerated approach	41%	38%	4/13	45%
Included in Draft Plan	59%	62%	9/13	55%

Additionally, while most customers support Hydro Ottawa's general approach to technological investments, they are split on whether investments should:

- Increase productivity, improve customer service and reliability; or
- Improve productivity, reduce operating costs and lower rates over the 2021-2025 period

The majority of small business customers are supportive of technological investments that are intended to save money and reduce costs, whereas, residential customers are more divided.

And which of the following options do you prefer?

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Investments to increase productivity, improve customer service and reliability	42%	32%	2/13	39%
Investments only to improve productivity, reduce operating costs and lower rates	43%	55%	10/13	48%
No preference/ Don't know	15%	13%	1/13	13%

Overall, customers are prepared to pay for the level of investment included in Hydro Ottawa's draft plan. When asked about their overall impression and view of Hydro Ottawa's draft plan, a clear majority either supports the current plan or feel that the utility should spend more to increase investments, particularly to the overhead and underground system.

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?

Online Workbook <i>n-size for sample sizes <60</i>	Representative Workbook			Voluntary
	Residential	Small Bus.	GS >50 kW	Low Volume
Improve service, even if that means an increase that exceeds current plan	35%	29%	3/13	28%
Maintain increase associated with current plan	48%	47%	6/13	50%
Keep rate increase below what is associated with current plan	9%	12%	3/13	13%
Other	4%	9%	1/13	4%
Don't know	4%	3%	0/13	5%
Maintain plan or improve service	84%	76%	9/13	77%

Beyond the topline numbers, additional analysis was undertaken to identify the views of more "vulnerable" Hydro Ottawa customers when it comes to its investment plans.

As illustrated below, there is correlation between a customers' household financial circumstances and their overall impression of Hydro Ottawa's proposed plan. That said, vulnerable customers who stated their electricity bill had a significant to modest impact on their household finances supported the plan or investing in further service improvements. The same trend is consistent amongst small business customers who say their electricity bill has a significant impact on their organization's bottom line.

Impression of Hydro Ottawa's Plan by Impact on Household Finances

Representative Workbook	Residential		
	Significant impact	Some Impact	No impact
Improve service	37%	25%	32%
Maintain increase	49%	43%	45%
Keep rate increase below	7%	17%	9%
Maintain plan or improve service	87%	68%	78%

Customer Engagement Approach

As mentioned earlier, Hydro Ottawa and INNOVATIVE developed and executed a two-phased customer engagement approach. This approach created multiple opportunities for customers to provide feedback, and provided Hydro Ottawa with multiple opportunities to consider and incorporate customer feedback as part of the planning process.

While detailed methodologies are contained within each individual report as appendices, this section will highlight some of the key methodological elements of Hydro Ottawa's 2021-2025 customer engagement approach.

Between January and October 2019, Hydro Ottawa gathered feedback from nearly 21,000 customers through its customer engagement efforts - in context, that means that Hydro Ottawa, through INNOVATIVE, engaged with nearly 6% of its entire customer base.

Summary of Hydro Ottawa Customer Engagement Results – Phase I and Phase II

Customer Group	Methodology	Unweighted Sample Size	Field Dates
Residential	Telephone	n=517	February 28 - March 15, 2019
Small Business	Telephone	n=200	February 28 - March 15, 2019
Residential	Online	n=730	March 5 - 27, 2019
Small Business	Online	n=275	March 5 - 27, 2019
Phase I Total Customers Engaged: n=1,722			
Residential	Online Voluntary	n=1,700	August 20 - September 26, 2019
Small Business	Online Voluntary	n=11	August 20 - September 26, 2019
Residential	Online Representative	n=17,210	August 20 - September 26, 2019
Small Business	Online Representative	n=307	August 20 - September 26, 2019
Mid-Market/Commercial	Online Representative	n=13	September 27 - October 24, 2019
Phase II Total Customers Engaged: n=19,241			
Total Customers Engaged as Part of Hydro Ottawa's 2019 Customer Engagement: 20,963			

Phase I Approach

In the **first phase**, Hydro Ottawa and INNOVATIVE set out to understand two core elements about its customers.

First, as discussed in detail throughout this report, a key objective of Phase I was to develop an understanding of Hydro Ottawa customers' needs and preferences.

Second, in order to move to a more online-centric approach to engagement, INNOVATIVE needed to develop a detailed understanding of the differences between customers with known email addresses (email sample) and the broader customer base (telephone sample).

INNOVATIVE was able to confidently ascertain the potential differences between these two sample groups by first fielding two parallel online and telephone surveys (see **Appendix 2.0** for details) and then undertaking a rigorous “sample validation” process.

This sample validation process included comparing known variables (i.e. region and electricity consumption) across the overall population to the sample of that of the population with email addresses. Through this process, INNOVATIVE was able to conclude that no “group” is substantially underrepresented in the email sample.

Overage Email Coverage

Rate Class	Full Population	Email Coverage	
Residential	255,562 records	167,409 records	66%
Small Business	22,797 records	15,135 records	66%

A comparison of customers with emails to the overall customer base was completed on known characteristics of region and electricity usage. We found that customers with emails are similar to the overall customer base, which made an online survey a viable alternative to traditional telephone surveys.

Average Annual Consumption for Online vs. Telephone Sample

Rate Class	Full Population	Those with email addresses	Difference
Residential	8,157 kWh	8,136 kWh	-0.2%
Small Business	28,636 kWh	29,699 kWh	+3.7%

Phase I Response Rates

As previously discussed, how Hydro Ottawa customers wish to be engaged is changing. As such, INNOVATIVE is always learning and strategizing the most effective means of engagement for the future. When looking at the Phase I telephone surveys, we see response rates of 16% and 9% respectively amongst residential and small business respondents. The statistics below include only customers that were reached by telephone and do not include non-responding customers.

Phase I Telephone Surveys – Total customers contacted vs. number of completed surveys

Disposition Result	Residential	Small Business
Total customers contacted	3,224	2,338
Survey completes	517	200
Response Rate	16%	9%

Phase II Approach

In the **second phase**, Hydro Ottawa and INNOVATIVE collectively developed an online “workbook” which was subsequently sent to all customers with an email address on record.

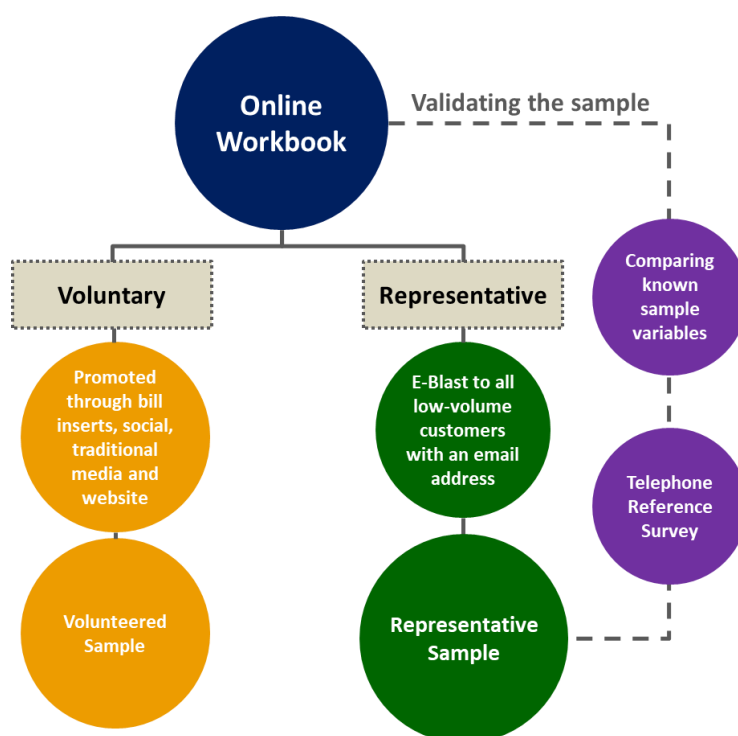
The residential and small business online workbooks featured two input streams:

1. **A representative stream** that ensured a representative sample of residential and small business customers were engaged, allowing for the generalizable reporting of findings.
2. **A voluntary stream** created to enable any customer who wanted to provide input on Hydro Ottawa’s preliminary plan an opportunity to contribute their feedback.

In the representative stream, each customer received a unique URL that could be linked back to their annual consumption, region and rate class. In total, the workbook was sent to 182,939 residential customers and 9,285 small business customers through e-blast from INNOVATIVE.

Unlike the representative stream, the voluntary workbook was promoted through Hydro Ottawa’s website, social media, bill inserts, digital advertisements and other tactics. Respondents who participated in this stream were only screened to ensure that they reside or operate in Hydro Ottawa’s service territory.

Because INNOVATIVE cannot definitively link those who completed the online workbook through the voluntary stream, this portion of the sample cannot be deemed representative of the broader Hydro Ottawa customer base. The voluntary online workbook stream also helps to ensure that customers who have not provided Hydro Ottawa with an email address have an opportunity to participate.



For residential and small business rate classes, responses from the representative stream were weighted by region and usage to ensure the responses were representative of the broader customer base.

Based on the comparative results of the first phase of the customer engagement, INNOVATIVE is confident that the representative online workbook results contained within this report are representative of Hydro Ottawa's actual customer base.

This determination was reached based on comparing the Phase I and II results based on key demographic, general attitudes towards electricity, as well as individual customer experience.

An initial overview of the residential and small business workbook, based on more than 12,000 completed workbooks was shared with Hydro Ottawa on September 9, 2019.

- The draft representative workbook results were shared on October 10, 2019.
- The draft mid-market and commercial report was shared on November 1, 2019.
- The draft voluntary workbook results were shared on October 4, 2019.

Throughout both Phase I and Phase II, INNOVATIVE regularly provided Hydro Ottawa staff with progress updates by way of telephone, including preliminary results.

Phase II Response Rates

In total, 64,098 residential and small business customers started the online workbook, either through the generic or unique URL. Of those who clicked on the online workbook link, 19,302 (30%) completed all the questions.

The tables below illustrate that if you progress beyond the first (introduction) page you are two times (30% vs. 61%) more likely to complete all the questions in the workbook. The tables below also illustrate that more than 50% of customer who click on the link drop off after the first page.

Customers who clicked on the online workbook link

Residential and Small Business Online Workbook Completion Rates	Total
Total started	64,098
Did not complete all questions	44,796
Completed all questions	19,302
Response rate	30.11%

Customers who progressed beyond the first (introduction) page

Residential and Small Business Online Workbook Completion Rates	Total
Total moved beyond first page	31,546
Did not complete all questions	12,244
Completed all questions	19,302
Response rate	61.18%

In total, 93 mid-market and commercial customers started the online workbook through a unique URL. Of those who clicked on the online workbook link, 13 (14%) completed all the questions.

Again, the tables below illustrate that your likelihood of responding to all the questions in the workbook increases from 14% to 46% if you move beyond the first page.

Customers who clicked on the online workbook link

Mid-market and Commercial Customer Online Workbook Completion Rates	Total
Total Started	93
Did not complete all questions	80
Completed all questions	13
Response rate	13.97%

Customers who progressed beyond the first (introduction) page

Mid-market and Commercial Customer Online Workbook Completion Rates	Total
Total moved beyond first page	28
Did not complete all questions	15
Completed all questions	13
Response rate	46.42%

Appendix 1.0



CUSTOMER ENGAGEMENT

Outcomes & Priorities

Low-Volume Customer Focus Groups

February 2019

Prepared for:

Hydro Ottawa

3025 Albion Rd. N., Box 8700

Ottawa, ON K1G 3S4



Customer Engagement: Outcomes & Priorities

February 2019

Confidentiality

This Report and all of the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited (Hydro Ottawa).

Acknowledgement

This report has been prepared by Innovative Research Group Inc. (INNOVATIVE) for Hydro Ottawa. The conclusions drawn and opinions expressed are those of the authors.

Jason Lockhart

Vice President

Innovative Research Group Inc.

56 The Esplanade, Suite 310, Toronto ON | M5E 1A7

Direct: 416-642-7177

Email: jlockhart@innovativeresearch.ca

www.innovativeresearch.ca

Table of Contents

1. Low-Volume Customer Focus Groups	1
1.1 Methodology	1
1.2 Customer Knowledge.....	1
1.3 Customer Journey	2
1.3.1 Initial Point of Contact.....	2
1.3.2 Customer Expectations.....	4
1.3.3 Outages	4
1.3.4 Billing	5
1.3.5 Service/Field Interactions	5
1.4 Emerging Issues.....	5
1.4.1 Greening the Grid.....	6
1.4.2 Electric Vehicles.....	6
1.4.3 Changes in Demand.....	7
1.4.4 Changes in Technology	7
1.5 Identified Priorities	8
1.5.1 Pricing and Affordability	8
1.5.2 Reliability and Crisis Response.....	8
1.5.3 Addressing current issues.....	9
1.5.4 Preparing for future changes.....	9
1.6 Appendices.....	11

1. Low-Volume Customer Focus Groups

1.1 Methodology

Objective: Using an exploratory research methodology, our objective was first to understand the customer journey, from initial contact (typically account initiation or transfer) through to the various other touchpoints customers typically encounter.

Our second objective was to obtain insights into what customers expect of Hydro Ottawa, particularly in terms of what represents value to customers and what customer priorities for Hydro Ottawa are, both in context of valued outcomes and choices impacting customers.

Two low-volume focus groups were conducted on January 24, 2019 in downtown Ottawa.

1. Small Business Customers (8 participants) – 5:30pm to 7:30pm
2. Residential Customers (5 participants) – 7:30pm to 9:30pm

Small Business participants received a \$120 cash incentive as compensation for their time, while residential customers received \$80. Participants were recruited from across Ottawa and qualified if they either paid their organization's electricity bill or had oversight on electricity management decisions.

We deployed a detailed *Discussion Guide*, used to moderate all four focus groups. In all four focus groups a printed primer was shared with participants in the early part of the session to provide consistent contextual information on Hydro Ottawa and the role it plays within Ontario's electricity system, and bill impact.

This report summarizes key findings, and offers observations and potential strategic avenues based on these groups and past research. *Respondent verbatim responses are in italics*. In general, our approach in reporting is to allow the respondents to be heard as much as possible, utilizing representative verbatim comments, offering interpretation and comment where necessary.

Please Note: Qualitative research does not hold the statistical reliability or representativeness of quantitative research. It is an exploratory research technique that should be used for strategic direction only.

A note on interpreting focus groups findings: In focus group research, the value of the findings lies in the *depth* and *range* of information provided by the participants, rather than in the *number* of individuals holding each view. References in this report such as "most" or "some" participants cannot be projected to the full population. Only a large sample, quantitative survey would be accurately projectable to the full population.

1.2 Customer Knowledge

The groups started with a discussion of what Hydro Ottawa does, what services it provides, and what parts of the system it manages. Participants generally had a good sense of its role, saying that it delivers electricity generated by other companies. Some participants also noted that it runs other programs for employers and individuals to promote more efficient electricity usage. A few participants also noted from experience that they have seen Hydro Ottawa do a substantial amount of infrastructure maintenance.

They are resellers of hydro. Ontario Power generates it and then they sell it to the customer. [The difference is] one more level of administration and bureaucracy.

Delivering electricity. But also it has programs for employers and individuals as well, business and homeowners to upgrade and use electricity in a better way.

They provide funding to do energy efficient upgrades. We did a retrofit on our lighting. We are also working with a third party to do an energy audit on the building.

I know they do a lot of infrastructure maintenance.

Participants were then given a short handout with details about Hydro Ottawa (see Appendix for details) and asked if anything in it was surprising. Participants largely agreed that they did not know the details provided in the information, but some felt that despite that, the information was still uninteresting to them.

The thing I didn't know was that they need approval from the Ontario Energy Board to make changes to the rates.

The regulatory charges. I think that's a lot of overhead. 3% wow! I want to be in that business.

It wasn't very interesting. It's a lot of distinction without a difference. None of this affects what I feel about anyone in the supply chain.

However, where participants existing knowledge was more of an issue was in the area of energy generation. While the regulated portion of Hydro Ottawa is not involved in generation, participants did not draw this distinction and so mentions that Hydro Ottawa does not generate power left them confused. This led one participant to become suspicious of the process.

Are you sure that Ottawa Hydro is no way involved in generation?

Don't they own those falls over there? So they are involved in generation. This clearly says they aren't involved in generation, but they are.

1.3 Customer Journey

1.3.1 Initial Point of Contact

For many participants, the only points of contact they have had was paying their bill, and it is not one they pay much attention to. Participants found that paying their hydro bill was a habit and not something they put significant thought into a monthly basis.

For the most part billing is accurate. We don't spend too much time dealing with that.

I pay my bill online. Yes, [I use the online tools].

Monthly

Online billing

However, some participants had an initial contact point with Hydro Ottawa when they first set up their account. This longer interaction served more as a basis of opinion than the shorter and less thoughtful bill payment interactions.

Over the phone I set up something moving to our new place. Client services is what I do for a living and I was really impressed by them.

Outside of these routine contacts, the primary contact method was by telephone. The two main reasons for calling were to discuss issues with billing or to report an outage. Participants generally had negative impressions of their interactions related to billing, while interactions related to outages were perceived as more mixed.

By phone to discuss an issue with billing.

Several have had issues. One was a mistake on Hydro Ottawa's end that was never explained or followed up on. The other was a metering issue.

Landlord has to pay fee when tenants miss calling in when they switch, was supposed to be registered to a program that avoided that fee, inept staff erred. In the end it was rectified and the charge was removed.

I called once because there was dramatic changes in our bill. There was nothing different on our end. They came, checked the meter and couldn't find anything.

Emergency line, for example during the tornado this summer. I was impressed with their response.

I called in when a transformer got hit by lightning. I called to say the power was out and they better bring a transformer. I saw blue flame coming out of it.

Additionally, some participants also reported calling to discuss specific programs including energy efficiency programs.

The inefficiency of the employees who didn't register this program. The biggest concern is with the inadequacy of staffing. It's a crapshoot – sometimes you get a person who knows it inside and out, they understand you before you even speak. They do it so beautifully, that you think how could I criticize them?

Billing and energy programs. Changing our lights was a big thing, and the thermostat. [I found out about the program] by asking them if there was any way I could save on my bill. We run all day long, and a good chunk is during peak time. Every little bit helps. I had heard people talking about a funding program where they gave out lighting – there are things they can. It's easier to have a person you're physical speaking to than emailing back and forth.

Other ways participants had interacted with Hydro Ottawa were:

- Meter installation
- On the street – witnessing tree cutting
- Using the Hydro Ottawa app

I recently had a new meter installed. It wasn't a really good experience. I did everything they asked, all the paperwork, paid. They said someone would call back in two days, it was two weeks. They should think about improving that before asking for more money. They have to improve what they're doing.

Their app. It has real time updates on their outages and it makes suggestions on what you can do to lower your rates. I do find it is repetitive, but it is helpful to have that information there.

Tree cutting. I just see them doing it in front of my house.

1.3.2 Customer Expectations

The expectations of Hydro Ottawa that customers expressed fell into the following categories:

- Information during outages
- Acknowledgement
- Friendly customer contact
- Swift service, reasonable service standard (timely response)
- Ease of access, alternatives for access

In most areas, participants felt that their expectations were being met by the existing services of Hydro Ottawa. Where participants had issues, it was largely from instances where they had contacted Hydro Ottawa and at least initially had felt that their concerns were not being correctly or efficiently addressed.

1.3.3 Outages

Some participants, particularly among the business customers, felt that reliability has declined recently. However, this sense was not shared in the residential group where participants felt that

Uptime. In Kanata we experience a lot of power outs. If they said, "We need to increase the delivery charge so that we could be more reliable..."

I've had no problems. Keep it like it is.

The main expectation that participants had in relation to outages was that they would be able to remain in contact with Hydro Ottawa throughout. This contact could take place through several channels including the Hydro Ottawa app, Twitter feed, phone, and website. Participants had individual preferences for which of these they preferred to use for information.

Some were concerned that the different routes of accessing information were not all equal. One participant noted that they felt the website had the right information, but the Twitter feed didn't appear to provide anything during an outage.

I use the app whenever I have a problem. I watch it quite frequently in the winter time.

When there is an outage I notice it. I don't have the app on my phone, but it was good for getting updates. It helped me out to give me an idea what was happening with the folks.

I don't have the app, I don't want the app.

I've had one outage in the last two years. I just called them up on the phone and it surpassed expectations. I was expecting to sit on the phone for 45 minutes to hear someone say yeah we got that but they went beyond that.

I checked the website. [The experience was] pretty good. They had a nice little map showing who else was out in the area. The estimate said 2am but I think I got power back at 9:30 – was out at 7:00.

It's great the website tells you, but I find it odd they don't push anything out on Twitter.

[I would follow Hydro Ottawa on Twitter] only during an outage.

1.3.4 Billing

While bills were the main point of contact that customers had with Hydro Ottawa, the only expectation that customers had of them was that any issues would be efficiently and quickly solved by Hydro Ottawa.

When they owed me money I had to put effort in to make them give it to me. When I moved in they gave me a flat rate based on the previous tenant and that was too much. So in July I looked at it and had a negative \$1,000 balance and they told me they couldn't give me that money back. Would they accept that if I owed them \$1,000?

My issues was resolved quickly and efficiently. They reviewed everything, fixed it.

One participant had a specific issue with monthly billing and felt that it was an opportunity for Hydro Ottawa to make changes without customers noticing because their bill payment becomes a routine and they do not carefully review the bill.

The only issue I have is that it's now monthly. There's an inflation there that nobody looks at – you don't look at the breakdown, you just pay it because you need hydro.

1.3.5 Service/Field Interactions

Customers generally felt that their needs were being met when it comes to customer service and interactions with Hydro Ottawa.

It was my first time setting one up. I didn't have any issues doing it. I had questions and they were well set up.

Customer service yes, but it is at a relatively high level already.

One participant in the residential group also had concerns about what Hydro Ottawa is doing on their street and tried to contact Hydro Ottawa about it but did not get a reassuring response. This left them feeling that Hydro Ottawa is not doing everything it should be.

I called about forestry a few days ago. They were crowning the trees on my street and I asked what happens if Hydro [Ottawa] kills the tree in front of my house? And they said we don't do anything about that. It's one of these irritating things where if they kill the trees they don't do anything about it.

Firstly, I don't think they should be chopping trees. I think they should be burying lines whenever they can, but then the City of Ottawa loses its dividend. There is a cost to be occurred, there is also a benefit.

1.4 Emerging Issues

Frequently identified issues and associated priorities were consistent across all groups, and can be described as:

- Pricing and affordability
- Maintenance of infrastructure
- Greening the grid
- Electric vehicles

- Changes in demand
- Changes in technology

1.4.1 Greening the Grid

Participants felt that climate change was a clear issue that would only continue to worsen and so Hydro Ottawa needed to think about greening the grid in the near future. This was specifically in the form of ending reliance on fossil fuels and moving away from both coal and natural gas.

Greening the grid, yes please.

Greening the grid

Getting off gas as well.

Switching off coal.

The main area that participants identified specific interventions they wanted from Hydro Ottawa was helping them install solar panels.

I'm going to be asking for their assistance in implementing [a greener grid – e.g. solar panels].

Greasing the skids for people installing solar panels. It generally tends to be one way – you get your bill and pay it. But as bills get cheaper more people will do it. I've heard people talking about issues selling back to the grid.

Do you expect them to be an advisor through adding solar panels? Absolutely yes.

I would like that, yeah. Meaning they help set up solar panels on the roof. In the past they gave them to different companies and it was pretty expensive – the smallest kit was \$90,000. If there was a better program I would participate.

Participant also suggested programs or policies to specifically target the private sector, such as offering buildings price reductions for efficiency and instituting internal policies to do business specifically with environmentally friendly companies.

What about giving reductions to buildings that are high efficiency electric-wise?

Green procurement. Like when people meet a certain level they are a green business or if they have enough women or minorities. That is something to take into consideration.

1.4.2 Electric Vehicles

There was substantial discussion about the changing needs for power users that would come from an increase in electric cars. Participants identified supporting infrastructure as a key barrier to increased adoption of electric vehicles and felt that Hydro Ottawa should financially support the installation of more charging stations. One participant suggest that Hydro Ottawa could even get into the business of opening charging stations themselves and selling power through them.

Electric car infrastructure. It's a chicken or egg thing and you've got to start somewhere. Right now the user base is small and the cars are expensive.

I would hope that Hydro Ottawa, the province would look at multi-residential building and saying you need to put the infrastructure in place. And there should be a program to offset the costs [of electric charging stations].

Electric cars. The amount of electric cars is going to increase and they have to make sure they have the infrastructure to support it – that they can manage the increased demand.

Could Hydro Ottawa set up their own charging stations and sell power that way?

1.4.3 Changes in Demand

A few participants expected to see increases in demand in the future. They felt these would come both in increases in demand in areas further from the downtown core as the population grows, as well as increases in demand from existing urban cores as they continue to densify.

I was young when the city amalgamated, and part of the discussion is delivery to the places out there. What is next coming into the umbrella? Planning for the future and the future is further away from the core of Ottawa.

Urban density. Presumably demand for power will increase. Rather than sprawl it is increasing demand in urban cores.

1.4.4 Changes in Technology

Participants also saw changes in technology as a potential threat to security and felt that Hydro Ottawa would need to invest in the appropriate technical infrastructure to remain safe.

System security. Like cyber security.

I would assume just the technical infrastructure of managing the business itself – more digital. I imagine that's a considerable challenge for them, like any government organization. And then what about digital security?

Small business participants were also asked about small business tools, but they largely did not have strong views about them. Some participants were not aware of any existing tools or what Hydro Ottawa could do to help them. However, one participant pointed to the potential efficiencies business tools could create and agreed that Hydro Ottawa should look towards them because any potential productivity gains make it a good idea.

I don't know anything about that.

I have a lot of contact with people in shared services. It makes total sense to take twenty systems and mere them into five systems. It reduces the overhead and makes it more efficient. Look for productivity gains through technology – even in infrastructure maintenance look at things like robotics.

1.5 Identified Priorities

Participants were given the opportunity to rank the outcome priorities they identified

	1 st Priority	2 nd Priority	3 rd Priority	Total
Price	4	4	3	11
Reliability	6	3	1	10
Efficiency and cost reductions	0	2	2	4
Addressing climate change	2	0	1	3
Aging infrastructure	0	2	1	3
Environmental stewardship	0	1	2	3
Accountability	1	0	1	2
Crisis/outage response	0	1	0	1
Investment in new infrastructure	0	0	1	1
Communication	0	0	1	1

1.5.1 Pricing and Affordability

Focus on price as an emerging issue was limited, but customers did feel that they were currently paying more than they should be and that this was something Hydro Ottawa should address in the coming years.

I've been living in Quebec for 15 years. The government runs it and puts the money back in it. It is half the cost. For the future I would like to see some sort of push for the government to take responsibility for this. This is a necessary service.

Some participants felt they should be more focused on specifically addressing affordability and that it was not a question of lowering the rates across the board but putting programs in place to make it more affordable to those who earn the least.

Affordability and price. To put more nuance on it, relative to income. Not just price across but thinking about ability to afford as well.

Assistance programs

1.5.2 Reliability and Crisis Response

Participants viewed reliability as an important issue to continue addressing in the future. For some, the existing levels of reliability were acceptable. However, others said that even the existing outages were expensive for them and their business. Overall, the sense was the at least maintain the current level of reliability was an important priority.

I've had no problems. Keep it like it is.

As far as infrastructure maintenance – I am sure there are smarter people doing it so just do what it takes to keep the lights on. It's really expensive to lose power in the middle of the day.

Where participants saw an opportunity to improve reliability was in the area of natural disasters and potentially burying power lines to make them more resilient. Customers saw clear economic impacts of long outages caused by recent disasters and so wanted to know if everything was being done to prevent future outages.

However, there was also an acknowledgement of the trade-offs – both in the direct cost of burying lines and in the cost of disruption to tearing up streets and moving lines underground.

How can they better prepare for natural disasters? For the last decade we have had more and more. For four days we had no power and so for four days there is no revenue. What as business owners and Hydro can we do to prevent that?

Something like the ice storm or the tornado, I don't know how you could possibly harden it. Those big steel poles look like a giant came and turned them.

With the tornado and ice storm – is there a movement toward more underground wires?

They're redoing Elgin street to bury all the lines. Clearly it makes sense to do that when you are tearing everything apart on the street anyway.

One participant felt that there was only so much Hydro Ottawa could do to pre-emptively prevent outages and plan for specific situations, and so instead being prepared to response to an unexpected event is an important focus for the future,

Crisis response. You can't plan for everything so speed and effectiveness with which you deal with the unexpected.

I think the idea is that they have to have a plan, but they might not be planning for the worst-case scenario. You've got to recognize that when these events do happen you need to have a plan and be able to restore hydro as quickly as possible.

1.5.3 Addressing current issues

A number of the priorities participants had been motivated by their current experiences with the system. This manifested as prioritizing price, cost reductions, and aging infrastructure.

Price and cost reductions are a major concern that participants highlighted. Many felt that the current costs were unaffordable and finding efficiencies and reducing prices is essential to improving that moving forward.

In the end, if your business is stronger it benefits Ottawa. I know so many people who have gone out of business in the last five years. If they do a better job and lower our costs, we become stronger businesses. Everyone wins.

Aging infrastructure is even more directly addressing current issues. While one participant put new infrastructure in their top three priorities, several said that aging infrastructure should be addressed.

They need to deal with the aging infrastructure. That is a fundamental problem and it will only get worse as it ages.

1.5.4 Preparing for future changes

The other side of their motivation was to prepare for changes they expect to come in the future. These issues of climate change, developing new infrastructure, and adapting to new technology.

With these issues comes greater uncertainty than with addressing current issues. This lead to a broad range of potential concerns being discussed. For instance, participants were concerned both about increasing demand within urban cores, as well as increasing demand in more distant suburbs, and even the possibility of having to incorporate other metro areas.

I was young when the city amalgamated, and part of the discussion is delivery to the places out there. What is next coming into the umbrella? Planning for the future and the future is further away from the core of Ottawa.

Urban density. Presumably demand for power will increase. Rather than sprawl it is increasing demand in urban cores.

1.6 Appendices

The following two-page background primer was used in the residential customer focus groups.

Hydro Ottawa's Role in Ontario's Electricity System



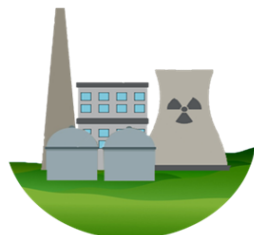
Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

1

Generation

Where electricity comes from.

Ontario's electricity is generated by nuclear, natural gas, hydroelectric and renewable technologies such as wind and solar. In Ontario, 70% of electricity is generated by *Ontario Power Generation*, which has generation stations across the province.



2

Transmission

Electricity travels across Ontario.

Once electricity is generated, it must be transported to urban and rural areas across the province. This happens by way of high voltage transmission lines that serve as highways for electricity. The province has more than 30,000 kilometres of transmission lines, most of which is owned and operated by *Hydro One*.



3

Local Distribution

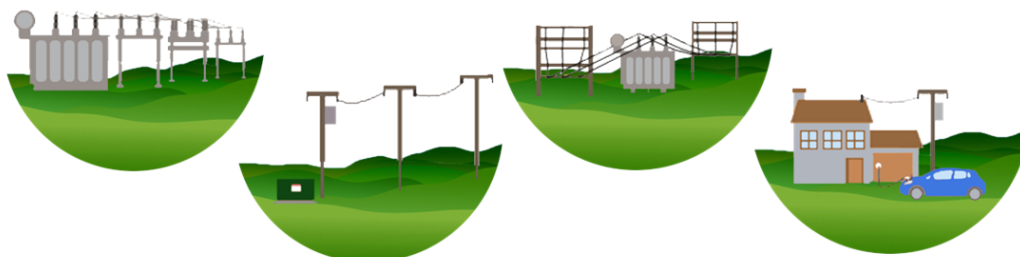
Delivering power to homes and businesses across much of Ottawa and Casselman.



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers through its distribution system. This local distribution system includes transformer stations that decrease the voltage of the electricity so it can be used safely in your home or business.

There are approx. 60,000 poles, 2,700 km of overhead power lines and 2,900 km of underground cable. Through this distribution network, Hydro Ottawa delivers electricity to more than 334,000 homes and businesses.

Hydro Ottawa is 100% owned by the City of Ottawa.



1

Residential Electricity Bills: Understanding where your money goes

Every item and charge on your bill is either mandated by the provincial government or approved by the Ontario Energy Board (OEB). The OEB sets electricity rates in Ontario.

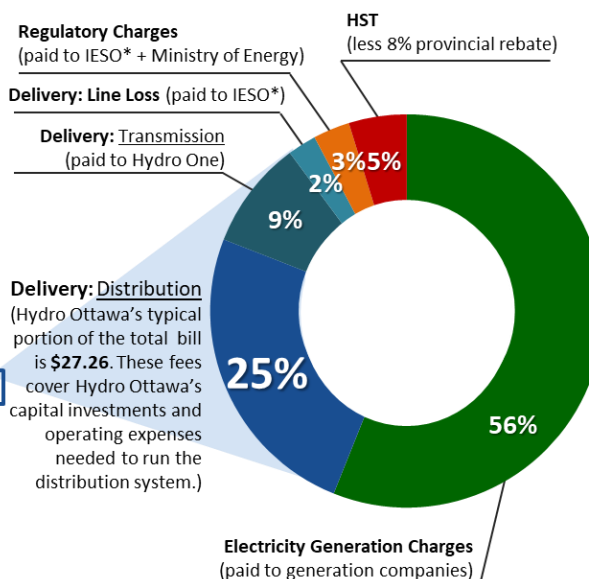
For the typical residential customer, about 25% of the electricity bill pays for **Hydro Ottawa's** distribution system. The rest of the bill goes to power generation companies, transmission companies, regulatory agencies, and government taxes.

Hydro Ottawa is responsible for billing customers for all of these costs, including any applicable taxes. The "Delivery" charge pays for both the cost of transmission and the cost of distribution. **Only the distribution portion is retained by Hydro Ottawa to pay for operating and maintaining its part of the system.**

Sample Residential Bill

Hydro Ottawa Monthly Bill (Based on consumption of 750 kWh)	
Account Number: 000 000 000 000 0000	
Meter Number: 00000000	
Your Electricity Charges	
Electricity	
Off-Peak @ 6.5 ¢/kWh	31.69
Mid-Peak @ 9.4 ¢/kWh	11.99
On-Peak @ 13.2 ¢/kWh	17.82
Delivery	39.66
Regulatory Charges	3.27
Total Electricity Charges	\$104.42
HST	13.57
8% Provincial Rebate*	(-\$8.35)
*The Ontario government is providing a rebate on your electricity costs equal to the provincial portion of the HST	
Total Amount	\$109.64

Hydro Ottawa's
 portion: **\$27.26**



* IESO = Independent Electricity System Operator.

How are electricity rates determined in Ontario?

The Ontario electricity sector is regulated by the **Ontario Energy Board (OEB)**. One of the OEB's roles is to review the distribution plans of all electricity distributors and set the rates that they can charge customers.

Hydro Ottawa is funded by the distribution rates paid by its customers. Periodically, Hydro Ottawa is required to file an application with the OEB to determine the funding available to operate and maintain the distribution system. Hydro Ottawa must submit evidence to justify the amount of funding it needs to safely and reliably distribute electricity to its customers.

Appendix 2.0



Reference Survey Report

Customer Engagement



This report and all of the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited.

April 2019

STRICTLY PRIVILEGED AND CONFIDENTIAL

Overview

Research Objective

As part of its Phase I Customer Engagement, Hydro Ottawa commissioned Innovative Research Group (INNOVATIVE) to survey its residential and small business customers. Among each customer type, INNOVATIVE conducted parallel telephone and online surveys. Running parallel telephone and online surveys serve two primary purposes:

1. **To gather feedback and insights on *priorities, preferences and needs* from low-volume customers.**
Feedback from these surveys will help Hydro Ottawa's planners and engineers inform the design of the utility's DSP and Business Plan, which will be shared in draft with customers in Phase II of this engagement.
2. **To establish baselines and develop weights that allow Hydro Ottawa to move to an online methodology for its low-volume customer engagement program.**
Establishing a baseline and understanding the difference between customers with known email addresses (email sample) and the broader customer base is a critical step for utilities that wish to migrate to representative online survey methodologies in the second phase of their customer engagement. Where significant differences exist between the email sample and the broader customer base (e.g. demographics, firmographics, attitudes, and opinions), the insights gained from these parallel surveys can be used to develop weights, which can minimize these differences.

Benefits of Moving to an Online Methodology

With known emails for approximately 66% of its low-volume customers, Hydro Ottawa is an ideal candidate to migrate from a generalizable pure-telephone methodology to a generalizable pure-online methodology in Phase II of its customer engagement.

The benefits of a purely online methodology will be realized in Phase II of Hydro Ottawa's customer engagement when its draft DSP and business plan are presented to customers in an interactive workbook format. These benefits include:

- Better presentation of information through the use of visuals (e.g. diagrams, pictures, videos).
- Ability to ask more questions, as respondents are more likely to spend a longer time participating in an online survey than on the phone.
- Reduced costs as online surveys are less costly than telephone surveys.

This report documents the results of four surveys conducted by INNOVATIVE among Hydro Ottawa's low-volume customers (small business and residential) and provides recommendations on appropriate weighting for future Hydro Ottawa online survey methodologies.

Sample Validation

Email Sample vs. Broader Sample

Comparing the overall population to the sample of that population with email addresses across known variables, we can see that no group is substantially underrepresented in the email sample.

Overall Coverage

Two thirds of each population is included in the email sample.

	Full Population	Email Sample	Coverage
Residential	255,562 records	167,409 records	66%
Small Business	22,797 records	15,135 records	66%

Average Consumption

Small businesses with email addresses consume an average of 3.7% more energy than the full population.

	Full Population	Email Sample	Difference
Residential	8,157 kWh	8,136 kWh	-0.2%
Small Business	28,636 kWh	29,699 kWh	+3.7%

Language

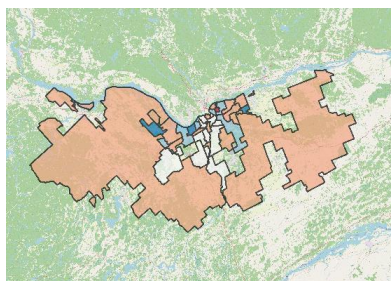
Bilingual and French accounts are overrepresented relative to English accounts, but English accounts are only slightly underrepresented.

	English			Bilingual			French		
	Full Pop.	Email Sample	Diff.	Full Pop.	Email Sample	Diff.	Full Pop.	Email Sample	Diff.
Residential	82.2%	80.0%	-2.7%	14.5%	16.7%	+15.0%	3.3%	3.4%	+2.1%
Small Business	83.7%	80.9%	-3.3%	13.8%	16.2%	+16.9%	2.5%	2.9%	+15.3%

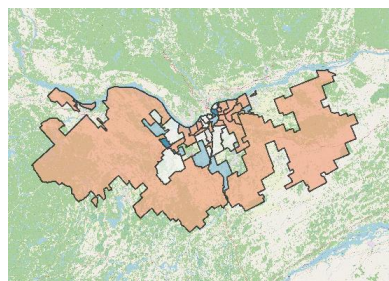
Region

There is no systematic pattern of FSAs* being over or under represented by email. Some FSAs are up to 20% over or under represented, but these differences are randomly distributed across the entire service area.

Small Business



Residential



% difference between email sample and full population
More than -10%
-10% to -4%
-4% to +4%
+4% to +10%
More than +10%

* Note: a forward sortation area (FSA) is the first three digits of a postal code.

Sample Validation

Email Sample vs. Telephone Sample

For the most part, responses from the telephone and online surveys are very similar within both customer types. However, there are a few distinct difference that are worth noting. The table below documents the differences between the *email* and *telephone* samples.

Residential	GS < 50 kW
Age: Online respondents are slightly older than telephone respondents (age 55+: 58% vs. 50% respectively).	Sector: Online respondents are less likely than telephone respondents to be represented in the commercial sector (22% vs. 33%), but more likely to be a multi-unit residential business (12% vs. 8%).
Work Status: Online respondents are more likely to be retired than telephone respondents (40% vs. 33% respectively). That said, online respondents are less likely than telephone to be full-time employed (42% vs. 47% respectively).	Hours of Operation: Online business respondents are less likely than telephone respondents to operate during regular business hours (39% vs. 51%) and less likely to operate on weekdays only (23% vs. 34%).

Weighting Convention

Given the relatively high coverage of email addresses (66% of the customer base among residential and small business customers) and similarities in known account characteristics (average consumption, language, and region), Hydro Ottawa's email sample looks to be a good representation of the broader customer base.

Likewise, the telephone and online surveys returned remarkably similar results on key demographics and firmographics, as well as customer knowledge, attitudes and beliefs.

Based on both comparisons (email sample to broader customer base and online to telephone results) INNOVATIVE does not recommend applying weights to subsequent online surveys in Phase II of this customer engagement.

Key Findings

Phase I Customer Engagement

Based on a review of the OEB handbook and previous rate application decisions, Hydro Ottawa's customer engagement focuses on two types of questions: **needs** and **preferences**.

- **Needs questions** focus on understanding the gap between the services and experience customers want and the services and experience customers are receiving.
- **Preference questions** focus on customer views about the outcomes the utility should focus on, priorities among those outcomes, and trade-offs illustrated by choices on specific programs or the pacing and prioritization of investments.

The following key findings are the result of Hydro Ottawa's random digit dialing telephone survey among residential and small business customers (GS<50kW). Given the similarity between telephone and online results, only the former are reported in the key findings. The full report contains all results.

What are customer needs?

The clear majority of Hydro Ottawa low-volume customers are satisfied with the current service they receive. When asked how Hydro Ottawa can improve service, top responses were "nothing", followed by "lower or reduce rates".

	Residential	GS < 50 kW
Overall Satisfaction	88% satisfied	85% satisfied
Improving services to customers		
1st	Nothing	Nothing
2nd	Lower or reduce rates	Lower or reduce rates

What Priorities are Most Important to Customers?

Customers don't just expect Hydro Ottawa to focus on price and reliability, all priorities are important. In fact, both residential and small business customers selected *"ensuring reliable electrical service"* as the most important priority that Hydro Ottawa should focus on.

Rating the Importance of Hydro Ottawa Priorities (Somewhat + Extremely Important)		
1st	Reliability	Reliability
2nd	Distribution Rates	Distribution Rates
3rd	Finding Cost Savings	Finding Cost Savings
	Replacing Aging Infrastructure	
	Investing in New Technology	

Key Findings

Phase I Customer Engagement

Overall, what outcomes do customers prioritize?

Among competing priorities, **price, reliability, and investing in new technology** are the top three priorities for both residential and small business customers. When ranked relative to other Hydro Ottawa priorities, price moves to the top of the list for both low-volume rate classes.

	Residential	GS < 50 kW
Ranking Priorities		
1 st	Distribution Rates	Distribution Rates
2 nd	Reliability	Reliability
3 rd	Investing in New Technology	Investing in New Technology

What reliability outcomes do customers prioritize?

The top reliability concern for low-volume customers is *reducing the length of time to restore power during extreme weather events*.

For residential customers, *reducing the overall length of outages* is a close second, followed by *reducing the number of outages during extreme weather events*.

For small business customers, reducing the number and overall length of outages were ranked well behind the top priority of restoration times during extreme weather.

	Residential	GS < 50 kW
Ranking Priorities		
1 st	Restoration times during extreme weather	Restoration times during extreme weather
2 nd	Overall length of outages	Overall number of outages
3 rd	Number of outages during extreme weather	Overall length of outages

Key Findings

Phase I Customer Engagement

What investment trade offs do customers value most?

Despite price concerns, low-volume customers are generally willing to consider paying more to invest in aging infrastructure, equip staff with equipment and IT systems, proactively invest in system capacity, and modernize the grid knowing that it could eventually save money.

Generally, small business customers are less willing to consider paying more to make these investments, but a majority still supports investments in all three categories.

Maintaining reliability, while making smart investments that could save money down the road appears to be a priority for low-volume customers.

System Renewal

Low-volume customers are most supportive of Hydro Ottawa investment in aging infrastructure in order to maintain reliability, even if that results in small rate increases.

System Renewal (% of customers who selected option)	Residential	GS < 50 kW
Invest what it takes to maintain reliability	72%	63%
Defer investments to lessen bill impacts	21%	23%

General Plant

The majority of customers support Hydro Ottawa making the necessary investments to ensure its staff have the equipment and IT systems that are needed to manage the system efficiently and reliably.

General Plant (% of customers who selected option)	Residential	GS < 50 kW
Make investments necessary	72%	69%
Find ways to make do with equipment	17%	27%

Key Findings

Phase I Customer Engagement

System Service

A majority of customers support Hydro Ottawa proactively investing in system capacity in order to ensure that customers in high growth areas do not experience a decrease in reliability.

Relative to investments in system renewal, general plant and grid modernization, system capacity received the lowest level of support, with nearly one-in-three low-volume customers preferring to delay these investments until customers start to experience a decline in reliability.

System Service (% of customers who selected option)	Residential	GS < 50 kW
Proactively invest in system capacity	63%	53%
Delay investments in system capacity	28%	33%

Grid Modernization

As with investments in renewing aging equipment and general plant, there is strong support for Hydro Ottawa proactively investing in modernizing the grid now, knowing it will cost more now, but could eventually save customers' money down the road.

Beyond containing cost increases and maintaining reliability, investments in new technology appear to be a core priority for low-volume customers if it can eventually save customer money down the road.

Grid Modernization (% of customers who selected option)	Residential	GS < 50 kW
Make investments necessary	69%	58%
Find ways to make do with equipment	22%	32%



Methodology & Respondent Profiles



Reference Survey Methodology

Survey Design

This report documents the results of four surveys conducted by INNOVATIVE among Hydro Ottawa's low-volume customers (small business and residential).



The **telephone surveys** were fielded from **February 28th to March 15th, 2019** amongst a random sample of **n=500** (unweighted n=517) residential and **n=200** (unweighted n=200) small business customers.

Both telephone surveys were weighted by region and consumption quartiles within their respective rate classes to produce a representative sample of Hydro Ottawa's customer base.

The final sample includes both landline and cell phone respondents, so that individuals who don't have a landline are represented. The margin of error is approximately $\pm 4.5\%$, 19 times out of 20 for the residential survey and approximately $\pm 6.9\%$, 19 times out of 20 for the small business survey.



The **online surveys** were fielded from **March 5th to 27th, 2019** amongst **n=730** (unweighted n=730) residential and **n=275** (unweighted n=275) small business customers.

Both online surveys were weighted by region and consumption quartiles within their respective rate classes to report on a representative sample of Hydro Ottawa's customer base.

The margin of error is approximately $\pm 3.6\%$, 19 times out of 20 for the residential survey and approximately $\pm 5.9\%$, 19 times out of 20 for the small business survey.

Sample Design

Hydro Ottawa provided INNOVATIVE with confidential access to its customer lists in order to conduct this research. The customer list included information on region, electricity consumption, and preferred language for communications, as well as all available telephone numbers and email addresses.



Since only a subset of the customers on the lists have email addresses on file, INNOVATIVE has conducted a baseline analysis to see how customers with email addresses differ from the broader customer base, followed by a detailed comparison between online and telephone survey results. The following pages detail the sampling methodology used for this research.

Note: Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.

Residential Sample



The residential telephone survey followed a stratified random sampling methodology. This is a method of sampling that involves the division of a population into smaller groups known as strata. In stratified random sampling, the strata are formed based on a group's shared attributes or characteristics (in this case, customer service area and electricity usage). A random sample from each stratum is taken in a number proportional to the stratum's size when compared to the customer population. These subsets of the strata are then pooled to form a random sample.

In the telephone survey, residential customers were divided into strata based on service area populations. Within service area populations, residential customers were then divided into quartiles based on annual electricity usage to ensure the sample has a proportionate mix of customers from *low*, *medium-low*, *medium-high*, and *high* electricity usage households. Weights were applied to adjust the *observed strata* to ensure a representative customer base.

Telephone Residential Sample

Region	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	37	36	38	36	147	35	35	35	35	140
Goulbourn/Casselman	6	6	8	10	30	8	8	8	8	32
Kanata	15	15	15	15	60	14	14	14	14	56
Nepean	33	35	34	32	134	33	33	33	33	132
Ottawa	37	37	37	35	146	35	35	35	35	140
Total	128	129	132	128	517	125	125	125	125	500

The online survey has been weighted by region and consumption to ensure a representative customer base.

Online Residential Sample

Region	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	48	58	50	59	215	51	51	51	51	204
Goulbourn/Casselman	2	7	20	14	43	12	12	12	12	47
Kanata	19	24	18	20	81	20	20	20	20	82
Nepean	40	55	45	48	188	48	48	48	48	193
Ottawa	83	53	33	34	203	51	51	51	51	204
Total	192	197	166	175	730	183	183	183	183	730

Small Business



Small Business Sample

Like the residential telephone survey, the **small business telephone** survey followed stratified random sampling methodology. Weights were applied to adjust the *observed strata* to ensure a representative customer base.

Telephone Small Business Sample

Region	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	13	14	14	14	55	14	14	14	14	54
Goulbourn/Casselman	2	7	5	1	15	3	3	3	3	12
Kanata	2	2	1	2	7	3	3	3	3	10
Nepean	9	9	8	6	32	11	11	11	11	42
Ottawa	23	23	23	22	91	20	20	20	20	82
Total	49	55	51	45	200	50	50	50	50	200

The online survey has been weighted by region and consumption to ensure a representative customer base.

Online Small Business Sample

Region	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	18	15	11	17	61	19	19	19	19	74
Goulbourn/Casselman	8	6	6	7	27	4	4	4	4	16
Kanata	6	3	6	3	18	4	4	4	4	14
Nepean	14	23	8	4	49	15	15	15	15	58
Ottawa	47	24	25	24	120	28	28	28	28	112
Total	93	71	56	55	275	69	69	69	69	275

Demographics

Respondent Profile

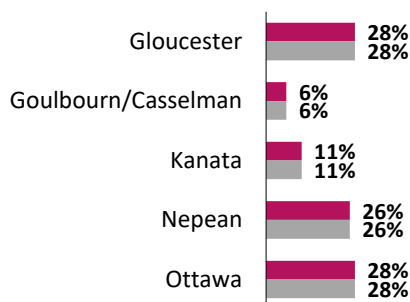
Residential



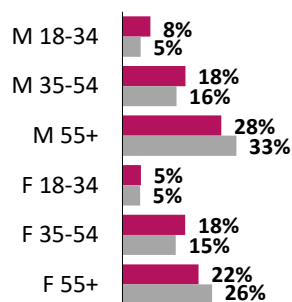
Telephone

Online

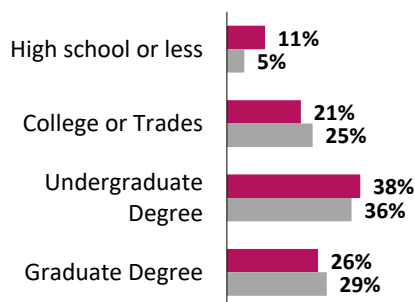
Region



Age-Gender

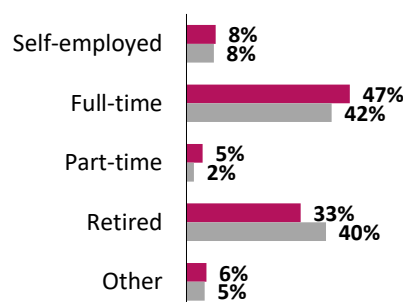


Education



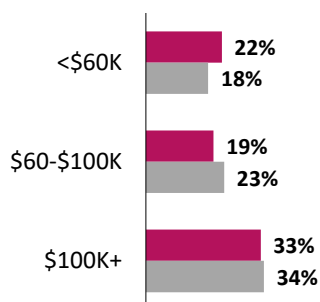
Note: 'Prefer not say' (T: 3%; O: 6%) not shown

Employment



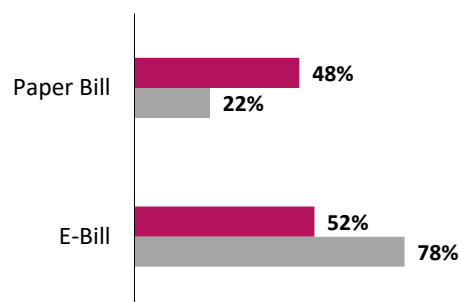
Note: 'Prefer not say' (T: 1%; O: 3%) not shown

Household Income (After Tax)



Note: 'Prefer not say' (T: 26%; O: 26%) not shown

Bill Type



Note: 'Don't know' (T: 1%; O: 0%) not shown

Firmographics

Small Business Respondent Profile

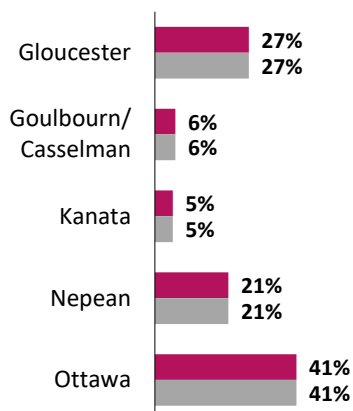
Small Business



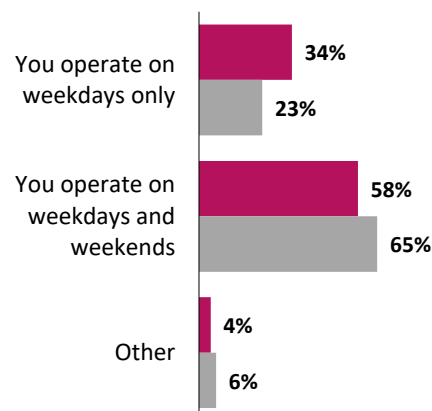
Telephone

Online

Region

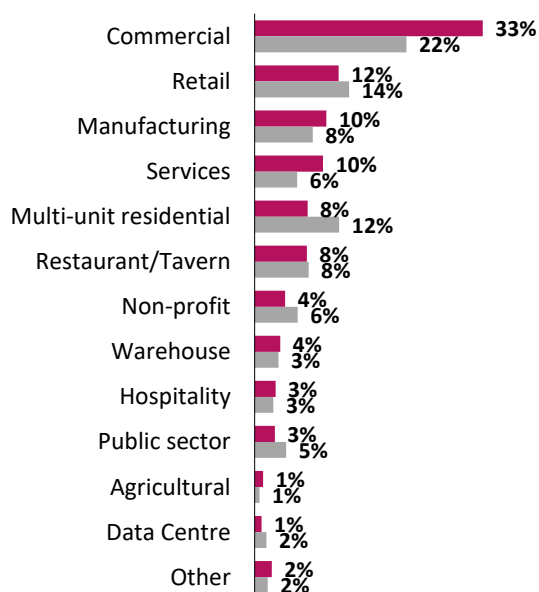


Days of operation



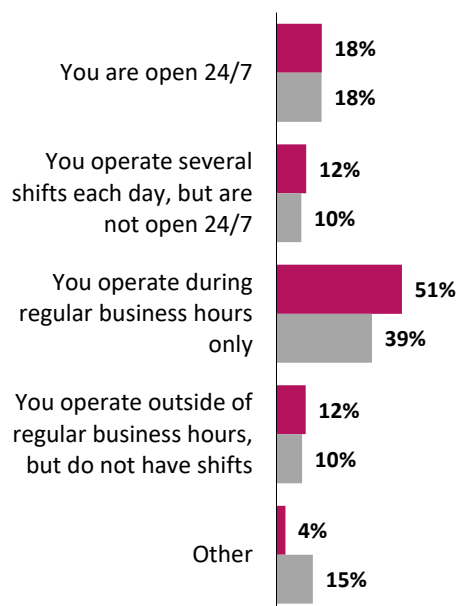
Note: 'Prefer not to say' (T: 3%; O: 5%) not shown

Sector



Note: 'Prefer not to say' (T: 0%; O: 8%) not shown

Hours of operation



Note: 'Prefer not to say' (T: 4%; O: 8%) not shown

Environmental Controls

It is important to distinguish between what is within, and what is outside of Hydro Ottawa's influence or control when it comes to drivers of customer opinion.

Perceptions of distributors often tend to move with general perceptions of **provincial government management in the sector** rather than in response to the local utility.

In addition, perceptions of utilities are also strongly correlated with **financial circumstances**. In tough times perception and preference can change because customers are struggling with their bills, not because of anything the company has, or has not, done.

Control questions help distributors distinguish between:

- a) utility driven programs that impact customer opinion; and
- b) uncontrollable external drivers that impact customer opinion.

When conducting research in the energy sector, INNOVATIVE often tests multiple environmental controls to assess what role predispositions (customer values and beliefs – which can be difficult and costly to change) play in the formation of opinion towards a utility.

In this study, our environmental controls focus on two key questions to help capture external phenomena:



Government Management of the Electricity System: *Consumers are well-protected with respect to prices and the reliability and quality of electricity service in Ontario.*



Financial Circumstances: *The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.*

Environmental Controls

Customer Feedback

Q For each statement please tell me if you would strongly agree, somewhat agree, somewhat disagree or strongly disagree. If you don't know enough to say or don't have an opinion just let me know.

Residential

Telephone n=500

Online n=730

Total Agree

The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.

Telephone



41%

Online



44%

Customers are well served by the electricity system in Ontario.

Telephone



84%

Online



82%

Small Business

Telephone n=200

Online n=275

Total Agree

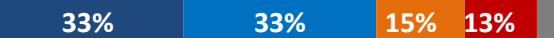
The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.

Telephone



59%

Online



67%

Customers are well served by the electricity system in Ontario.

Telephone



80%

Online



79%

Strongly agree

Somewhat agree

Somewhat disagree

Strongly disagree

Don't know/No opinion

Note: sums added before rounding.

Customer Perceptions

Knowledge, CSAT, Needs



Introduction & Core Measure

Preamble

“

*Today I want to talk about **Hydro Ottawa** and the local electricity system in your community.*

There are three topics I would like to discuss:

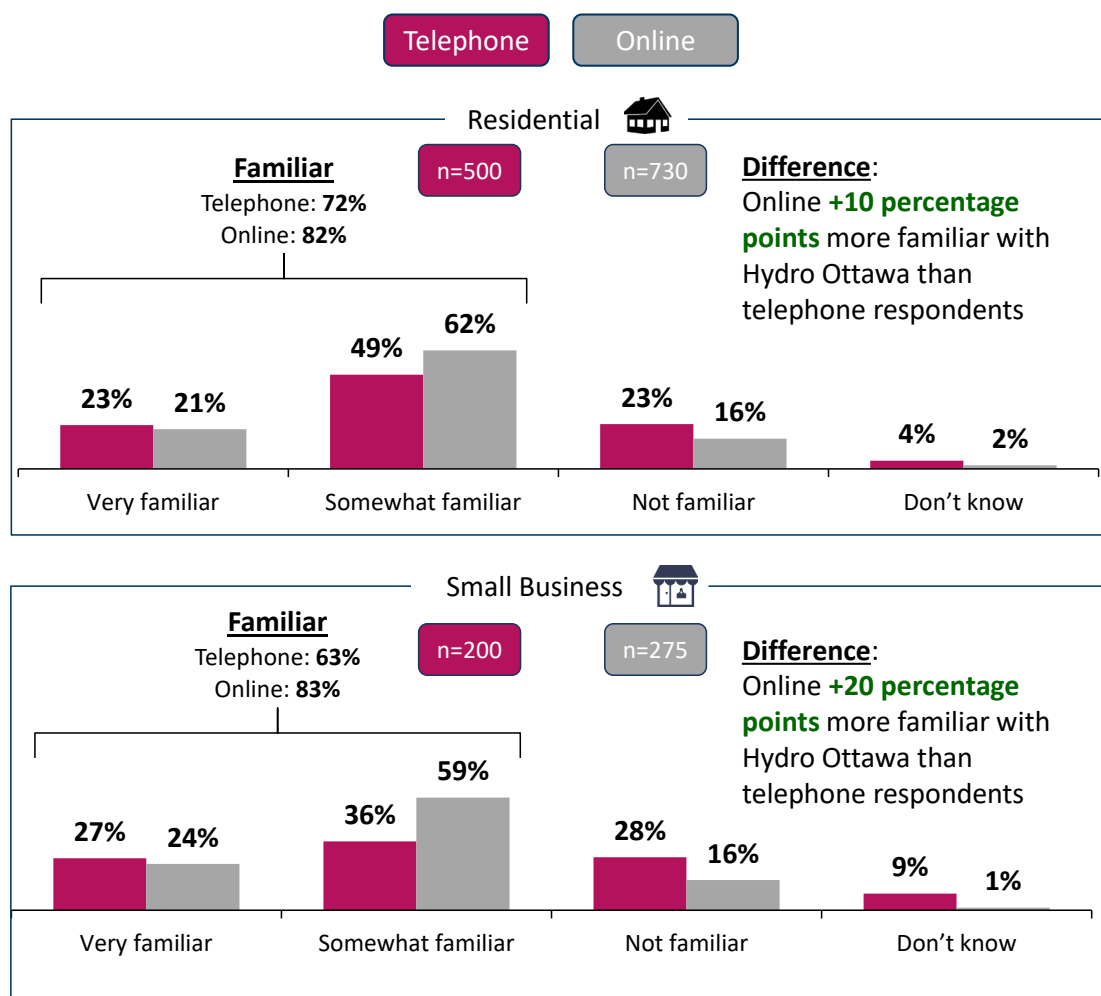
- *First, we will talk about your experience with Hydro Ottawa;*
- *Second, we will talk about the outcomes that matter most to you; and*
- *And finally, we will talk about some trade-offs in planning future investments.*

***First, let's talk about your experience.** While **Hydro Ottawa** owns a number of hydroelectric dams through a subsidiary company, the following questions are about **Hydro Ottawa's** distribution system. This is the system that takes the electricity from high-voltage transmission towers and brings it to your home/organization through a network of wires, poles and other equipment that is owned and operated by **Hydro Ottawa**.*”

Familiarity with Hydro Ottawa

Online respondents more familiar with Hydro Ottawa than telephone respondents

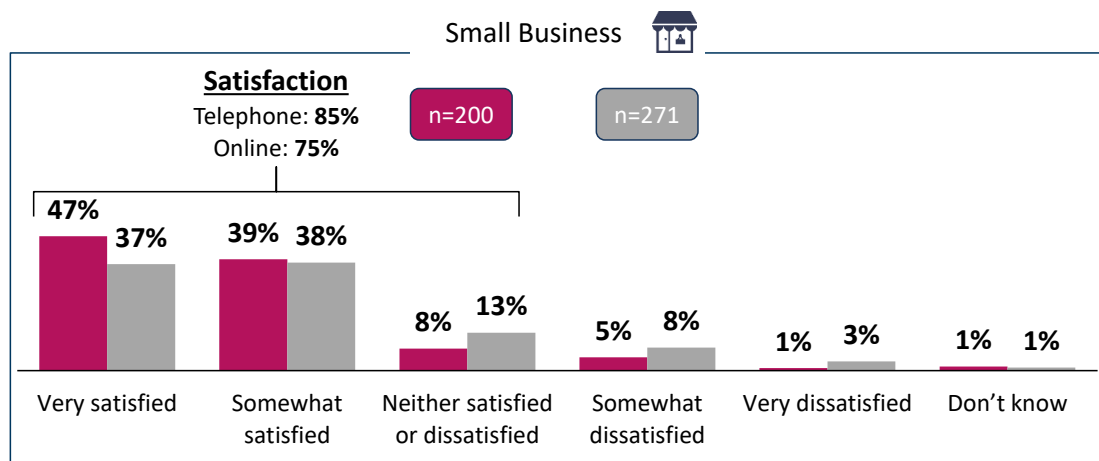
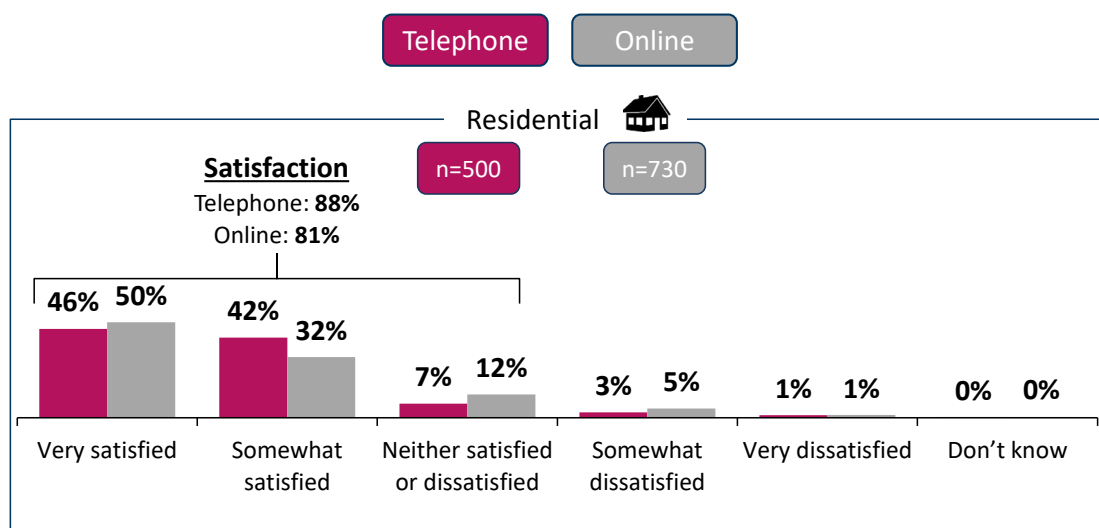
Q How familiar are you with Hydro Ottawa, which operates the electricity distribution system in your community? Would you say you are very familiar, somewhat familiar, not familiar or would you say you don't know?



Note: sums added before rounding.

Satisfaction with Hydro Ottawa

Q Thinking specifically about the services provided to you and your community by **Hydro Ottawa**, overall, how satisfied or dissatisfied are you with the services that you/your organization receive? Would you say you are very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, very dissatisfied or would you say you don't know?



Note: sums added before rounding.

Residential



Suggestions for Improvement

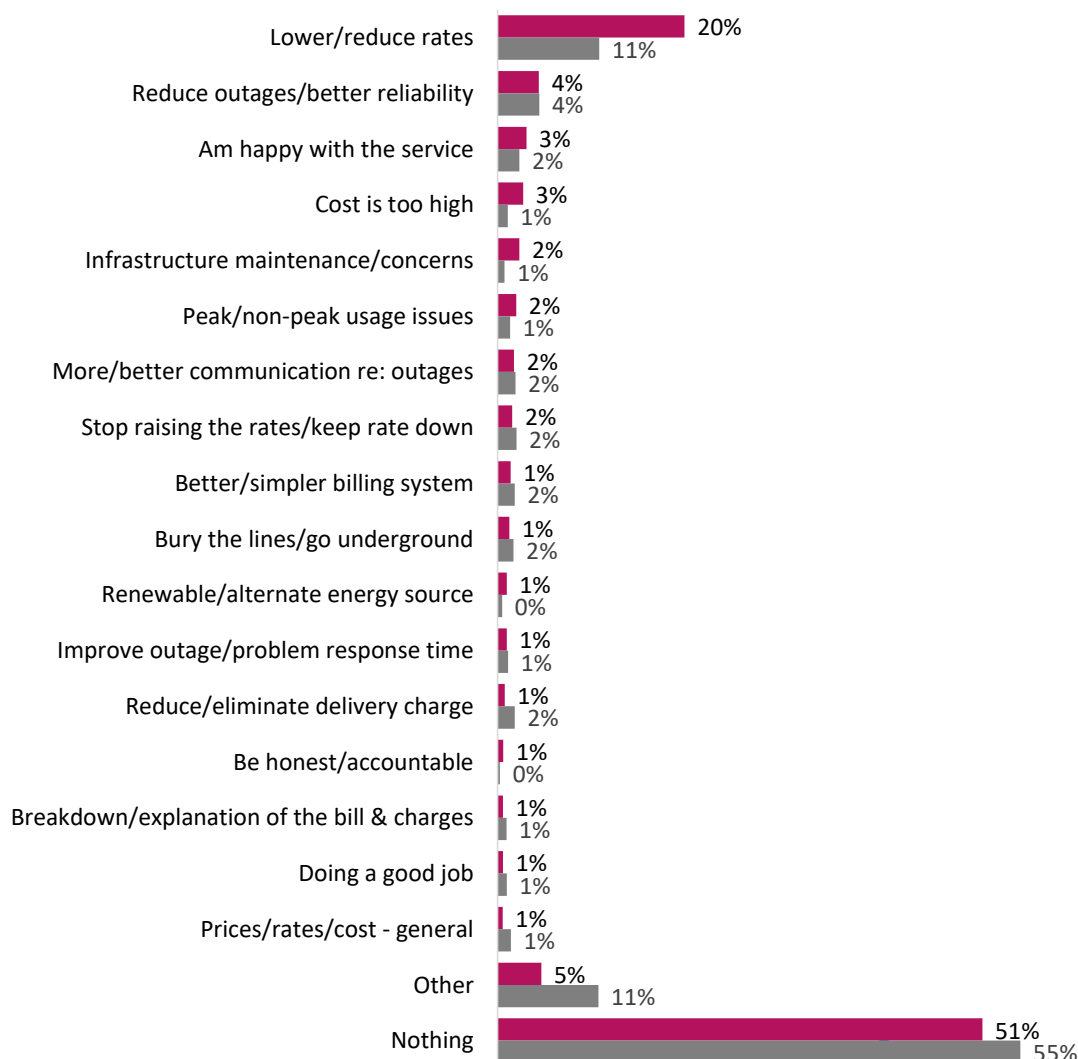


And, is there anything in particular you would like Hydro Ottawa to do to improve its services to you?

[asked of all respondents]

Telephone

Online



Ranked in order by telephone responses. "Other" represents responses codes <1%.

Small Business



Suggestions for Improvement

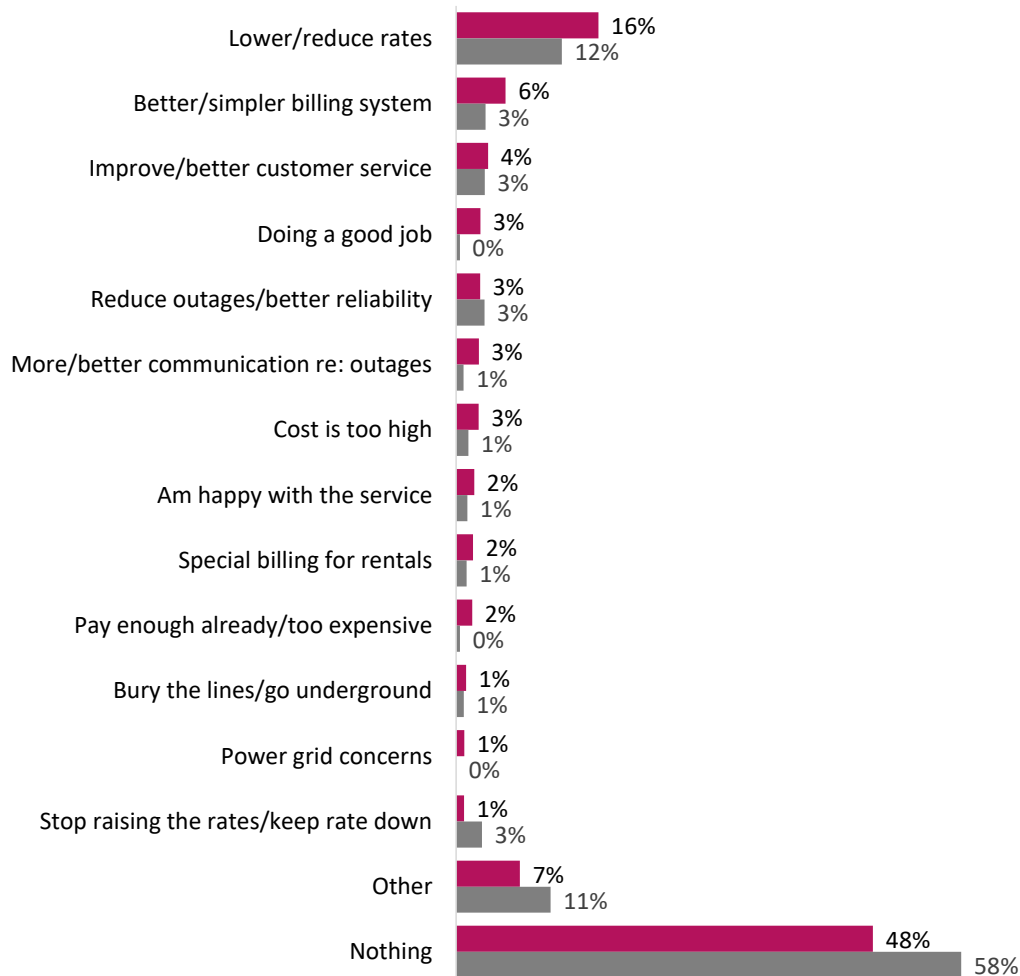


And, is there anything in particular you would like Hydro Ottawa to do to improve its services to you?

[asked of all respondents]

Telephone

Online



Ranked in order by telephone responses. "Other" represents responses codes <1%.

Familiarity with Share of the Bill

Preamble

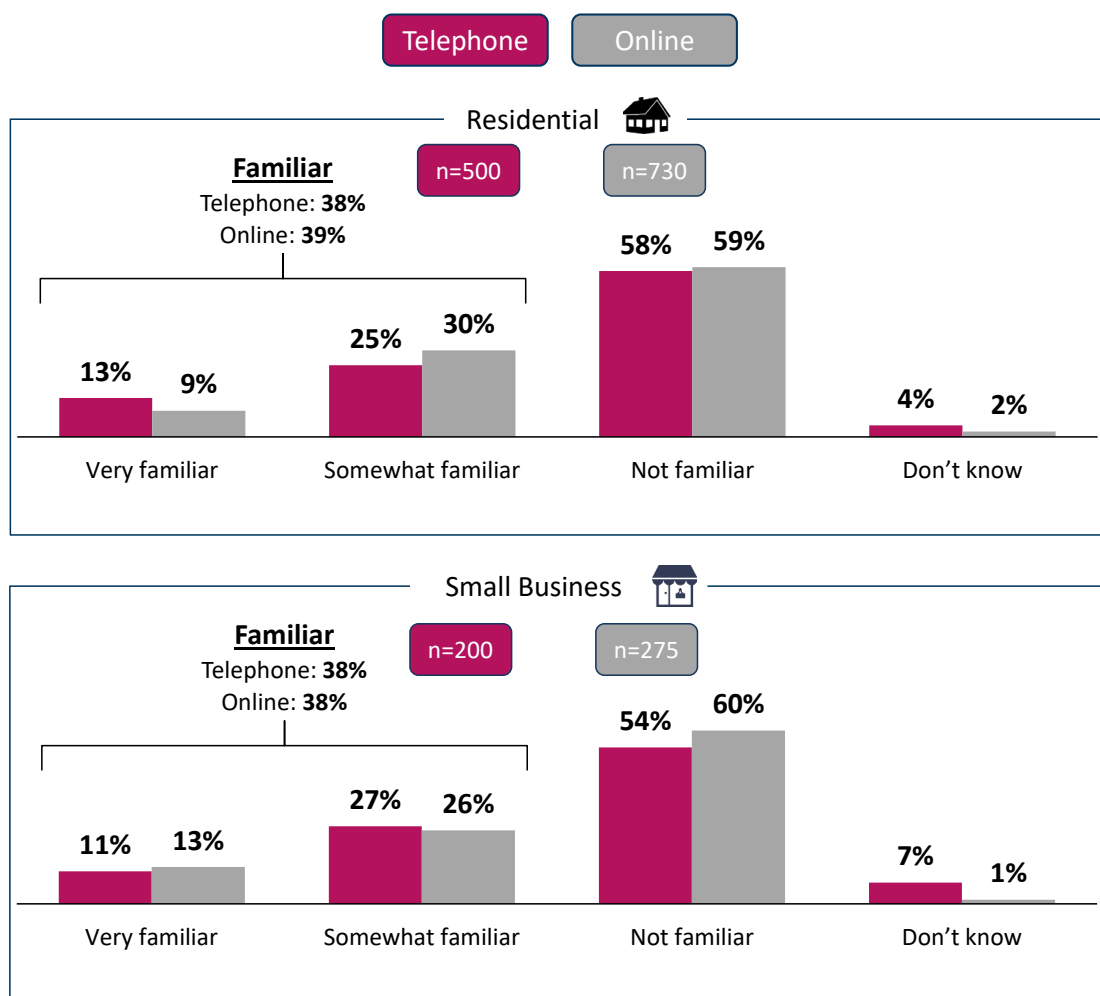
“

While **Hydro Ottawa** is responsible for collecting payment for the entire electricity bill, it keeps about **25%** of the average residential/small business customer's bill. The rest of the bill goes to power generation companies, transmission companies, the provincial government and regulatory agencies.

”

Familiarity with Hydro Ottawa's Share of the Bill

Q Before this survey, how familiar were you with the amount of your (organization's) electricity bill that went to **Hydro Ottawa**? Would you say you were very familiar, somewhat familiar, not familiar or would you say you don't know?

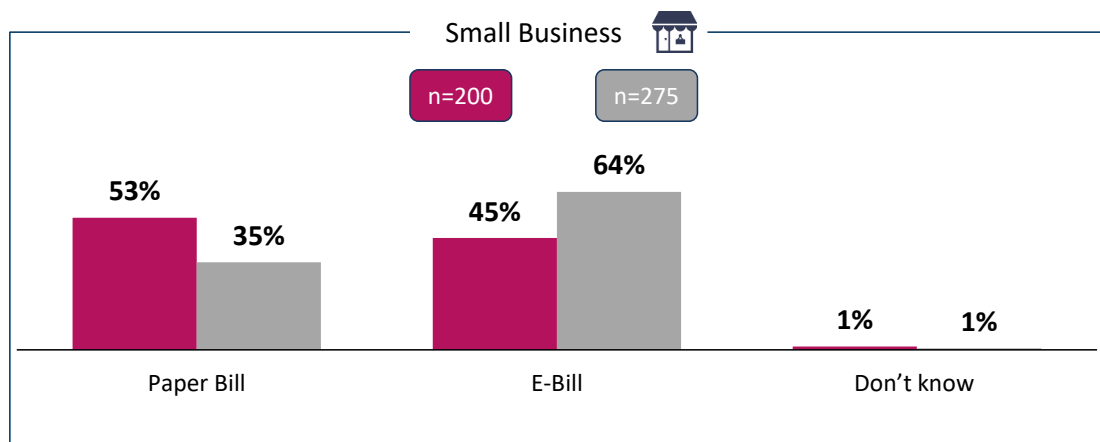
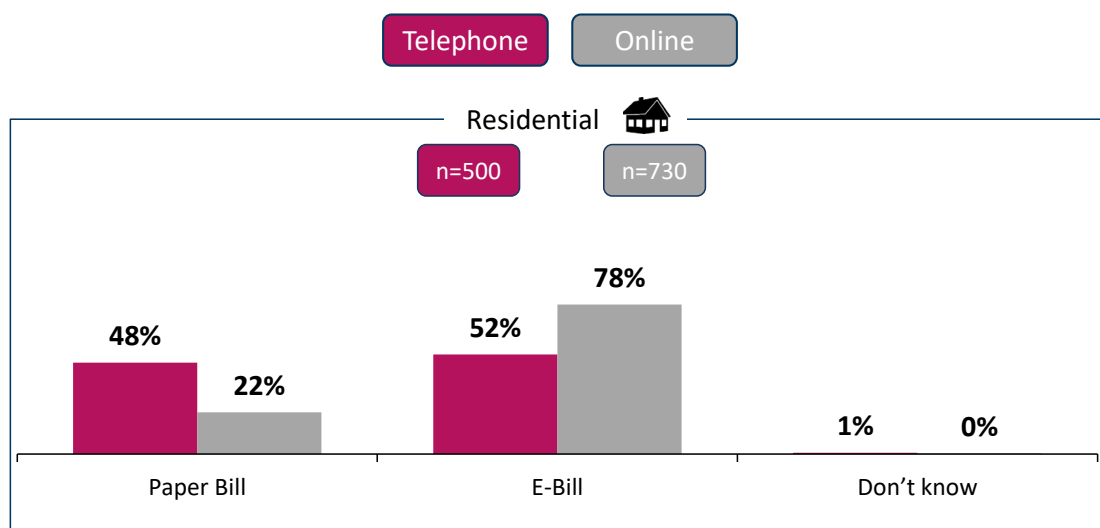


Note: sums added before rounding.

Bill Type



Do you/your organization receive your monthly bill from Hydro Ottawa as a **paper bill** or an **electronic bill**?



Note: sums added before rounding.

Hydro Ottawa's Customer Priorities



Residential Priorities

Overview of Importance Ratings

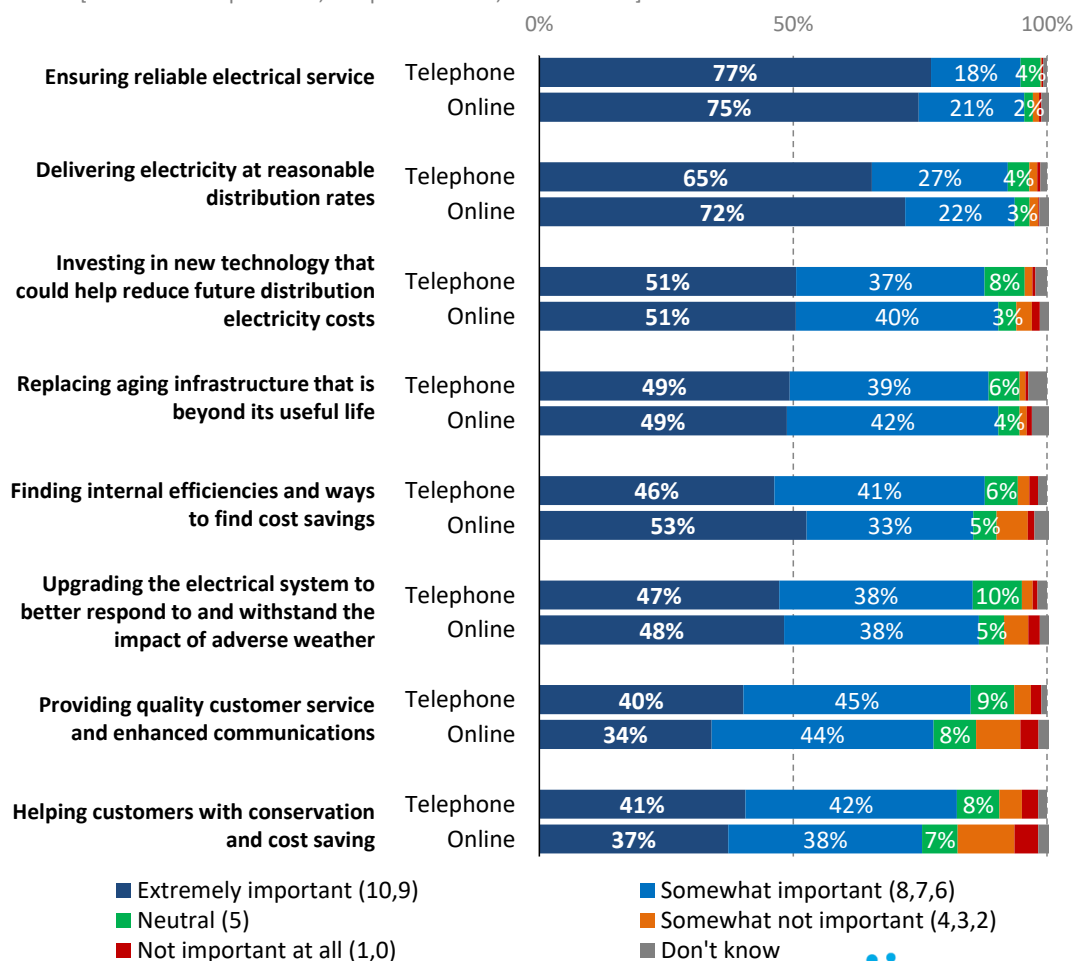
Residential



Now, let's talk about our second topic – outcomes. Hydro Ottawa regularly holds discussions with its customers to better understand how it should set spending and investment priorities. In recent conversations with customers, a number of company goals were identified as priorities for Hydro Ottawa.

Using a scale from 0 to 10, where 0 means not important at all and 10 means extremely important, how important are each of the following Hydro Ottawa priorities to you as a customer?

[asked of all respondents, Telephone n=500; Online n=730]



Small Business Priorities

Overview of Importance Ratings

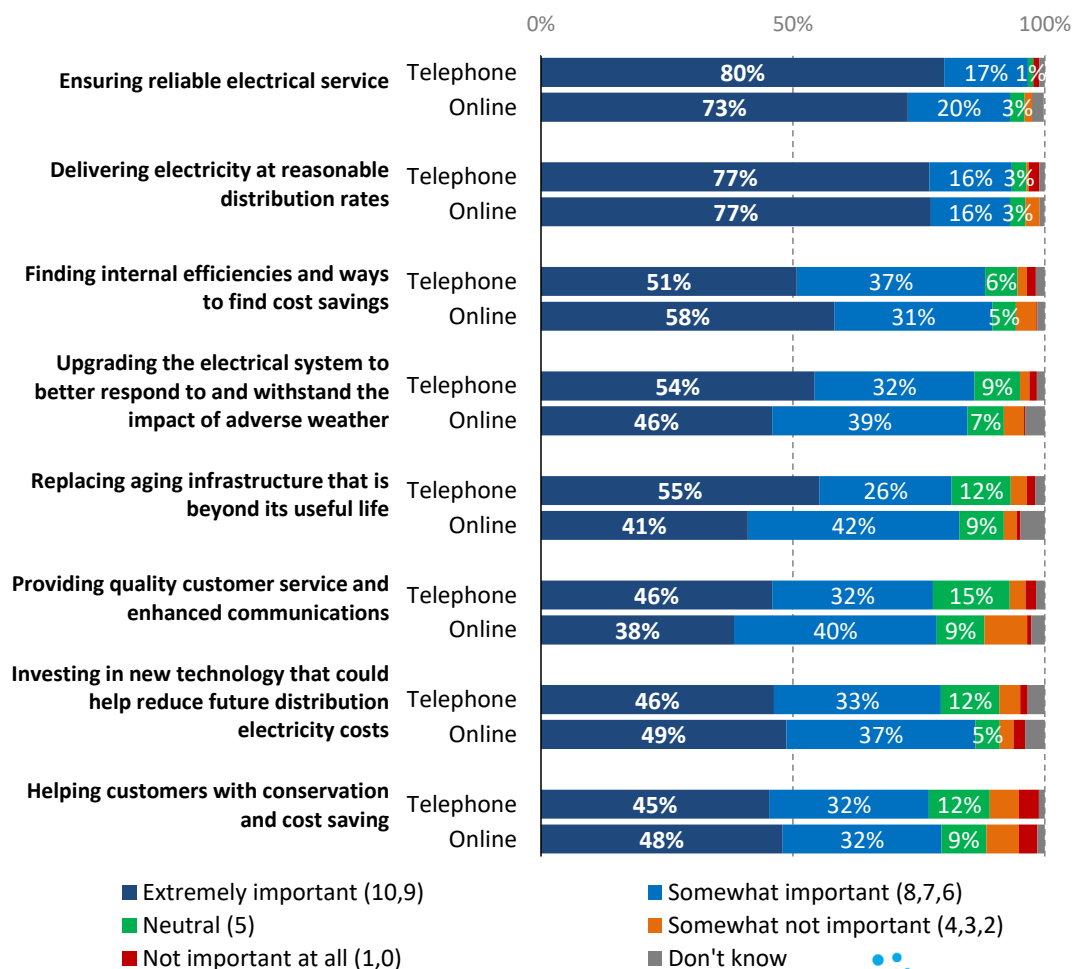
Small Business



Now, let's talk about our second topic – outcomes. Hydro Ottawa regularly holds discussions with its customers to better understand how it should set spending and investment priorities. In recent conversations with customers, a number of company goals were identified as priorities for Hydro Ottawa.

Using a scale from 0 to 10, where 0 means not important at all and 10 means extremely important, how important are each of the following Hydro Ottawa priorities to you as a customer?

[asked of all respondents, Telephone n=200; Online n=275]



Residential



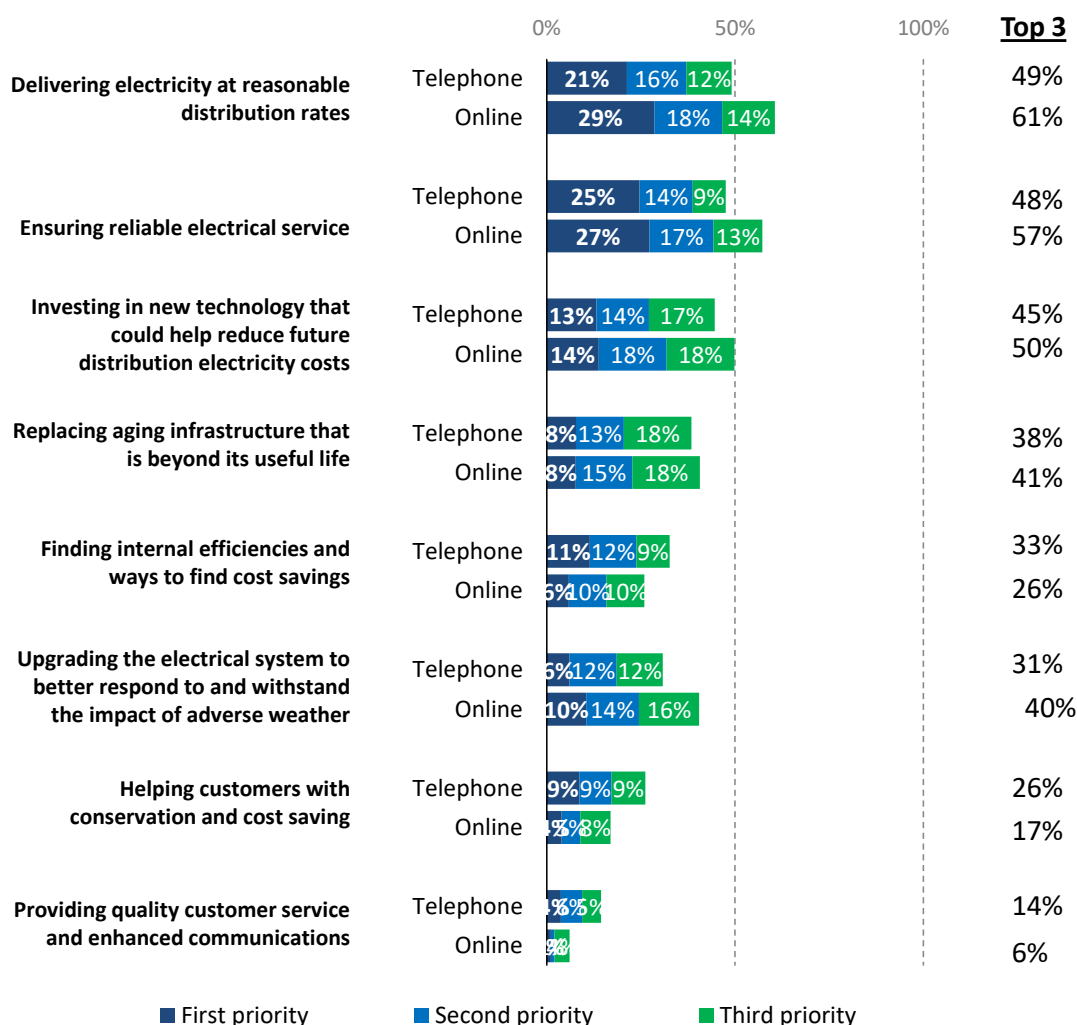
Residential Priority Rankings

Ranking the Top 3



Now thinking of the priorities that we just discussed, please tell me which one is most important to you.

[asked of all respondents, Telephone n=500; Online n=730]



Note: Ranked in order by telephone responses.
 "Don't know" not shown. Sums added before rounding.

Small Business



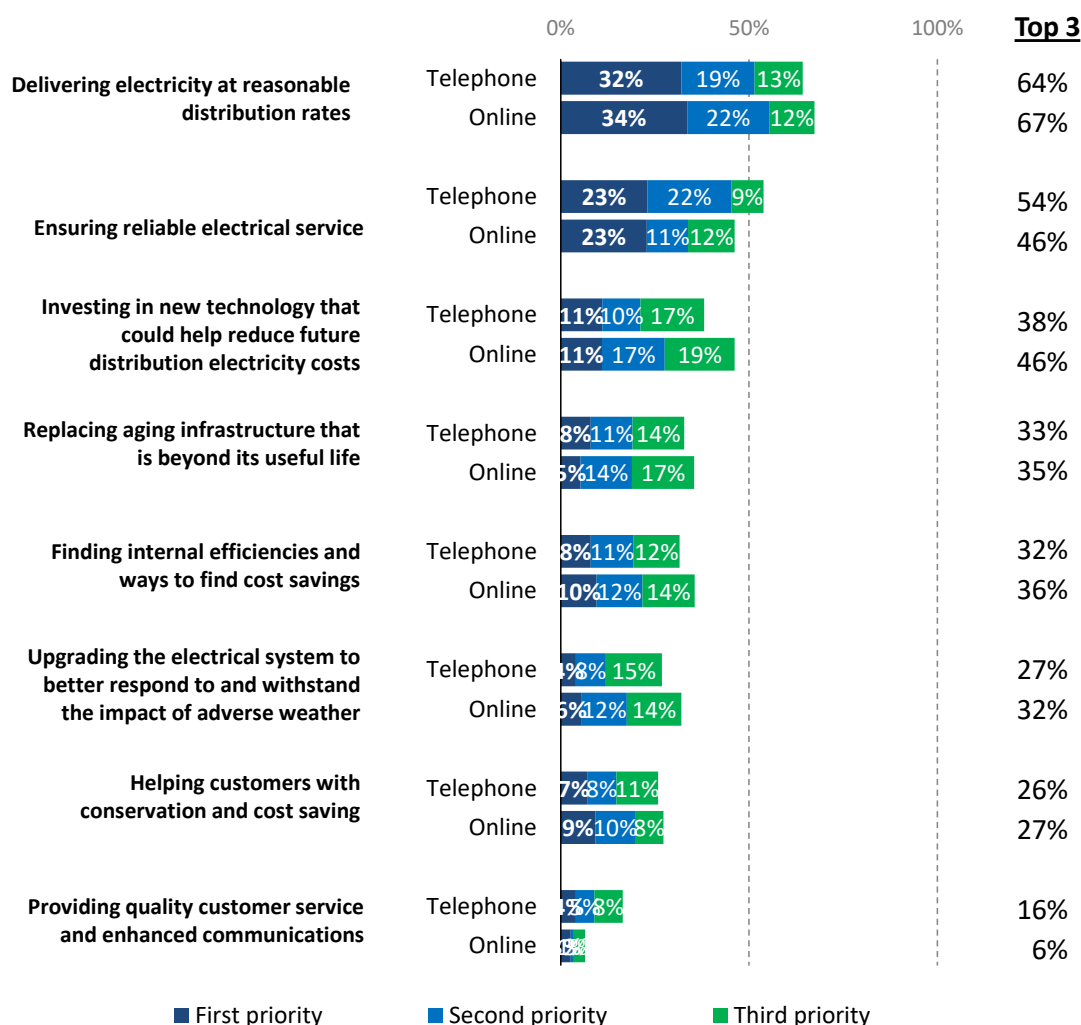
Small Business Priority Rankings

Ranking the Top 3



Now thinking of the priorities that we just discussed, please tell me which one is most important to you.

[asked of all respondents, Telephone n=200; Online n=275]



Note: Ranked in order by telephone responses.
 "Don't know" not shown. Sums added before rounding.

Residential



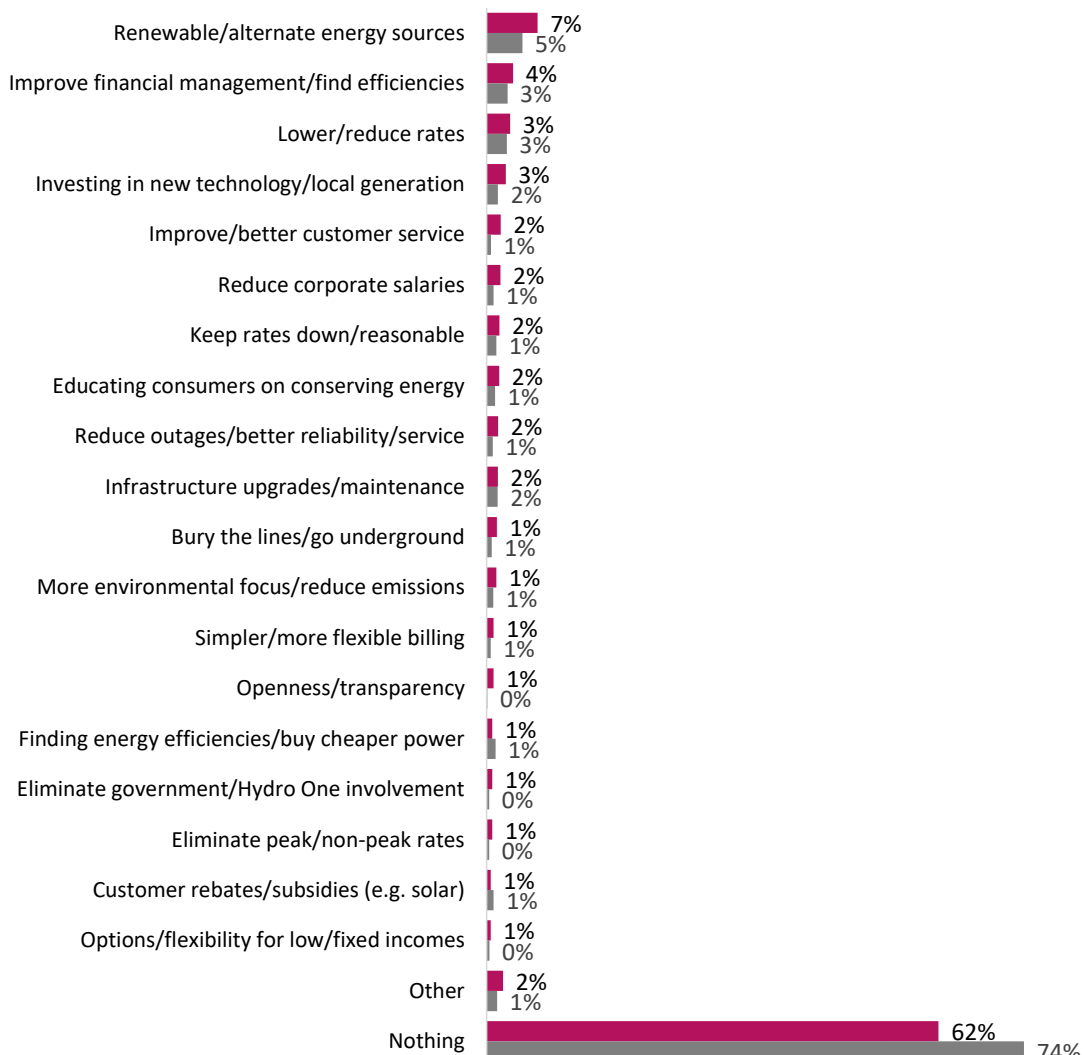
Other Important Priorities



Can you think of any other important priorities that Hydro Ottawa should be focusing on?
 [asked of all respondents]

Telephone

Online



Ranked in order by telephone responses. "Other" represents responses codes <1%.

Small Business



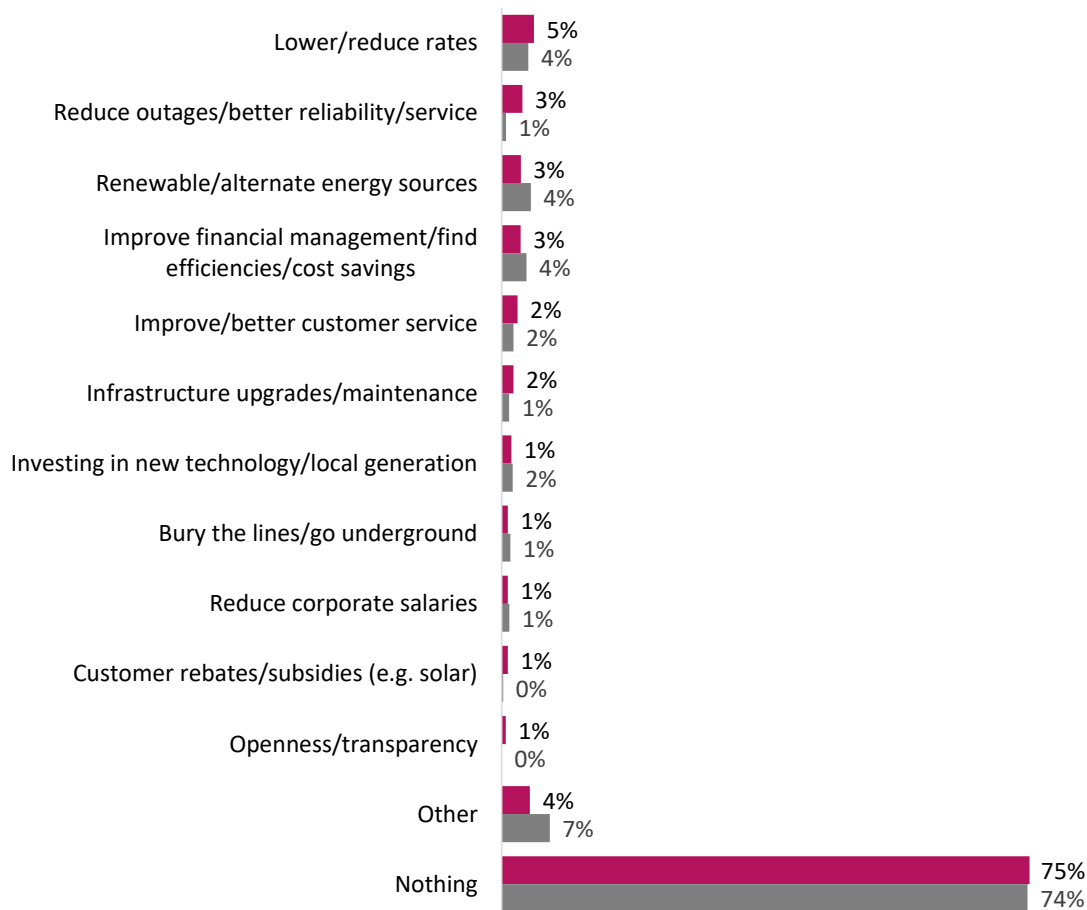
Other Important Priorities



Can you think of any other important priorities that Hydro Ottawa should be focusing on?
 [asked of all respondents]

Telephone

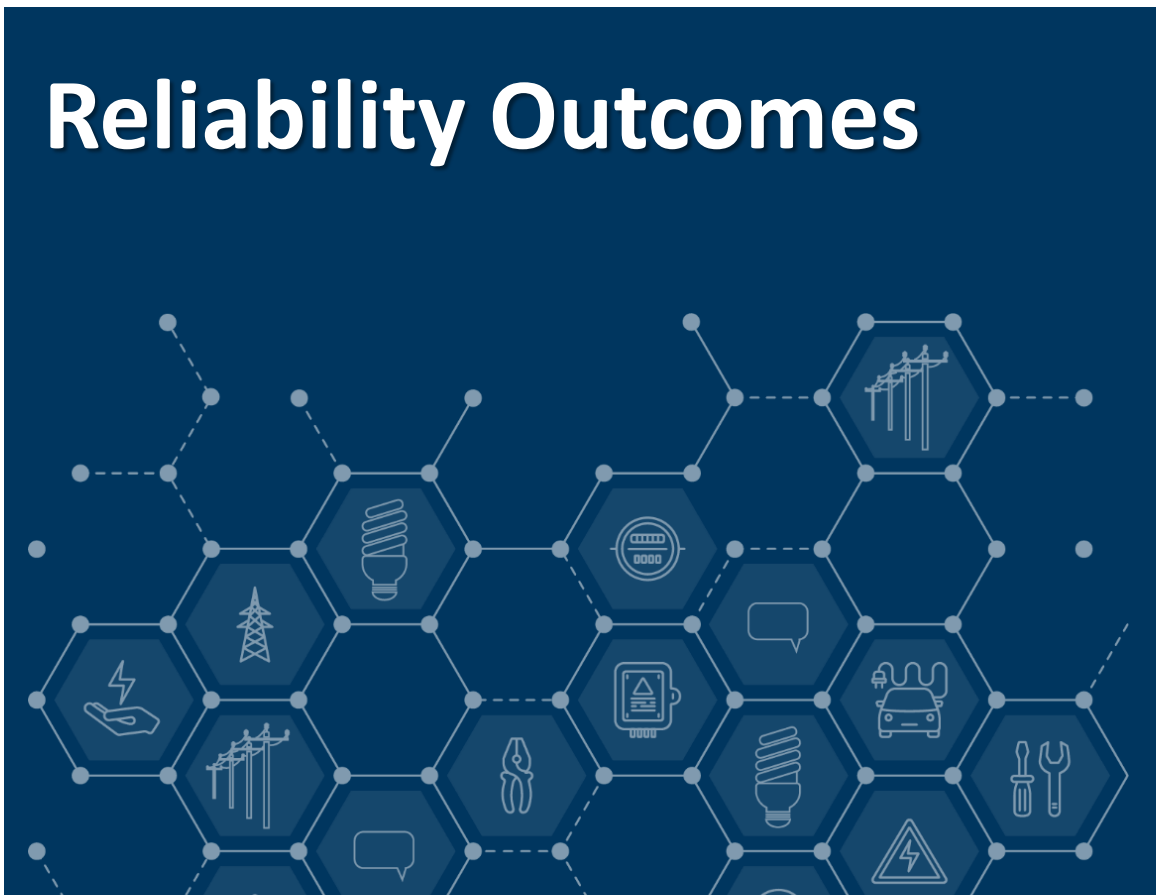
Online



Ranked in order by telephone responses. "Other" represents responses codes <1%.

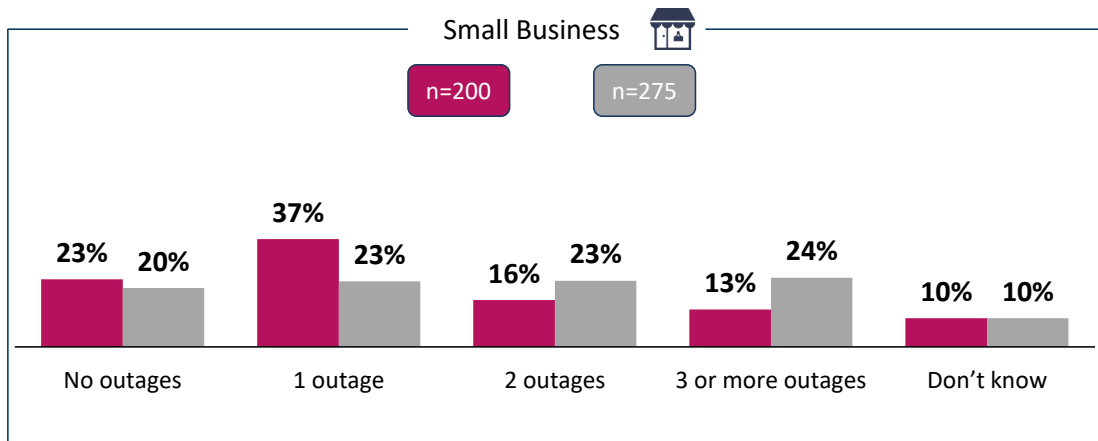
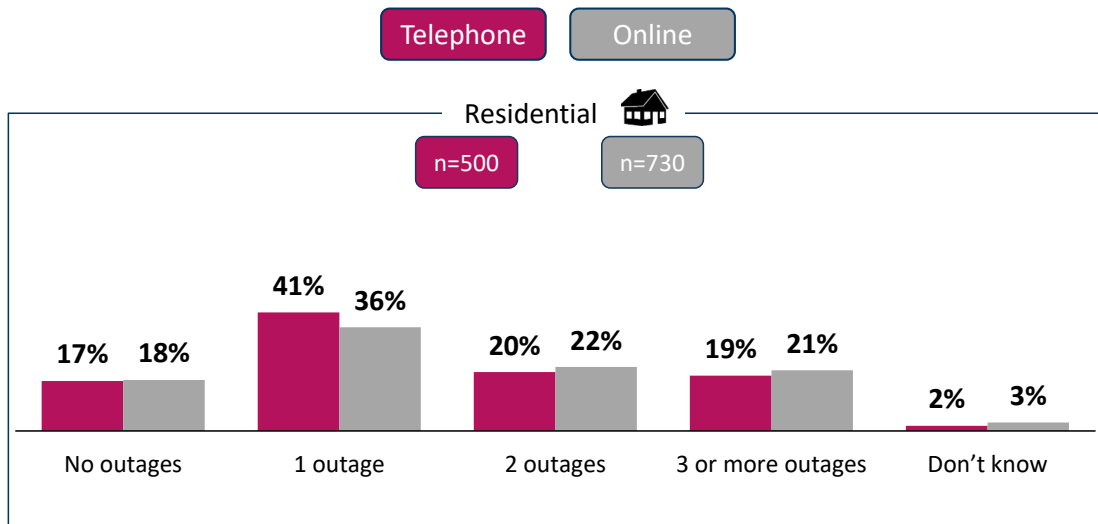


Reliability Outcomes



Reliability Experience

Q Now, let's talk about the reliability of electricity service you/your organization receive. Have you experienced any power outages at **home/your organization in the past 12 months** which *lasted longer than one minute*? If so, approximately how many of these power outages did you/your organization experience?



Ranking Reliability Outcomes

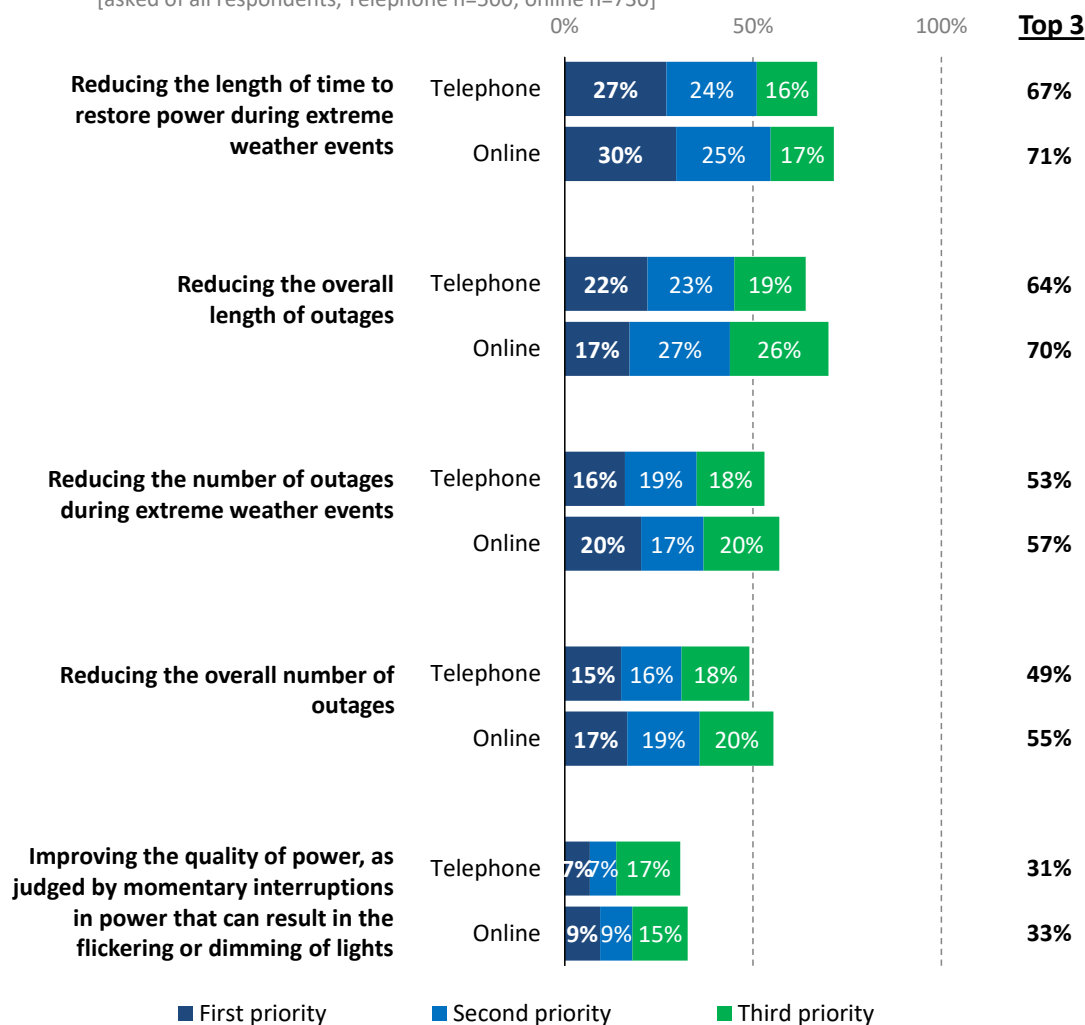
Ranking the Top 3

Residential



And when it comes to reliability, there are a number of areas that Hydro Ottawa could focus on. Among the following reliability outcomes, please tell me which one is most important to you. What is the next most important priority you think Hydro Ottawa should focus on? And what do you consider the third most important priority?

[asked of all respondents, Telephone n=500; online n=730]



Note: Ranked in order by telephone responses.
 "Don't know" not shown. Sums added before rounding.

Ranking Reliability Outcomes

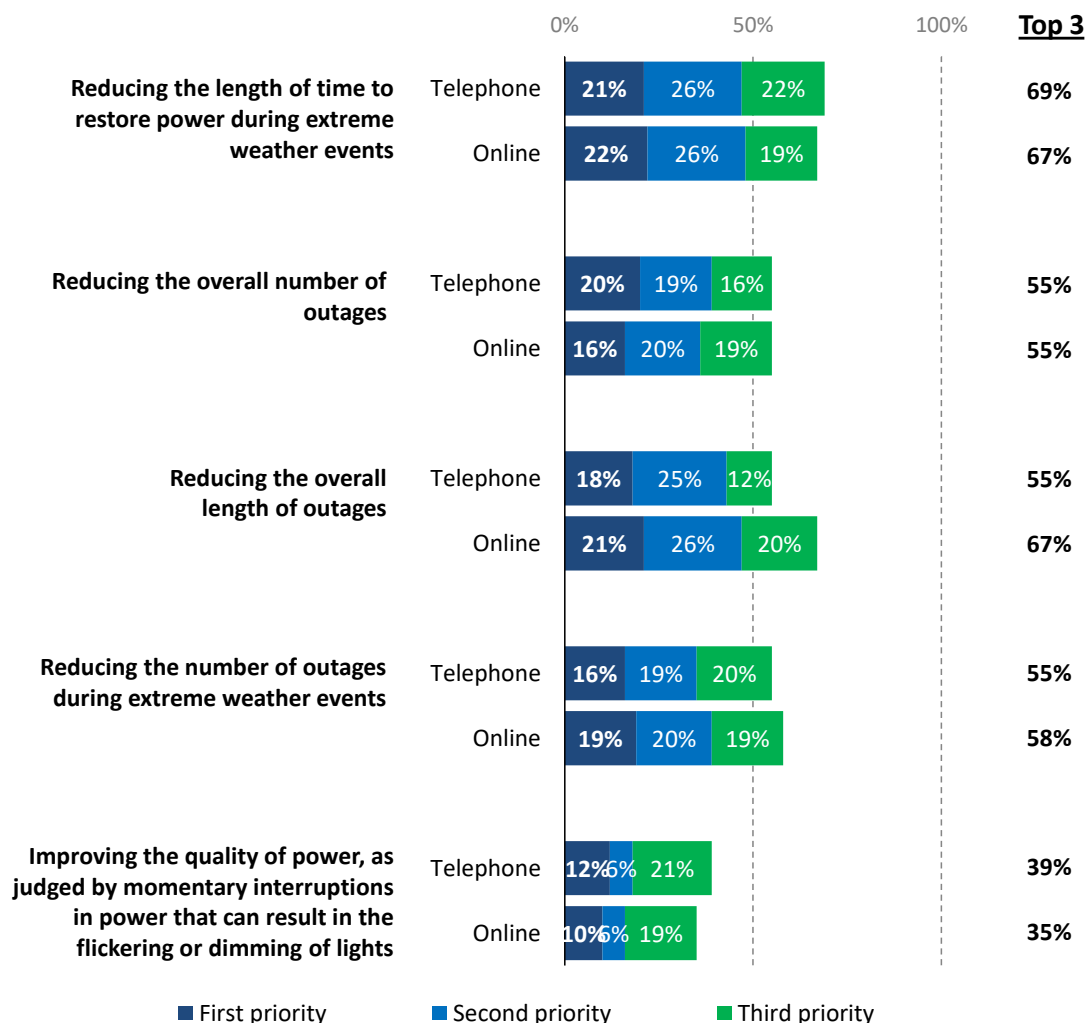
Ranking the Top 3

Small Business



And when it comes to reliability, there are a number of areas that Hydro Ottawa could focus on. Among the following reliability outcomes, please tell me which one is most important to you. What is the next most important priority you think Hydro Ottawa should focus on? And what do you consider the third most important priority?

[asked of all respondents, Telephone n=200; Online n= 275]



Note: Ranked in order by telephone responses.
 "Don't know" not shown. Sums added before rounding.



Investment Trade-offs

System Renewal

Q The first category focuses on projects that replace and restore aging electrical infrastructure, like overhead poles and underground cables. Regarding investments in aging infrastructure, which of the following statements best represents your point of view?

Telephone

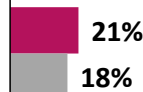
Online

Residential

Hydro Ottawa should invest what it takes to replace the system's aging infrastructure to maintain system reliability; even if that increases my monthly electricity bill by a few dollars over the next few years



Hydro Ottawa should defer its investments in replacing aging infrastructure to lessen the impact of any bill increase; even if this could eventually lead to more or longer power outages



n=500

n=730

Don't know

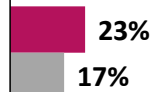


Small Business

Hydro Ottawa should invest what it takes to replace the system's aging infrastructure to maintain system reliability; even if that increases my monthly electricity bill by a few dollars over the next few years



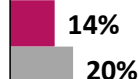
Hydro Ottawa should defer its investments in replacing aging infrastructure to lessen the impact of any bill increase; even if this could eventually lead to more or longer power outages



n=200

n=275

Don't know



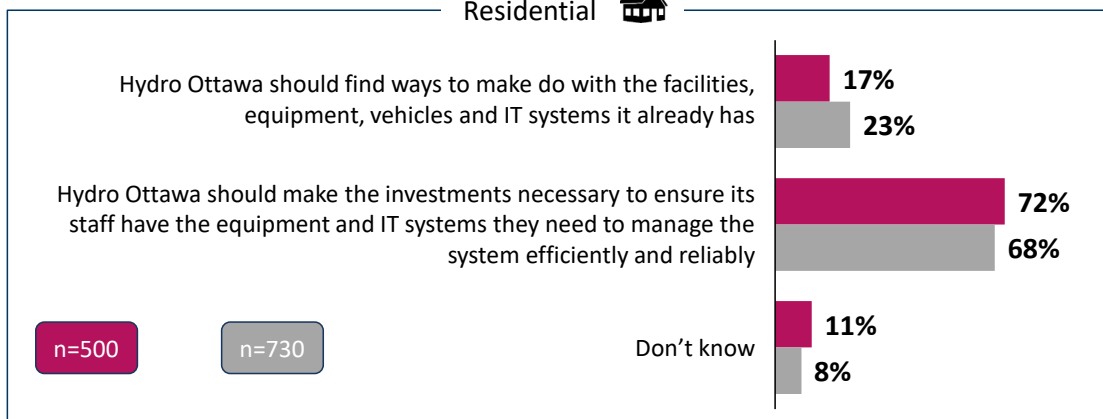
General Plant

Q The second category focuses on keeping Hydro Ottawa's business running. This includes facilities to house staff and equipment, vehicles and tools to service equipment and IT systems to manage the system and customer information. Regarding these types of investments, which of the following statements best represents your point of view?

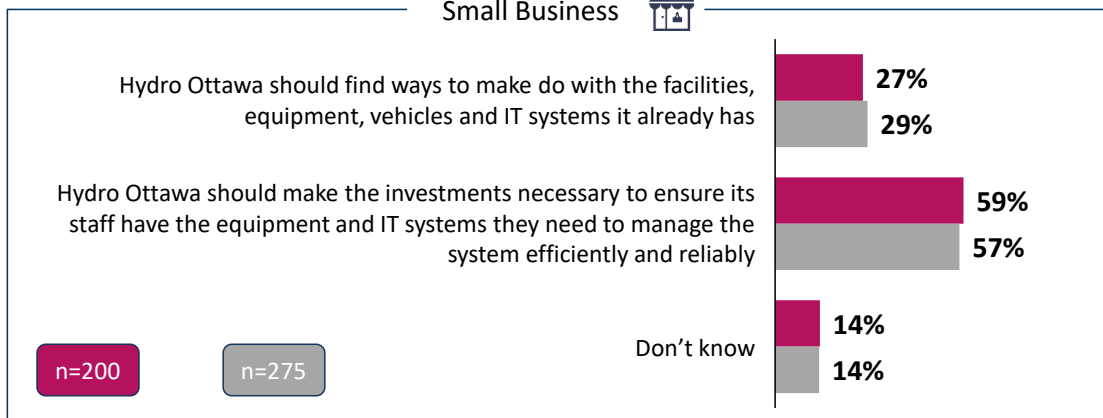
Telephone

Online

Residential



Small Business



System Service

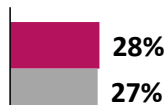
Q The third investment category focuses on growth and greater demand for electricity in various parts of Hydro Ottawa's service territory. Increased demand for electricity puts pressure on existing electrical infrastructure. Eventually, further infrastructure investments are required to support increased demand for electricity. With this in mind, which of the following statements best represents your point of view?

Telephone

Online

Residential

To help keep rate increases down, Hydro Ottawa should delay investments in system capacity needs until customers start to experience a decline in reliability



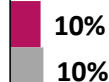
Hydro Ottawa should proactively invest in system capacity infrastructure to ensure customers in high growth areas do not experience a decrease in reliability, even if this adds a small increase to customer bills.



n=500

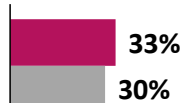
n=730

Don't know



Small Business

To help keep rate increases down, Hydro Ottawa should delay investments in system capacity needs until customers start to experience a decline in reliability



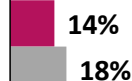
Hydro Ottawa should proactively invest in system capacity infrastructure to ensure customers in high growth areas do not experience a decrease in reliability, even if this adds a small increase to customer bills.



n=200

n=275

Don't know



Grid Modernization

Q The final category is related to new technology that Hydro Ottawa can implement, which may eventually save customers' money down the road. These types of investments could include electricity storage, solar energy or grid automation to more easily re-route power in the case of an outage. With this in mind, which of the following statements best represents your point of view?

Telephone

Online

Residential

Hydro Ottawa should proactively invest in modernizing the grid now, knowing it will cost more now, but could eventually save customers' money down the road

69%

69%

Hydro Ottawa should make investments decisions based on the lowest-cost, proven options like poles and wires, even if that means delaying the benefits of modernizing the grid

22%

21%

n=500

n=730

Don't know

9%

10%

Small Business

Hydro Ottawa should proactively invest in modernizing the grid now, knowing it will cost more now, but could eventually save customers' money down the road

58%

59%

Hydro Ottawa should make investments decisions based on the lowest-cost, proven options like poles and wires, even if that means delaying the benefits of modernizing the grid

32%

24%

n=200

n=275

Don't know

10%

17%

Appendix: Regional Segmentation



Regional Segmentation

Throughout this study, regional references are made to categorize Hydro Ottawa customers. These regional categorizations are roughly based on pre-amalgamation municipality boundaries. Regions are based on service address FSA (forward sortation area).

The table below illustrates this categorization.

Forward Sortation Area (first 3-digits of postal code)	Region
K1B	Gloucester
K1C	
K1E	
K1G	
K1H	
K1J	
K1T	
K1V	
K1W	
K1X	
K4A	
K4B	
K4C	
K0A	Goulbourn/Casselman
K2S	
K4M	
K4P	
K7C	Kanata
K2K	
K2L	
K2M	
K2T	
K2V	
K2W	Nepean
K2B	
K2C	
K2E	
K2G	
K2H	
K2J	
K2R	Ottawa Centre
K1K	
K1A	
K1L	
K1M	
K1N	
K1P	
K1R	
K1S	
K1Y	
K1Z	
K2A	
K2P	



Building Understanding.

Personalized research to connect you and your audiences.

For more information, please contact:

Jason Lockhart

Vice President

(t) 416-642-7177

(e) jlockhart@innovativeresearch.ca

Julian Garas

Senior Consultant

(t) 416-640-4133

(e) jgaras@innovativeresearch.ca

Appendix 3.0

Customer Engagement: Needs and Preferences Planning Placemat

	Residential	GS<50kW
What are customer needs?		
The clear majority of Hydro Ottawa low-volume customers are satisfied with the current service they receive. When asked how Hydro Ottawa can improve service, top responses were “nothing”, followed by “lower or reduce rates”.		
1 st	Nothing	Nothing
2 nd	Lower or reduce rates	Lower or reduce rates
What priorities are most important to customers?		
Customers don’t just expect Hydro Ottawa to focus on price and reliability, all priorities are important. In fact, both residential and small business customers selected “ensuring reliable electrical service” as the most important priority that Hydro Ottawa should focus on.		
Most Important	Reliability	Reliability
2 nd Most Important	Distribution Rates	Distribution Rates
3 rd Most Important	Finding Cost Savings	Finding Cost Savings
	Replacing Aging Infrastructure	
	Investing in New Technology	
Overall, what outcomes do customers prioritize?		
Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers. When ranked relative to other Hydro Ottawa priorities, price moves to the top of the list for both low-volume rate classes.		
1 st	Distribution Rates	Distribution Rates
2 nd	Reliability	Reliability
3 rd	Investing in New Technology	Investing in New Technology
What reliability outcomes do customers prioritize?		
The top reliability concern for low-volume customers is <i>reducing the length of time to restore power during extreme weather events</i> .		
For residential customers, <i>reducing the overall length of outages</i> is a close second, followed by <i>reducing the number of outages during extreme weather events</i> .		
For small business customers, reducing the number and overall length of outages were ranked well behind the top priority of restoration times during extreme weather.		
1 st	Restoration times during extreme weather	Restoration times during extreme weather
2 nd	Overall length of outages	Overall number of outages
3 rd	Number of outages during extreme weather	Overall length of outages

	Residential	(GS<50kW
What investment trade offs do customers value most? Despite price concerns, low-volume customers are generally willing to consider paying more to invest in aging infrastructure, equip staff with equipment and IT systems, proactively invest in system capacity, and modernize the grid knowing that it could eventually save money. Generally, small business customers are less willing to consider paying more to make these investments, but a majority still support investments in all three categories. Maintaining reliability, while making smart investments that could save money down the road appears to be a priority for low-volume customers.		
System Renewal Low-volume customers are most supportive of Hydro Ottawa investment in aging infrastructure in order to maintain reliability, even if that results in small rate increases. <i>% of customers who say Hydro Ottawa should invest what it takes to maintain reliability</i>		
Invest to maintain reliability	72%	63%
General Plant The majority of customers support Hydro Ottawa making the necessary investments to ensure its staff have the equipment and IT systems that are needed to manage the system efficiently and reliably. <i>% of customers who say Hydro Ottawa should make investments necessary in general plant</i>		
Invest what is necessary	72%	69%
System Service A majority of customers support Hydro Ottawa proactively investing in system capacity in order to ensure that customers in high growth areas do not experience a decrease in reliability. Relative to investments in system renewal, general plant and grid modernization, system capacity received the lowest level of support, with nearly one-in-three low-volume customers preferring to delay these investment until customers start to experience a decline in reliability. <i>% of customers who say Hydro Ottawa should proactively invest in system capacity</i>		
Proactively invest in system capacity	63%	53%
Grid Modernization As with investments in renewing aging equipment and general plant, there is strong support for Hydro Ottawa proactively investing in modernizing the grid now, knowing it will cost more now, but could eventually save customers money down the road. Beyond containing cost increases and maintaining reliability, investments in new technology appear to be a core priority for low-volume customers if it can eventually save customer money down the road. <i>% of customers who say Hydro Ottawa should proactively invest in modernizing the grid now</i>		
Proactively invest in modernization	69%	58%
Customer Engagement Methodology These findings are based on two telephone surveys conducted by Innovative Research Group among residential and GS<50kW customers. Field Dates: February 28 – March 15, 2019 Sample Size: n=517 residential and n=200 GS<50kW (unweighted)	Additional Information For more information on using this document or customer engagement results, please contact: Laurie Elliott , Manager, Regulatory Compliance and Reporting, Hydro Ottawa Limited Julian Garas , Senior Consultant, Innovative Research Group	

Appendix 4.1



Telephone Reference Survey

Residential Ratepayer Questionnaire

February 2019

Prepared by:

Innovative Research Group, Inc.
www.innovativeresearch.ca

Vancouver
888 Dunsmuir Street, Suite 350
Vancouver BC | V6C 3K4

Toronto
56 The Esplanade, Suite 310
Toronto, Ontario | M5E 1A7



A. SCREENING AND QUALIFICATIONS

Introduction

Hello, my name is _____ and I'm calling from **Innovative Research Group** on behalf of **Hydro Ottawa**, your local electricity distributor.

Innovative Research Group is a national public opinion research firm. **We need your input on choices that will affect the service you receive from Hydro Ottawa.**

We are simply interested in hearing your opinions – no attempt will be made to sell you anything.

A1. Do you have about **7 minutes** to answer some survey questions? All your responses will be kept strictly confidential.

- | | | |
|---|-----------------------------|--------------------|
| 1 | Yes | [continue] |
| 2 | No – NOT PRIMARY BILL PAYER | [go to TRANSFER-1] |
| 3 | No – BAD TIME | ARRANGE CALLBACK |
| 4 | No – HARD REFUSAL | [Terminate] |

MONIT

This call may be monitored or audio taped for quality control and evaluation purposes.

- | | |
|---|-------------------|
| 1 | PRESS TO CONTINUE |
|---|-------------------|

CELL. Are you currently operating a car, truck or other motor vehicle?

- | | | |
|----|-------------------------------------|------------------|
| 1 | YES | ARRANGE CALLBACK |
| 2 | NO | [continue to A2] |
| 98 | Refused – LOG (THANK AND TERMINATE) | [Terminate] |

A2. Are you the person primarily responsible for paying the electricity bill in your household?

- | | | |
|----|-----------------------------|--------------------|
| 1 | Yes – I pay the bill | [continue to A3] |
| 2 | Yes – shared responsibility | [continue to A3] |
| 3 | No | [go to TRANSFER-1] |
| 98 | Don't know (DNR) | [Terminate] |

TRANSFER-1

Can I speak with the person in your household who usually pays the electricity bill?

- 1 Yes **[BACK TO INTRO]**
- 2 No – NOT AVAILABLE/BAD TIME **[ARRANGE CALLBACK]**
- 3 No – HARD REFUSAL **[Terminate]**
- 98 Don't know (DNR) **[Terminate]**

A3. Can you confirm that your household receives an electricity or hydro bill from **Hydro Ottawa**?

- 1 Yes **[continue]**
- 2 No **[Terminate]**
- 98 Don't know (DNR) **[Terminate]**

GENDER

Note gender by observation:

- 1 Male
- 2 Female

A4. For statistical purposes, can you please indicate which age category you fall in? Is that ...
[READ LIST]

01	Younger than 18	DNR
02	18 to 24	
03	25 to 34	
04	35 to 44	
05	45 to 54	
06	55 to 64	
07	65 to 74	
08	75 or older	
99	Refused	READ: For this survey we need to identify customers' age. IF STILL REFUSE: THANK & TERMINATE

B. INTRODUCTION AND CORE MEASURE

[PREAMBLE]

Today I want to talk about **Hydro Ottawa** and the local electricity system in your community.

There are three topics I would like to discuss:

- First, we will talk about your experience with Hydro Ottawa.
- Second, we will talk about the outcomes that matter most to you; and
- And finally, we will talk about some trade-offs in planning future investments.

First, let's talk about your experience. While **Hydro Ottawa** owns a number of hydroelectric dams through a subsidiary company, the following questions are about **Hydro Ottawa's** distribution system. This is the system that takes the electricity from high-voltage transmission towers and brings it to your home through a network of wires, poles and other equipment that is owned and operated by **Hydro Ottawa**.

- B5. How familiar are you with **Hydro Ottawa**, which operates the electricity distribution system in your community?

Would you say you are *very familiar*, *somewhat familiar*, *not familiar* or would you say you *don't know*?

01	Very familiar	
02	Somewhat familiar	
03	Not familiar	
98	Don't know	
99	Refused [DO NOT READ]	

- B6. Thinking specifically about the services provided to you and your community by **Hydro Ottawa**, overall, how satisfied or dissatisfied are you with the services that you receive?

Would you say you are *very satisfied*, *somewhat satisfied*, *neither satisfied nor dissatisfied*, *somewhat dissatisfied*, *very dissatisfied* or would you say you *don't know*?

01	Very satisfied	
02	Somewhat satisfied	
03	Neither satisfied or dissatisfied	
04	Somewhat dissatisfied	
05	Very dissatisfied	
98	Don't know	
99	Refused [DO NOT READ]	

- B7. And, is there anything in particular you would like **Hydro Ottawa** to do to improve its services to you? **[OPEN]**

98	Don't know	
99	Refused [DO NOT READ]	

- B8. While **Hydro Ottawa** is responsible for collecting payment for the entire electricity bill, it keeps about **25%** of the average residential customer's bill. The rest of the bill goes to power generation companies, transmission companies, the provincial government and regulatory agencies.

Before this survey, how familiar were you with the amount of your electricity bill that went to **Hydro Ottawa**? Would you say you were *very familiar, somewhat familiar, not familiar or would you say you don't know*?

01	Very familiar	
02	Somewhat familiar	
03	Not familiar	
98	Don't know	

Bill Type

- B9. And do you receive your monthly bill from Hydro Ottawa as a **paper bill** or an **electronic bill**?

01	Paper Bill	
02	E-Bill	
98	Don't know [DO NOT READ]	

C. CUSTOMER PRIORITIES

Now, let's talk about our second topic – outcomes.

Hydro Ottawa regularly holds discussions with its customers to better understand how it should set spending and investment priorities.

In recent conversations with customers, a number of company goals were identified as priorities for Hydro Ottawa.

Using a scale from 0 to 10, where *0 means not important at all* and *10 means extremely important*, how important are each of the following Hydro Ottawa priorities to you as a customer?

Code	Response	
00	Not important at all	
01		
02		
03		
04		
05	Somewhat important	
06		
07		
08		
09		
10	Extremely important	
98	Don't know	

Randomize

- C10. Delivering electricity at reasonable distribution rates
- C11. Ensuring reliable electrical service
- C12. Finding internal efficiencies and ways to find cost savings
- C13. Upgrading the electrical system to better respond to and withstand the impact of adverse weather
- C14. Replacing aging infrastructure that is beyond its useful life
- C15. Providing quality customer service and enhanced communications
- C16. Helping customers with conservation and cost saving
- C17. Investing in new technology that could help reduce future distribution electricity costs

End Battery

C18. Now thinking of the priorities that we just discussed, please tell me which one is most important to you.

01	Delivering electricity at reasonable distribution rates	
02	Ensuring reliable electrical service	
03	Finding internal efficiencies and ways to find cost savings	
04	Upgrading the electrical system to better respond to and withstand the impact of adverse weather	
05	Replacing aging infrastructure that is beyond its useful life	
06	Providing quality customer service and enhanced communications	
07	Helping customers with conservation and cost saving	
08	Investing in new technology that could help reduce future distribution electricity costs	
98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

C19. What is the next most important priority you think **Hydro Ottawa** should focus on?

[Remove answer from C18 if asked to read again]

C20. And what do you consider the third most important priority?

[Remove answer from C18 and C19 if asked to read again]

C21. Can you think of any other important priorities that **Hydro Ottawa** should be focusing on?

[OPEN]

98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

D. RELIABILITY OUTCOMES

- D22. Now, let's talk about the reliability of electricity service you receive. Have you experienced any power outages at **home in the past 12 months** which *lasted longer than one minute*? If so, approximately how many of these power outages did you experience? **[DO NOT READ LIST]**

00	No outages	
01	1 outage	
02	2 outages	
03	3 outages	
04	4 outages	
05	5 outages	
06	6 outages	
07	7 outages	
08	8 or more outages	
98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

- D23. And when it comes to reliability, there are a number of areas that **Hydro Ottawa** could focus on. Among the following reliability outcomes, please tell me which one is most important to you.

01	Reducing the overall number of outages
02	Reducing the overall length of outages
03	Reducing the number of outages during extreme weather events
04	Reducing the length of time to restore power during extreme weather events
05	Improving the quality of power, as judged by momentary interruptions in power that can result in the flickering or dimming of lights
98	Don't know [DO NOT READ]
99	Refused [DO NOT READ]

- D24. What is the next most important reliability outcome you think **Hydro Ottawa** should focus on?

[Remove answer from C18 if asked to read again]

- D25. And what do you consider the third most important reliability outcome?

[Remove answer from C18 and C19 if asked to read again]

E. INVESTMENT TRADE-OFFS

Now let's turn to our final topic – investment trade-offs.

Hydro Ottawa is in the early stages of developing its investment plan for the next five years. While conversations with customers will continue over the next several months, the utility wants to find your preferences when it comes to finding the right balance between costs and other outcomes.

There are four investment categories that we would like to discuss.

System Renewal

- E26. The first category focuses on projects that replace and restore aging electrical infrastructure, like overhead poles and underground cables.

Regarding investments in aging infrastructure, which of the following statements best represents your point of view? **[READ LIST; ROTATE 01 & 02]**

01	Hydro Ottawa should invest what it takes to replace the system's aging infrastructure to maintain system reliability; even if that increases my monthly electricity bill by a few dollars over the next few years
02	Hydro Ottawa should defer its investments in replacing aging infrastructure to lessen the impact of any bill increase; even if this could eventually lead to more or longer power outages
98	Don't know

General Plant

- E27. The second category focuses on keeping **Hydro Ottawa's** business running. This includes facilities to house staff and equipment, vehicles and tools to service equipment and IT systems to manage the system and customer information.

Regarding these types of investments, which of the following statements best represents your point of view? **[READ LIST; ROTATE 01 & 02]**

01	Hydro Ottawa should find ways to make do with the facilities, equipment, vehicles and IT systems it already has
02	Hydro Ottawa should make the investments necessary to ensure its staff have the equipment and IT systems they need to manage the system efficiently and reliably
98	Don't know

System Service

- E28. The third investment category focuses on growth and greater demand for electricity in various parts of **Hydro Ottawa's** service territory.

Increased demand for electricity puts pressure on existing electrical infrastructure. Eventually, further infrastructure investments are required to support increased demand for electricity.

With this in mind, which of the following statements best represents your point of view?

[READ LIST; ROTATE 01 & 02]

01	To help keep rate increases down, Hydro Ottawa should delay investments in system capacity needs until customers start to experience a decline in reliability
02	Hydro Ottawa should proactively invest in system capacity infrastructure to ensure customers in high growth areas do not experience a decrease in reliability, even if this adds a small increase to customer bills.
98	Don't know

Grid Modernization

- E29. The final category is related to new technology that **Hydro Ottawa** can implement, which may eventually save customers' money down the road. These types of investments could include electricity storage, solar energy or grid automation to more easily re-route power in the case of an outage.

With this in mind, which of the following statements best represents your point of view?

[READ LIST; ROTATE 01 & 02]

01	Hydro Ottawa should proactively invest in modernizing the grid now, knowing it will cost more now, but could eventually save customers' money down the road
02	Hydro Ottawa should make investments decisions based on the lowest-cost, proven options like poles and wires, even if that means delaying the benefits of modernizing the grid
98	Don't know

F. DEMOGRAPHICS

Lastly, I'd like to ask you some general questions about the electricity system in Ontario.

For each statement please tell me if you would strongly agree, somewhat agree, somewhat disagree or strongly disagree. If you don't know enough to say or don't have an opinion just let me know.

01	Strongly agree
02	Somewhat agree
03	Somewhat disagree
04	Strongly disagree
98	Don't know/No opinion
99	Refused [DNR]

[ROTATE]

F30. The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.

F31. Customers are well served by the electricity system in Ontario.

[END BATTERY]

General Demos

These final few questions are for statistical purposes only.

F32. What is the highest level of education that you have *completed*? *Would you say ...*

[READ LIST]

01	No formal schooling	
02	Some elementary or high school	
03	High school	
04	Apprenticeship or trades certificate or diploma	
05	College, CEGEP, or college classique	
06	Bachelor's degree	
07	Degree in medicine, dentistry, veterinary medicine, or optometry	
08	Master's degree	
09	Doctorate	

F33. Which of the following categories best describes your current employment status? *Would you say ...* **[READ LIST]**

01	Self-employed	
02	Employed full-time	
03	Employed part-time	
04	Seasonal employment	
05	Term employment	
06	Unemployed	
07	Student	
08	Retired	
09	Homemaker	
10	Disability/sick leave	
11	Maternity/paternal leave	
88	Other	[please specify]
99	Prefer not to say / refused [DNR]	

F34. Finally, which of the following categories best describes the total annual income, before taxes, of all the members of your household? *Would you say...* **[READ LIST]**

01	Less than \$20,000	
02	\$20,000 to less than \$40,000	
03	\$40,000 to less than \$60,000	
04	\$60,000 to less than \$80,000	
05	\$80,000 to less than \$100,000	
06	\$100,000 to less than \$120,000	
07	\$120,000 to less than \$140,000	
08	\$140,000 to less than \$160,000	
09	\$160,000 or more	
99	Prefer not to say	

THANK and END SURVEY

Thank you very much for taking the time to complete this survey.

Appendix 4.2



Telephone Reference Survey

Small Business Ratepayer Questionnaire

February 2019

Prepared by:

Innovative Research Group, Inc.
www.innovativeresearch.ca

Vancouver
888 Dunsmuir Street, Suite 350
Vancouver BC | V6C 3K4

Toronto
56 The Esplanade, Suite 310
Toronto, Ontario | M5E 1A7



A. SCREENING AND QUALIFICATIONS

Hello, my name is _____ and I'm calling from **Innovative Research Group** on behalf of **Hydro Ottawa**, your local electricity distributor.

Innovative Research Group is a national public opinion research firm. **We need your input on choices that will affect the service you receive from Hydro Ottawa.** Your answers will be combined with others to protect your privacy.

Can I please speak to the person who is in-charge of managing the electricity bill at your organization?

- | | |
|---|------------------------|
| 1) Yes, speaking <contact on the line> | [skip to A1] |
| 2) Yes <transferred to contact> | [skip to A1] |
| 3) No <not the right contact person> | [GO to "NEW"] |
| 4) No <busy> "When is a good time to callback?" | [record callback time] |
| 5) Maybe <may I ask who is calling?> | [skip to GATE] |

NEW. And ... can I have their ...

First Name _____
Last Name _____
Title/Position _____
Phone Number _____

ASK to be transferred ...

- if transferred → go to A2
- if not transferred → Thank & Add to Callback List

GATE. Hello, my name is _____ and I'm calling from **Innovative Research** on behalf of **Hydro Ottawa**, your local electricity distributor.

INTERVIEWER NOTE: If gatekeeper asks the purpose of call → I'd like to ask the person in-charge of managing the electricity bill at your organization a few questions concerning a **Hydro Ottawa** customer consultation.

- | | |
|--|--|
| 1) Yes <transferred to contact> | [skip to A2] |
| 2) No <not available> "When is a good time to callback?" | [record call-back time
and go to "NEW"] |
| 3) No <not interested in talking> | [Thank & Terminate] |

A1 QUAL PREAMBLE:

Read preamble again, if transferred to new person:

Hello, my name is _____ and I'm calling from **Innovative Research** on behalf of **Hydro Ottawa**, your local electricity distributor.

Innovative Research is a national public opinion research firm. We have been hired by **Hydro Ottawa** to help them better understand the needs and preferences of non-residential customers who are responsible for paying their organization's electricity bill.

A1. Can I have roughly **7 minutes** of your time to ask you some questions? All your responses will be kept strictly confidential.

Yes – I don't mind

1 **[CONTINUE]**

No – Not primary bill payer (i.e. not best person to speak to)

2 **[go to TRANSFER]**

No – BAD TIME

3 **[ARRANGE CALLBACK]**

No – HARD REFUSAL

4 **[THANK & TERMINATE]**

MONIT [INTERNAL]

This call may be monitored or audio taped for quality control and evaluation purposes.

PRESS TO CONTINUE

1

A2. Can you confirm that your organization receives an electricity or hydro bill from **Hydro Ottawa**?

YES

1 **[CONTINUE]**

NO

2 **[THANK & TERMINATE]**

DK (volunteered)

98 **[THANK & TERMINATE]**

Only those in charge of managing/overseeing organizations electricity bill will be interviewed.

A3. As part of your job, are you in charge of managing or overseeing your organization's electricity or hydro bill?

YES

1

[CONTINUE]

NO

2

"Can I speak to the person who manages your organization's electricity bill?"

[Return to NEW]

DK

3

"Can I speak to the person who manages your organization's electricity bill?"

[Return to NEW]

TRANSFER

Can I please speak to the person who is in-charge of managing the electricity bill at your organization?

Yes

1 **[BACK TO INTRO]**

No – NOT AVAILABLE/BAD TIME – (ARRANGE CALLBACK)

2 **[ARRANGE CALLBACK]**

No – HARD REFUSAL

3 **[THANK & TERMINATE]**

A4. XX

B. INTRODUCTION AND CORE MEASURE

[PREAMBLE]

Today I want to talk about **Hydro Ottawa** and the local electricity system in your community.

There are three topics I would like to discuss:

- First, we will talk about your experience with Hydro Ottawa.
- Second, we will talk about the outcomes that matter most to you; and
- And finally, we will talk about some trade-offs in planning future investments.

First, let's talk about your experience. While **Hydro Ottawa** owns a number of hydroelectric dams through a subsidiary company, the following questions are about **Hydro Ottawa's** distribution system. This is the system that takes the electricity from high-voltage transmission towers and brings it to your organization through a network of wires, poles and other equipment that is owned and operated by **Hydro Ottawa**.

- B5. How familiar are you with **Hydro Ottawa**, which operates the electricity distribution system in your community?

Would you say you are *very familiar*, *somewhat familiar*, *not familiar* or would you say you *don't know*?

01	Very familiar	
02	Somewhat familiar	
03	Not familiar	
98	Don't know	
99	Refused [DO NOT READ]	

- B6. Thinking specifically about the services provided to your organization by **Hydro Ottawa**, overall, how satisfied or dissatisfied are you with the services that your organization receive?

Would you say you are *very satisfied*, *somewhat satisfied*, *neither satisfied nor dissatisfied*, *somewhat dissatisfied*, *very dissatisfied* or would you say you *don't know*?

01	Very satisfied	
02	Somewhat satisfied	
03	Neither satisfied or dissatisfied	
04	Somewhat dissatisfied	
05	Very dissatisfied	
98	Don't know	
99	Refused [DO NOT READ]	

- B7. And, is there anything in particular you would like **Hydro Ottawa** to do to improve its services to your organization? **[OPEN]**

98	Don't know	
99	Refused [DO NOT READ]	

- B8. While **Hydro Ottawa** is responsible for collecting payment for the entire electricity bill, it keeps about **25%** of the average small business customer's bill. The rest of the bill goes to power generation companies, transmission companies, the provincial government and regulatory agencies.

Before this survey, how familiar were you with the amount of your organization's electricity bill that went to **Hydro Ottawa**? Would you say you were *very familiar*, *somewhat familiar*, *not familiar* or would you say you don't know?

01	Very familiar	
02	Somewhat familiar	
03	Not familiar	
98	Don't know	

Bill Type

- B9. And does your organization receive your monthly bill from Hydro Ottawa as a **paper bill** or an **electronic bill**?

01	Paper Bill	
02	E-Bill	
98	Don't know [DO NOT READ]	

C. CUSTOMER PRIORITIES

Now, let's talk about our second topic – outcomes.

Hydro Ottawa regularly holds discussions with its customers to better understand how it should set spending and investment priorities.

In recent conversations with customers, a number of company goals were identified as priorities for Hydro Ottawa.

Using a scale from 0 to 10, where *0 means not important at all* and *10 means extremely important*, how important are each of the following Hydro Ottawa priorities to you as a small business customer?

Code	Response	
00	Not important at all	
01		
02		
03		
04		
05	Somewhat important	
06		
07		
08		
09		
10	Extremely important	
98	Don't know	

Randomize

- C10. Delivering electricity at reasonable distribution rates
- C11. Ensuring reliable electrical service
- C12. Finding internal efficiencies and ways to find cost savings
- C13. Upgrading the electrical system to better respond to and withstand the impact of adverse weather
- C14. Replacing aging infrastructure that is beyond its useful life
- C15. Providing quality customer service and enhanced communications
- C16. Helping customers with conservation and cost saving
- C17. Investing in new technology that could help reduce future distribution electricity costs

End Battery

C18. Now thinking of the priorities that we just discussed, please tell me which one is most important to you.

01	Delivering electricity at reasonable distribution rates	
02	Ensuring reliable electrical service	
03	Finding internal efficiencies and ways to find cost savings	
04	Upgrading the electrical system to better respond to and withstand the impact of adverse weather	
05	Replacing aging infrastructure that is beyond its useful life	
06	Providing quality customer service and enhanced communications	
07	Helping customers with conservation and cost saving	
08	Investing in new technology that could help reduce future distribution electricity costs	
98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

C19. What is the next most important priority you think **Hydro Ottawa** should focus on?

[Remove answer from C18 if asked to read again]

C20. And what do you consider the third most important priority?

[Remove answer from C18 and C19 if asked to read again]

C21. Can you think of any other important priorities that **Hydro Ottawa** should be focusing on?

[OPEN]

98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

D. RELIABILITY OUTCOMES

- D22. Now, let's talk about the reliability of electricity service your organization receive. Have you experienced any power outages at **your organization in the past 12 months** which lasted longer than one minute? If so, approximately how many of these power outages did your organization experience? **[DO NOT READ LIST]**

00	No outages	
01	1 outage	
02	2 outages	
03	3 outages	
04	4 outages	
05	5 outages	
06	6 outages	
07	7 outages	
08	8 or more outages	
98	Don't know [DO NOT READ]	
99	Refused [DO NOT READ]	

- D23. And when it comes to reliability, there are a number of areas that **Hydro Ottawa** could focus on. Among the following reliability outcomes, please tell me which one is most important to you.

01	Reducing the overall number of outages
02	Reducing the overall length of outages
03	Reducing the number of outages during extreme weather events
04	Reducing the length of time to restore power during extreme weather events
05	Improving the quality of power, as judged by momentary interruptions in power that can result in the flickering or dimming of lights
98	Don't know [DO NOT READ]
99	Refused [DO NOT READ]

- D24. What is the next most important reliability outcome you think **Hydro Ottawa** should focus on?

[Remove answer from C18 if asked to read again]

- D25. And what do you consider the third most important reliability outcome?

[Remove answer from C18 and C19 if asked to read again]

E. INVESTMENT TRADE-OFFS

Now let's turn to our final topic – investment trade-offs.

Hydro Ottawa is in the early stages of developing its investment plan for the next five years. While conversations with customers will continue over the next several months, the utility wants to find your preferences when it comes to finding the right balance between costs and other outcomes.

There are four investment categories that we would like to discuss.

System Renewal

- E26. The first category focuses on projects that replace and restore aging electrical infrastructure, like overhead poles and underground cables.

Regarding investments in aging infrastructure, which of the following statements best represents your point of view? **[READ LIST; ROTATE 01 & 02]**

01	Hydro Ottawa should invest what it takes to replace the system's aging infrastructure to maintain system reliability; even if that increases my monthly electricity bill by a few dollars over the next few years
02	Hydro Ottawa should defer its investments in replacing aging infrastructure to lessen the impact of any bill increase; even if this could eventually lead to more or longer power outages
98	Don't know

General Plant

- E27. The second category focuses on keeping **Hydro Ottawa's** business running. This includes facilities to house staff and equipment, vehicles and tools to service equipment and IT systems to manage the system and customer information.

Regarding these types of investments, which of the following statements best represents your point of view? **[READ LIST; ROTATE 01 & 02]**

01	Hydro Ottawa should find ways to make do with the facilities, equipment, vehicles and IT systems it already has
02	Hydro Ottawa should make the investments necessary to ensure its staff have the equipment and IT systems they need to manage the system efficiently and reliably
98	Don't know

System Service

- E28. The third investment category focuses on growth and greater demand for electricity in various parts of **Hydro Ottawa's** service territory.

Increased demand for electricity puts pressure on existing electrical infrastructure. Eventually, further infrastructure investments are required to support increased demand for electricity.

With this in mind, which of the following statements best represents your point of view?

[READ LIST; ROTATE 01 & 02]

01	To help keep rate increases down, Hydro Ottawa should delay investments in system capacity needs until customers start to experience a decline in reliability
02	Hydro Ottawa should proactively invest in system capacity infrastructure to ensure customers in high growth areas do not experience a decrease in reliability, even if this adds a small increase to customer bills.
98	Don't know

Grid Modernization

- E29. The final category is related to new technology that **Hydro Ottawa** can implement, which may eventually save customers' money down the road. These types of investments could include electricity storage, solar energy or grid automation to more easily re-route power in the case of an outage.

With this in mind, which of the following statements best represents your point of view?

[READ LIST; ROTATE 01 & 02]

01	Hydro Ottawa should proactively invest in modernizing the grid now, knowing it will cost more now, but could eventually save customers' money down the road
02	Hydro Ottawa should make investments decisions based on the lowest-cost, proven options like poles and wires, even if that means delaying the benefits of modernizing the grid
98	Don't know

F. DEMOGRAPHICS

Lastly, I'd like to ask you some general questions about the electricity system in Ontario.

For each statement please tell me if you would strongly agree, somewhat agree, somewhat disagree or strongly disagree. If you don't know enough to say or don't have an opinion just let me know.

01	Strongly agree
02	Somewhat agree
03	Somewhat disagree
04	Strongly disagree
98	Don't know/No opinion
99	Refused [DNR]

[ROTATE]

F30. 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.

F31. Customers are well served by the electricity system in Ontario.

[END BATTERY]

General Demos

These final few questions are for statistical purposes only.

F32. Which of the following best describes the sector in which your business operates? Would you say... [READ LIST]

01	Commercial	
02	Manufacturing/Industrial	
03	Data Centre	
04	Hospitality	
05	Restaurant/Tavern	
06	Retail	
07	Warehouse	
88	Other [Please specify:_____]	

F33. Which of the following best describes the **hours of operation** of your business? *Would you say...* **[READ LIST]**

01	You are open 24/7	
02	You operate several shifts each day, but are not open 24/7	
03	You operate during regular business hours only	
04	You operate outside of regular business hours, but do not have shifts	
88	Other [DNR]	[please specify]
99	Prefer not to say / refused [DNR]	

F34. And, which of the following best describes when your business operates throughout the week? *Would you say...* **[READ LIST]**

01	You operate on weekdays only	
02	You operate on weekdays and weekends	
88	Other [DNR]	[please specify]
99	Prefer not to say / refused [DNR]	

THANK and END SURVEY

Thank you very much for taking the time to complete this survey.

Appendix 5.0



2021-2025 Rate Application

Representative Report



This report and all of the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited.

November 2019

STRICTLY PRIVILEGED AND CONFIDENTIAL

Table of Contents

Introduction	Page 3
Sample Validation	Page 5
Phase I Compared to Phase II	Page 7
Residential Customers: Online Workbook Results	Page 14
Small Business Customers: Online Workbook Results	Page 77

Introduction

Representative Online Workbook

3

Hydro Ottawa's 2021-2025 Rate Application Customer Engagement

Innovative Research Group Inc. (INNOVATIVE) was engaged by Hydro Ottawa to assist in meeting Hydro Ottawa's customer engagement commitments under the Renewed Regulatory Framework for Electricity Distributors. The information contained within this report are the result of a series of customer engagements.

Setting the Context (Phase I)

Hydro Ottawa's 2021-2025 Rate Application Customer Engagement was designed in two phases. The first phase, which was finalized in April 2019 focused on conducting parallel telephone and online surveys. Running parallel telephone and online surveys serve two primary purposes:

- 1. To gather feedback and insights on *priorities, preferences and needs* from low-volume customers.**
Feedback from these surveys will help Hydro Ottawa's planners and engineers inform the design of the utility's Distribution System Plan and Business Plan, which will be shared in draft with customers in Phase II of this engagement.
- 2. To establish baselines and develop weights that allow Hydro Ottawa to move to an online methodology for its low-volume customer engagement program.**
Establishing a baseline and understanding the difference between customers with known email addresses (email sample) and the broader customer base is a critical step for utilities that wish to migrate to representative online survey methodologies in the second phase of their customer engagement. Where significant differences exist between the email sample and the broader customer base (e.g. demographics, firmographics, attitudes, and opinions), the insights gained from these parallel surveys can be used to develop weights, which can minimize these differences.

Phase II Customer Engagement

Hydro Ottawa is in the process of developing its 2021-2025 Rate Application. This report covers the second phase of engagement which focused on customer preferences on program timing and balancing outcomes. In order to obtain this feedback from customers, an online "workbook" was deployed to all customers with an email address, as well as promoted through a generic link on Hydro Ottawa's website, social media platforms, and through bill inserts and traditional media.

Interpreting the Results

For residential and small business (GS<50kW) rate classes, responses were weighted by region and usage to ensure the responses were representative of the broader customer base. Based on the comparative results of the first phase of the customer engagement, INNOVATIVE is confident that the online workbook results contained within this report are representative of Hydro Ottawa's actual customer base. This determination was reached by comparing the Phase I and II results based on key demographic, general attitudes towards electricity, as well as individual customer experience.

Introduction

Regional and Environmental Control Segmentation

Regional and Environmental Control Segmentation

In addition to segmenting customers based on their geographical location within Hydro Ottawa's service territory, it is important to be able to identify factors that may influence customer preferences and distinguish between what is within, and what is outside of Hydro Ottawa's influence or control.

Perceptions of LDCs often tend to move with general perceptions of the sector rather than in response to the local utility.

Throughout this report, environmental control questions are used to help distinguish whether opinions regarding Hydro Ottawa's plans are utility-driven preferences or externally driven.

Segmentation "*side bars*" have been used throughout this report to look beyond the topline numbers to analyze the results for key segments. The makeup of these side bars varies based on rate class.

1. **Regional Segmentation:** Using customer postal codes, Hydro Ottawa's service territory is divided and analyzed based five sub-regions.
2. **Bill Impact on Finances:** To what extent do customers agree with the following statement:
 - a) Residential: *The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.*
 - b) Small Business: *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.*
3. **General Feelings Towards the Sector:** To what extent do customers agree or disagree with the following statement:
 - a) Residential and Small Business: *Customers are well served by the electricity system in Ontario.*
4. **Vulnerable Consumers:** Using a combination of household size and combined household income, the residential portion of this report identifies customer who would be eligible for financial assistance programs. The methodology used to calculate this segmentation is based on the OEB's *Low-income Energy Assistance Program (LEAP)*.

Understanding Side Bars

Side bars are an effective way of looking past the topline numbers and digging deeper into the needs and preferences of the customer segments above. For instance, while it is valuable to know that, overall, 88% of residential customers are satisfied with Hydro Ottawa, it is also important to understand whether satisfaction differs based on geography or within vulnerable customer groups. Side bars allow readers of this report to quickly look past the topline numbers and understand how various segments of customers feel about various issues.

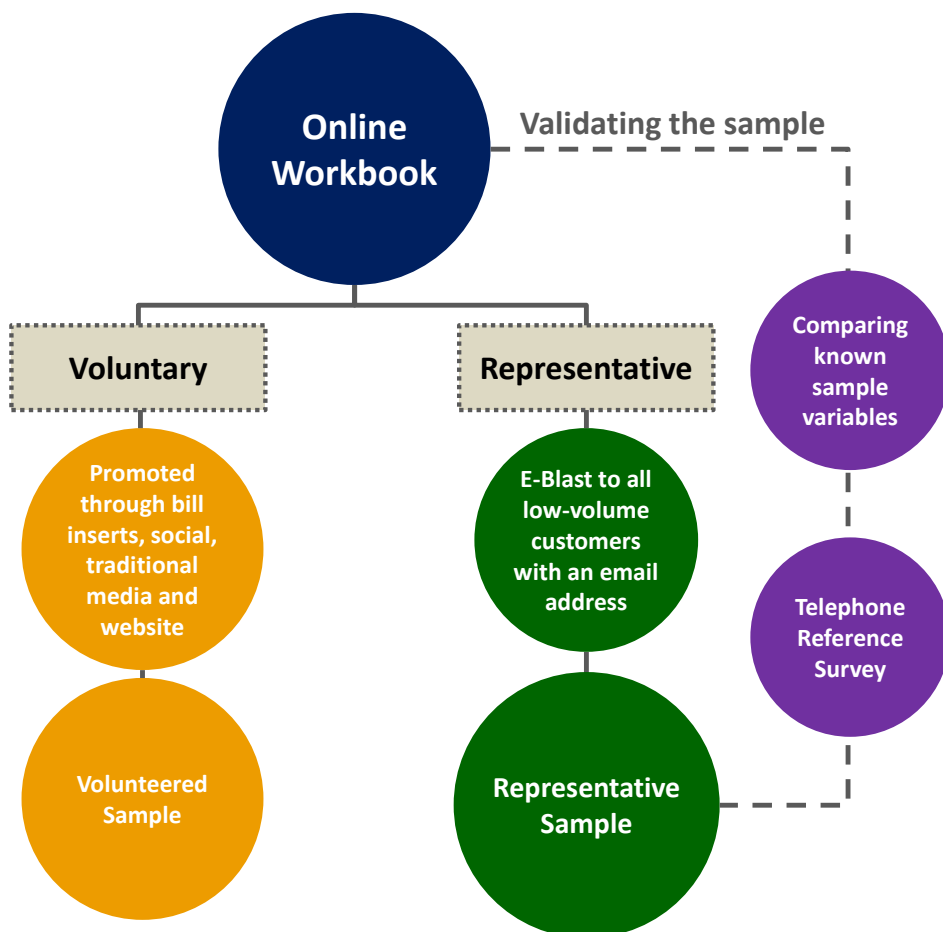
Sample Validation

Overall Approach

Hydro Ottawa's low volume (residential and small business) customer engagement workbook featured two streams – *representative* and *voluntary*.

The voluntary stream created an open process that allowed anyone who wants to be heard an opportunity to express themselves, including those who have not provided the utility with an email address. *Those results are provided in a separate report.*

The representative stream ensures a representative sample of customers are engaged, allowing for the generalizability of findings. *This is a report of those responses.*



Sample Validation

Email Sample Versus Broader Sample

Comparing the overall population to the sample of that population with email addresses across known variables, we can see that no group is substantially underrepresented in the email sample.

Overall Coverage

Two thirds of each population is included in the email sample.

	Full Population	Email Sample	Coverage
Residential	255,562 records	167,409 records	66%
Small Business	22,797 records	15,135 records	66%

Average Consumption

Small businesses with email addresses consume an average of 3.7% more energy than the full population.

	Full Population	Email Sample	Difference
Residential	8,157 kWh	8,136 kWh	-0.2%
Small Business	28,636 kWh	29,699 kWh	+3.7%

Language

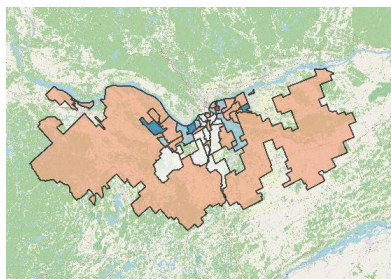
Bilingual and French accounts are overrepresented relative to English accounts, but English accounts are only slightly underrepresented.

	English			Bilingual			French		
	Full Pop.	Email Sample	Diff.	Full Pop.	Email Sample	Diff.	Full Pop.	Email Sample	Diff.
Residential	82.2%	80.0%	-2.7%	14.5%	16.7%	+15.0%	3.3%	3.4%	+2.1%
Small Business	83.7%	80.9%	-3.3%	13.8%	16.2%	+16.9%	2.5%	2.9%	+15.3%

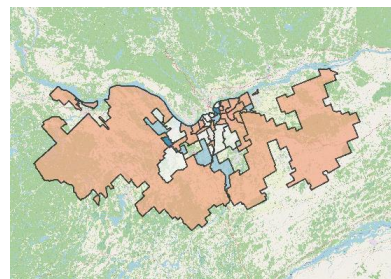
Region

There is no systematic pattern of FSAs* being over or under-represented by email. Some FSAs are up to 20% over or under-represented, but these differences are randomly distributed across the entire service area.

Small Business



Residential



% difference between email sample and full population
More than -10%
-10% to -4%
-4% to +4%
+4% to +10%
More than +10%

* Note: a forward sortation area (FSA) is the first three digits of a postal code.

Phase I Compared to Phase II

Survey Design & Methodology

Residential



7

Both the residential telephone reference survey and representative online workbook were weighted based on known variables, including rate zone and rate class. Furthermore, both surveys were weighted to be proportionate based on the actual distribution of residential customers throughout Hydro Ottawa's service territory. *Weighted and unweighted sample sizes are outlined below.*

Residential Telephone Reference Survey

Regional Breakdown	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	37	36	38	36	147	35	35	35	35	140
Goulbourn/Casselman	6	6	8	10	30	8	8	8	8	32
Kanata	15	15	15	15	60	14	14	14	14	56
Nepean	33	35	34	32	134	33	33	33	33	132
Ottawa	37	37	37	35	146	35	35	35	35	140
Total	128	129	132	128	517	125	125	125	125	500

Residential Representative Online Workbook

Regional Breakdown	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	956	1,354	1,352	1,201	4,863	1,200	1,204	1,205	1,206	4,816
Goulbourn/Casselman	116	256	345	454	1,171	276	276	276	276	1,103
Kanata	405	679	608	503	2,195	481	482	482	482	1,927
Nepean	983	1,317	1,177	1,074	4,551	1,135	1,136	1,136	1,134	4,542
Ottawa	1,716	1,015	866	833	4,430	1,206	1,204	1,206	1,203	4,820
Total	4,176	4,621	4,348	4,065	17,210	4,298	4,302	4,305	4,302	17,208

Note: *Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.*

Phase I Compared to Phase II

Demographics

Residential



8

Comparing Phase I Versus Phase II: In Phase I, one of the core objectives was to establish baseline and understand the difference between customers with known email addresses (email sample) and the broader customer base to migrate any potential differences in the second phase of the engagement. Comparing the results from Phase I versus Phase II showed that:

1. Overall, the Phase I and II samples look very similar on key measures, including demographics, attitudes towards the electricity and outage experience.
2. There are only minor demographic differences between the Phase I telephone survey and the Phase II online workbook. Nothing significant that requires any weighting correction.
3. Those who completed the Phase II representative online workbook generally hold the same views towards the electricity sector as those who were engaged in Phase I. The Phase II representative workbook sample is slightly more vulnerable than the Phase I sample, with more customers saying that their electricity bill has an impact on their household finances.
4. The Phase I and II samples have similar outage experiences, with close to 2-in-10 experiencing three or more outages in the past year, and a similar proportion having experienced zero in that same time period.

Gender	Phase I Online	Phase I Telephone	Phase II Workbook
Male	53%	55%	58%
Female	46%	45%	42%
Self-identified	1%	-	1%

Gender	Phase I Online	Phase I Telephone	Phase II Workbook
18-24	0%	2%	1%
25-34	11%	11%	12%
35-44	15%	16%	16%
45-54	16%	21%	18%
55-64	24%	19%	23%
65 or older	35%	31%	30%

Note: sums added before rounding.

Phase I Compared to Phase II

Attitudes Towards Electricity

Residential



9

The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.	Phase I Online	Phase I Telephone	Phase II Workbook
Strongly agree	17%	20%	17%
Somewhat agree	27%	20%	36%
Somewhat disagree	26%	26%	26%
Strongly disagree	28%	29%	20%
Don't know/No opinion	2%	5%	1%
Agree (Strongly + Somewhat)	44%	41%	53%
Disagree (Strongly + Somewhat)	54%	55%	46%

Customers are well served by the electricity system in Ontario.	Phase I Online	Phase I Telephone	Phase II Workbook
Strongly agree	29%	39%	34%
Somewhat agree	53%	45%	49%
Somewhat disagree	9%	4%	10%
Strongly disagree	5%	5%	4%
Don't know/No opinion	3%	7%	2%
Agree (Strongly + Somewhat)	82%	84%	83%
Disagree (Strongly + Somewhat)	15%	9%	14%

Phase I Compared to Phase II

Outage Experience

Residential



10

Number of Outages in Past Year	Phase I Online	Phase I Telephone	Phase II Workbook
No outages	18%	17%	18%
1 outage	36%	41%	30%
2 outages	22%	20%	28%
3 or more outages	21%	19%	19%
Don't know	3%	2%	5%

Note: sums added before rounding.

Phase I Compared to Phase II

Survey Design & Methodology

Small Business



Both the small business telephone reference survey and representative online workbook were weighted based on known variables, including rate zone and rate class. Furthermore, both surveys were weighted to be proportionate based on the actual distribution of residential customers throughout Hydro Ottawa's service territory. *Weighted and unweighted sample sizes are outlined below.*

Small Business Telephone Reference Survey

Regional Breakdown	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	37	36	38	36	147	35	35	35	35	140
Goulbourn/Casselman	6	6	8	10	30	8	8	8	8	32
Kanata	15	15	15	15	60	14	14	14	14	56
Nepean	33	35	34	32	134	33	33	33	33	132
Ottawa	37	37	37	35	146	35	35	35	35	140
Total	128	129	132	128	517	125	125	125	125	500

Small Business Representative Online Workbook

Regional Breakdown	Unweighted N					Weighted N				
	Consumption Quartiles					Consumption Quartiles				
	Low	Medium-Low	Medium-High	High	Total	Low	Medium-Low	Medium-High	High	Total
Gloucester	24	17	16	11	68	21	21	21	21	86
Goulbourn/Casselman	10	8	5	3	26	5	5	5	5	20
Kanata	12	2	5	4	23	9	9	9	9	34
Nepean	21	13	18	9	61	20	20	20	20	81
Ottawa	56	33	20	20	129	21	21	21	21	86
Total	123	73	64	47	307	77	77	77	77	307

Note: *Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.*

Phase I Compared to Phase II

Small Business

Outage Experience

12



Comparing Phase I versus Phase II: In Phase I, one of the core objectives was to establish baseline and understand the difference between customers with known email addresses (email sample) and the broader customer base to migrate any potential differences in the second phase of the engagement. Comparing the results from Phase I versus Phase II showed that:

1. Overall, the Phase I and II samples look similar on key measures, including attitudes towards the electricity and outage experience.
2. Those who completed the Phase II representative online workbook generally hold the same views towards the electricity sector as those who were engaged in Phase I. The Phase II representative workbook sample is more vulnerable than the Phase I sample, with more customers saying that the cost of their electricity bill has a major impact on the bottom line of their organization and results in some important spending priorities and investments being put off.
3. The Phase I and II samples have similar outage experiences, with the Phase II representative workbook sample experiencing, on average, more outages than those who participated in the Phase I online and telephone surveys.

Number of Outages in Past Year	Phase I Online	Phase I Telephone	Phase II Workbook
No outages	20%	23%	19%
1 outage	23%	37%	24%
2 outages	23%	16%	27%
3 or more outages	24%	13%	24%
Don't know	10%	10%	6%

Note: sums added before rounding.

Phase I Compared to Phase II

Small Business

Attitudes Towards Electricity

13



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.	Phase I Online	Phase I Telephone	Phase II Workbook
Strongly agree	33%	30%	26%
Somewhat agree	33%	28%	47%
Somewhat disagree	15%	17%	18%
Strongly disagree	13%	17%	8%
Don't know/No opinion	5%	7%	1%
Agree (Strongly + Somewhat)	67%	59%	73%
Disagree (Strongly + Somewhat)	28%	34%	26%

Customers are well served by the electricity system in Ontario.	Phase I Online	Phase I Telephone	Phase II Workbook
Strongly agree	22%	41%	31%
Somewhat agree	57%	38%	47%
Somewhat disagree	10%	4%	12%
Strongly disagree	6%	6%	8%
Don't know/No opinion	5%	9%	1%
Agree (Strongly + Somewhat)	79%	80%	78%
Disagree (Strongly + Somewhat)	16%	10%	21%

Representative Workbook

Survey Design & Methodology

Residential



15



INNOVATIVE was engaged by Hydro Ottawa to gather input on preferences on program timing and balancing outcomes. **Pages 15 to 76** show the actual pages of the workbook that was sent and completed by customers. The only additions are the actual results.

Field Dates & Workbook Delivery

The **Residential Online Workbook** was sent to all Hydro Ottawa residential customers who have provided the utility with an email address. Customers had an opportunity to complete the workbook between **August 20th and September 26th, 2019**.

Each customer received a unique URL that could be linked back to their annual consumption, region and rate class.

In total, the residential workbook was sent to **182,939** customers by-way-of e-blast from INNOVATIVE.

Residential Online Workbook Completes

A total of **17,210** (unweighted) Hydro Ottawa residential customers completed the online workbook through a unique URL.

Sample Weighting

The residential online workbook sample has been weighted proportionately by region and consumption quartiles in order to be representative of the broader Hydro Ottawa service territory.

The table below summarizes the weighted sample breakdown by rate zone and quartile. For unweighted n-sizes, please consult Page 7 of this report.

Weighted Sample	Consumption Quartiles				Total	Distribution
	Low	Medium-Low	Medium-High	High		
Gloucester	1,200	1,204	1,205	1,206	4,816	28%
Goulbourn/Casselman	276	276	276	276	1,103	6%
Kanata	481	482	482	482	1,927	11%
Nepean	1,135	1,136	1,136	1,134	4,542	26%
Ottawa	1,206	1,204	1,206	1,203	4,820	28%
Total	4,298	4,302	4,305	4,302	17,208	100%

Note: Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.

Representative Workbook

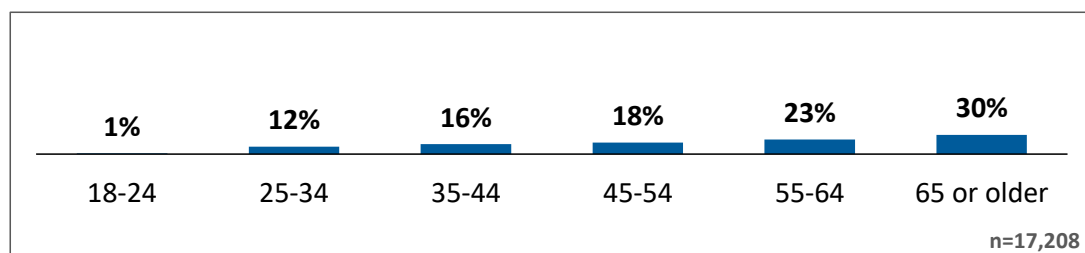
Demographic Breakdown

Residential

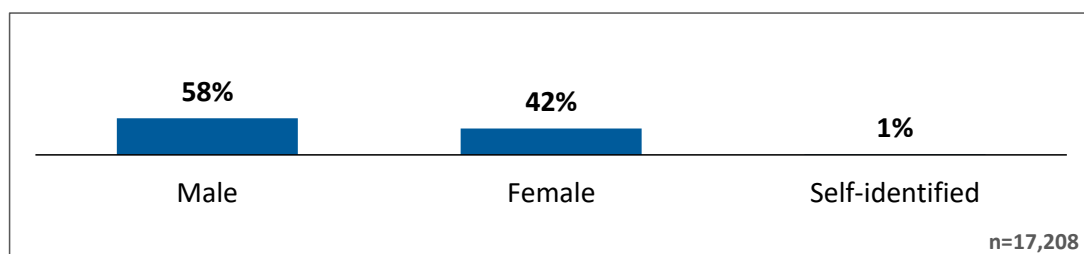


16

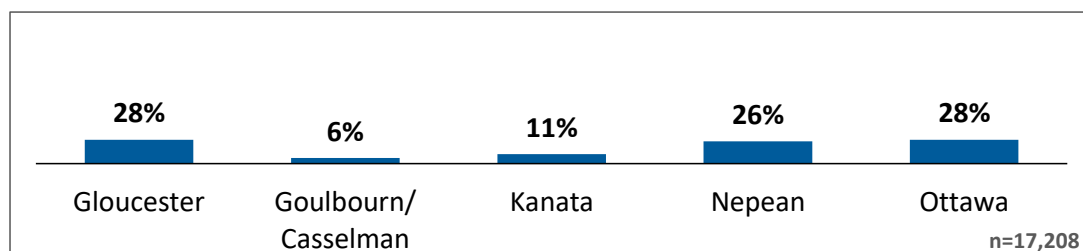
Q Age



Q Gender



Q Region



Representative Workbook

Demographic Breakdown

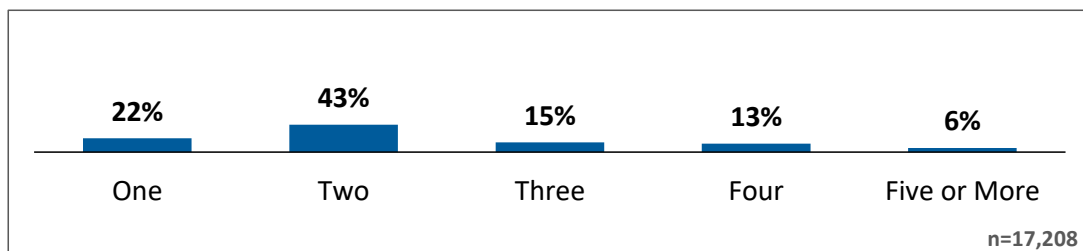
Residential



17

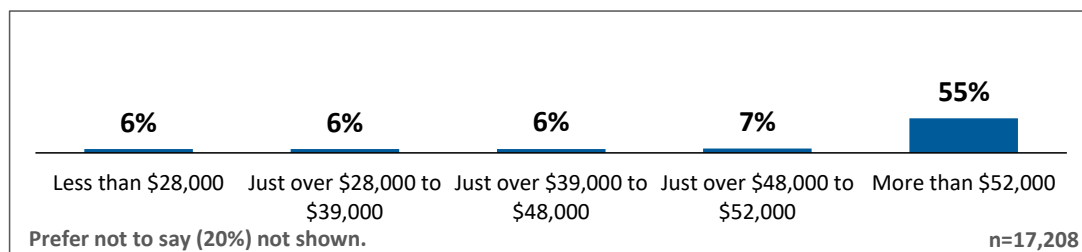
Q

Household Size



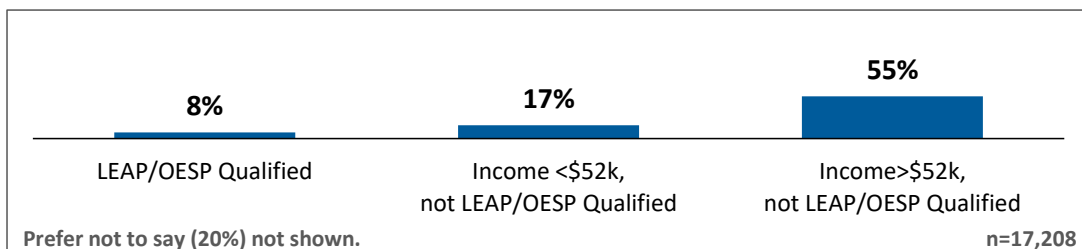
Q

After Tax Household Income



Q

LEAP/OESP Qualification (calculated based on household size and income)



Representative Workbook

Environmental Controls

Residential

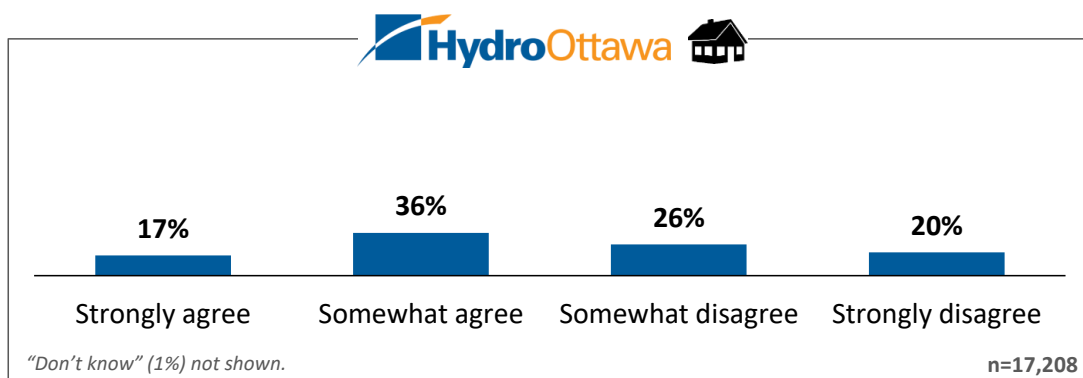


18

Thinking generally about the electricity system in Ontario, including generation, transmission and local distribution, do you agree or disagree with the following statements?

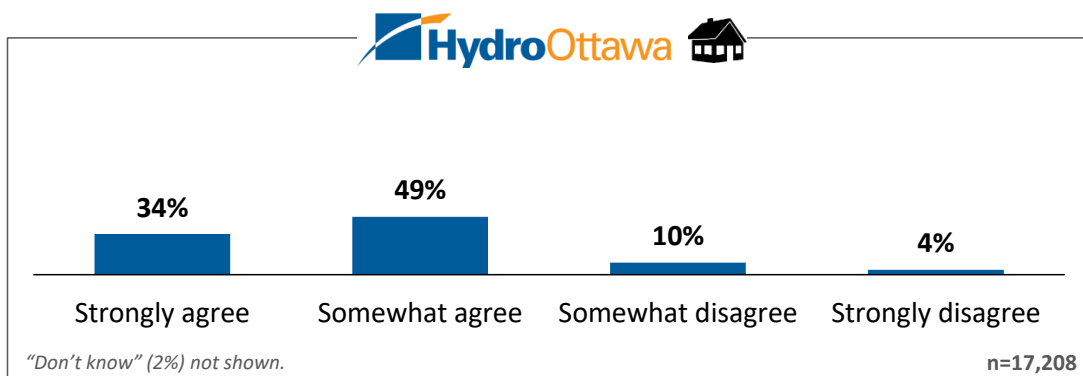
Q

The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.



Q

Customers are well served by the electricity system in Ontario.



Representative Workbook




Background Information

Residential



19

Hydro Ottawa Limited (Hydro Ottawa) is looking for your input on choices that will help shape the service you receive and the price you pay.

-  Hydro Ottawa is developing its business plan for 2021 to 2025. This plan will determine the level of spending and investments Hydro Ottawa makes in equipment and infrastructure and the services it provides, as well as the rates you pay.
-  Hydro Ottawa is accountable to the provincial regulator, the **Ontario Energy Board (OEB)**, both in terms of sharing what customers say and demonstrating how they considered those views when undertaking the planning process.
-  You don't need to be an electricity expert to participate in this consultation. This workbook is focused on basic choices and provides the background information you need to answer the questions.

Building on previous customer feedback, the goal of this consultation is to allow Hydro Ottawa to better understand the needs and preferences of customers like you, and help them align their plan with what you have shared.

While your view may not always align exactly with the available options, please select the one that is closest to your point of view.

Those who complete the questions that follow will be invited to enter a draw to win one of four (4) \$500 cash prizes.

Depending on how much feedback you wish to provide, this consultation should take approximately 30-45 minutes to complete. If you need to pause and return at a later time to finish your feedback, your completed answers will be saved

If you are reading this on a smaller mobile device, you may want to consider accessing the survey from a tablet, desktop or laptop instead so that it is easier for you to read.

Representative Workbook

Background Information

Residential



20

This consultation is about gathering your feedback on finding the right balance between the services you receive from Hydro Ottawa over the next five years and the price you pay.

Hydro Ottawa has important decisions to make about the pace and mix of expenditures it makes in equipment and infrastructure, the services it provides you as a customer, and the rates you pay.

Every five years, Hydro Ottawa submits a plan for its proposed rates and spending to the Ontario Energy Board for approval. They are now in the process of finalizing that plan.

- Earlier in 2019, Hydro Ottawa asked thousands of customers about their priorities and preferred outcomes for electricity distribution service.
- Using the feedback shared by customers, Hydro Ottawa built a plan that is intended to align with customer preferences. Want to learn more about how Hydro Ottawa plans? [Click here](#)
- Hydro Ottawa is now coming back to its customers with a series of expenditure options in order to finalize its draft plan for the next five years.

How will this customer consultation work?



Hydro Ottawa will ask for your feedback on a number of decisions it needs to make in order to finalize their plan. These decisions will impact both the services you receive, as well as the price you pay on the distribution portion of your electricity bill.



For each decision, Hydro Ottawa has identified the option that it feels balances customer feedback received to date to limit cost impacts, while prudently investing in the distribution system. These options have been included in the current plan, but may be influenced by your feedback.



Once you have finished sharing your thoughts on these decisions, you will have an opportunity to review your responses and the estimated total rate impact of those choices. You will be able to change your responses until you feel you have found the right mix of investments and estimated rate impact.

Representative Workbook

Background Information

Residential



21

How will your views impact Hydro Ottawa's plans and rates?

The Ontario Energy Board (OEB) sets electricity rates in Ontario.



Electricity distributors like Hydro Ottawa are funded by the distribution rates paid by its customers. Electricity distributors are required to file a rate application with the OEB to request a change in distribution rates based on its plans for capital and operating costs.

As a customer, how are my interests protected?

The OEB requires all electricity distributors in Ontario, like Hydro Ottawa, to consider customer needs and preferences as they develop their business plan and distribution system plan.

The OEB then reviews Hydro Ottawa's plan and proposed rates in an open and transparent public process known as a rate hearing. Any individual or group may participate during Hydro Ottawa's application to ask questions or seek more information about Hydro Ottawa's plan and application.

Hydro Ottawa will be held accountable for the way you were consulted, the information shared with you and the ways in which the plan considers what you say.

At the end of the process, the OEB will weigh the evidence and decide on the rates Hydro Ottawa can charge its customers.

Representative Workbook

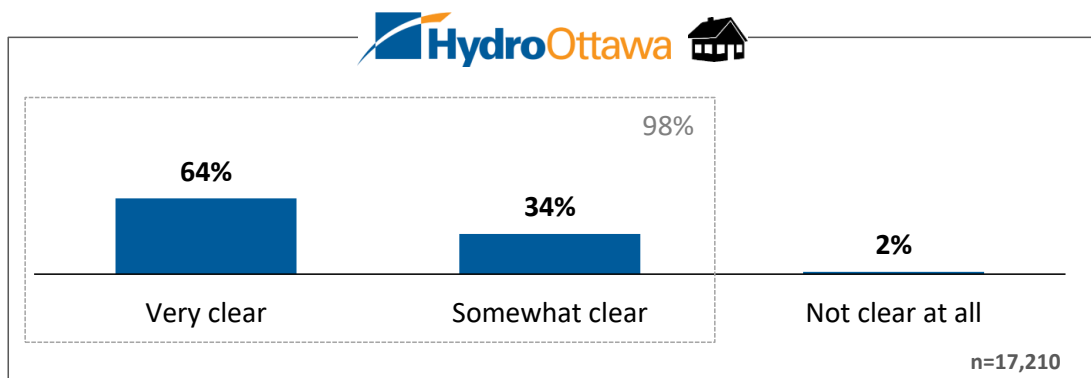
Residential



Purpose of Hydro Ottawa's customer consultation

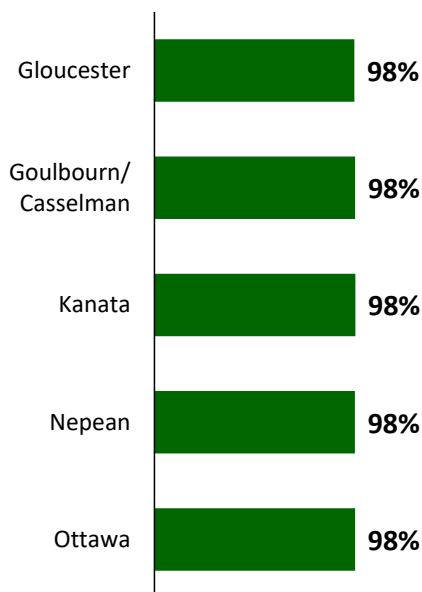
Q

Do you feel that the purpose of Hydro Ottawa's customer consultation is clear?



Regional Segmentation

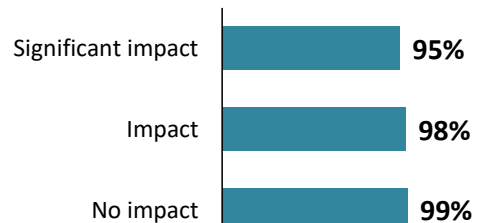
Respondents who say "Clear"



Vulnerable Customer Segmentation

Respondents who say "Clear"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Background Information

Residential



Understanding Ontario's electricity system and Hydro Ottawa's role

Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

Generation

Where electricity comes from

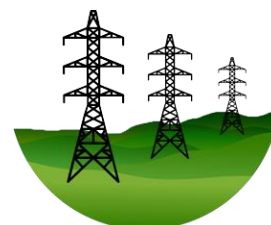
Ontario's electricity is generated using a mix of nuclear, gas-fired, and water power (hydro), as well as biomass and renewable sources such as wind and solar technology. In Ontario, a number of companies own these generating stations but approximately half of the electricity is generated by Ontario Power Generation. The Independent Electricity System Operator (IESO) balances the supply of, and demand for, electricity on a second-by-second basis and directs its flow across the high-voltage transmission lines.



Transmission

How electricity travels across Ontario

Once generated, electricity must be transported to electrical substations across the province. Due to the large amount of power and long distances, transmission normally takes place at high voltages with the lines suspended on large, steel towers. The province has more than 30,000 kilometres of 'electricity highway', most of which is owned and operated by Hydro One.



Local Distribution

How electricity is delivered to the end-consumer



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers. Its local distribution system is connected to the transmission grid through its distribution stations and transformers. This allows the voltage to be decreased so it can be distributed and safely used in homes and organizations across Hydro Ottawa's service territory.

Hydro Ottawa's distribution system is complex. It consists of approximately 50,000 poles, 2,700 km of overhead power lines, 3,000 km of underground cable, and 45,000 transformers.

Representative Workbook

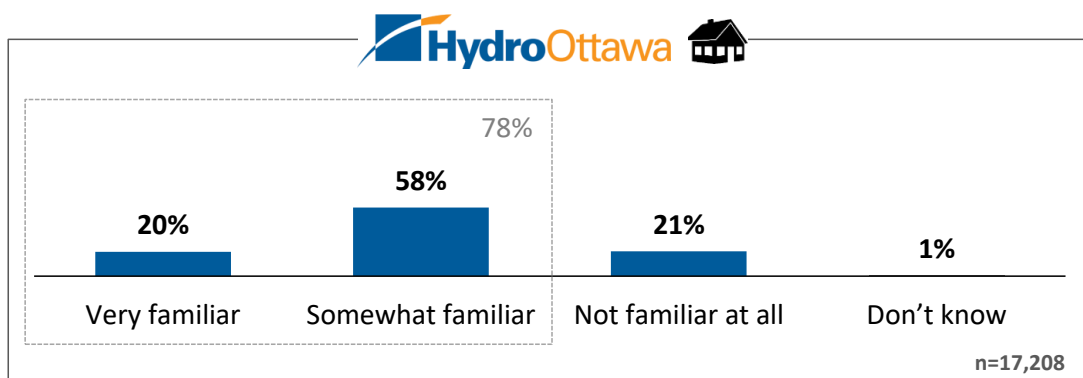
Familiarity with Ontario's electricity system

Residential



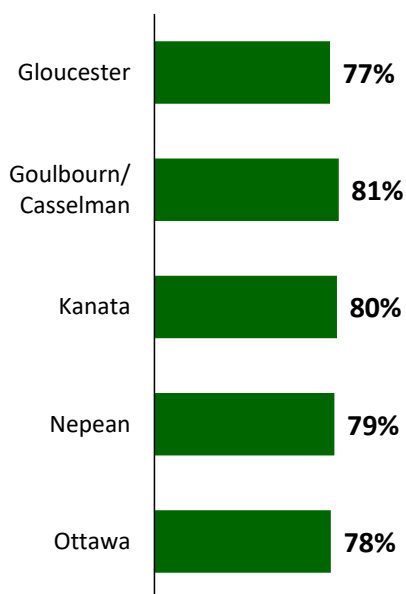
Q

Before this consultation, how familiar were you with various parts of the electricity system, how they work together, and for which services Hydro Ottawa is responsible?



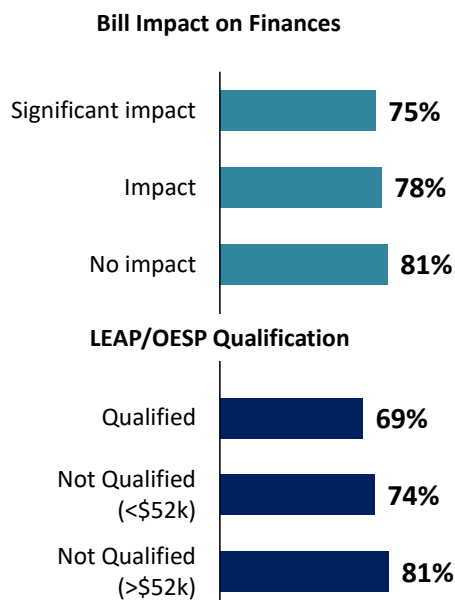
Regional Segmentation

Respondents who say "Familiar"



Vulnerable Customer Segmentation

Respondents who say "Familiar"



Representative Workbook

Residential

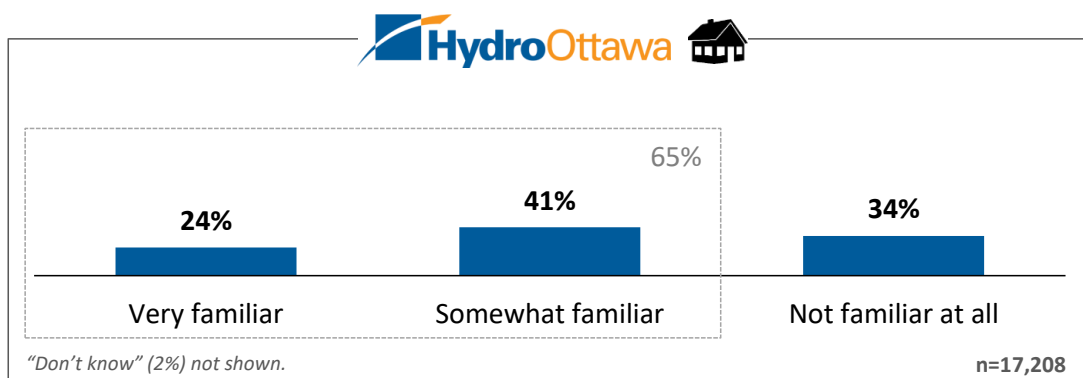


Familiarity with how Hydro Ottawa receives funding

Hydro Ottawa is entirely funded through the rates its customers pay and does not receive taxpayer money for its operations or investments.

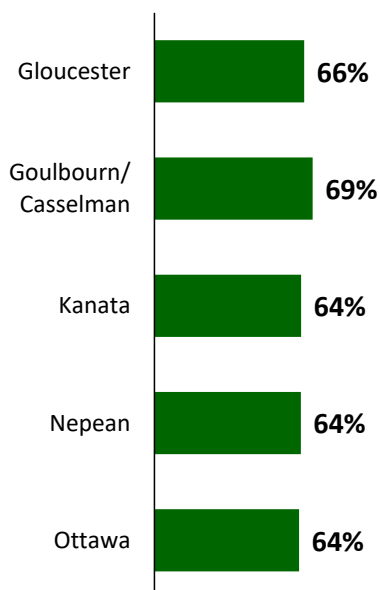
Q

Before this consultation, were you aware of how Hydro Ottawa received its funding?



Regional Segmentation

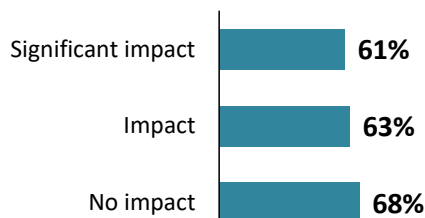
Respondents who say "Familiar"



Vulnerable Customer Segmentation

Respondents who say "Familiar"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

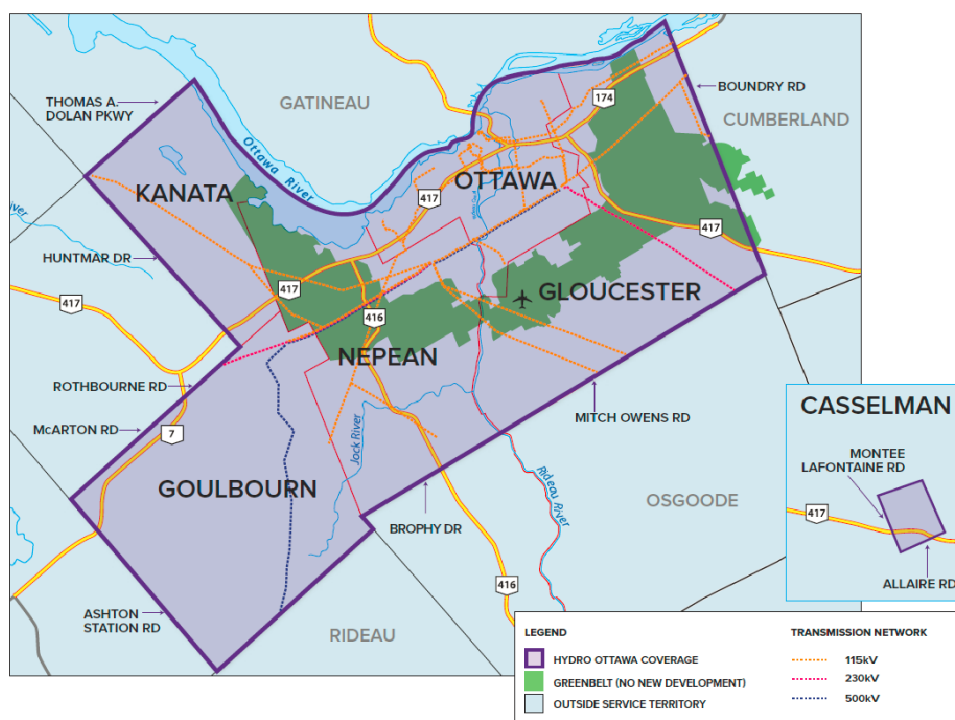
Background Information

Residential



Hydro Ottawa fast facts

- Private business corporation 100% owned by its shareholder, the City of Ottawa
- Third largest municipally-owned electricity distributor in Ontario
- Serves approximately 335,000 homes and businesses (more than one million consumers)
- Service territory of 1,116 square kilometers that includes most of the City of Ottawa and the Village of Casselman
- Over 600 employees
- Does not receive taxpayer money to fund its operations or its investments in the distribution system
- Entirely funded through the rates its customers pay



Representative Workbook

Overall Satisfaction with Hydro Ottawa

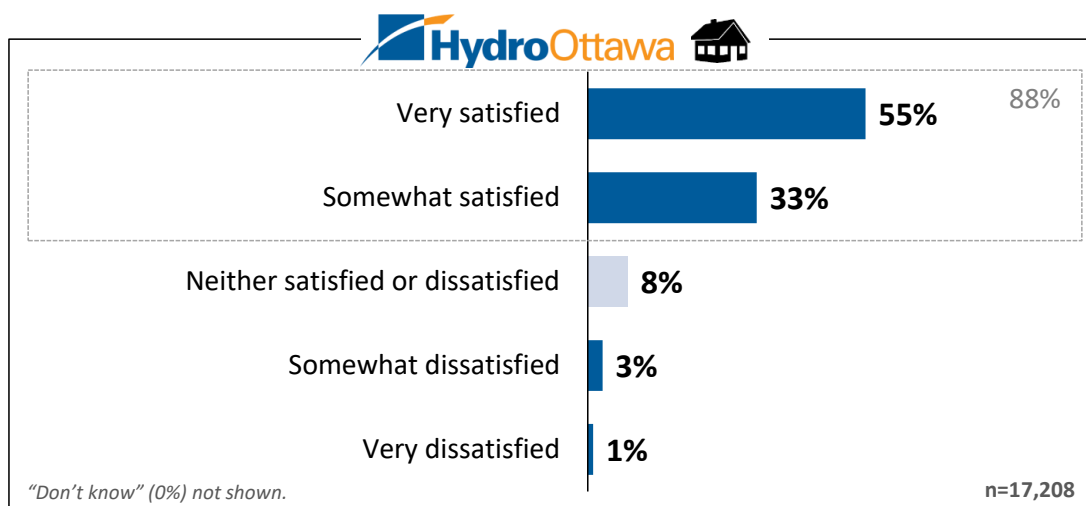
Residential



27

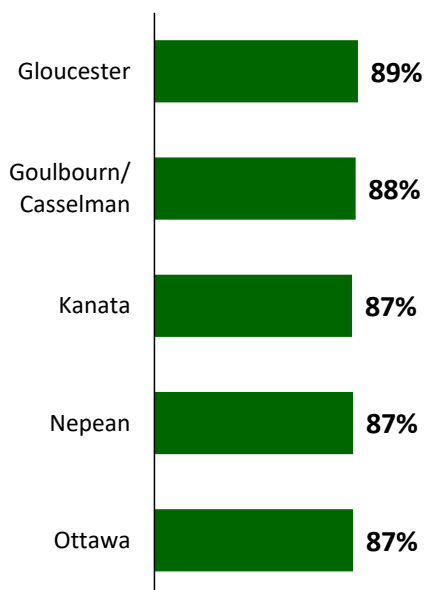
Q

Thinking specifically about the services provided to you and your community by Hydro Ottawa, how satisfied or dissatisfied are you with the services that you receive?



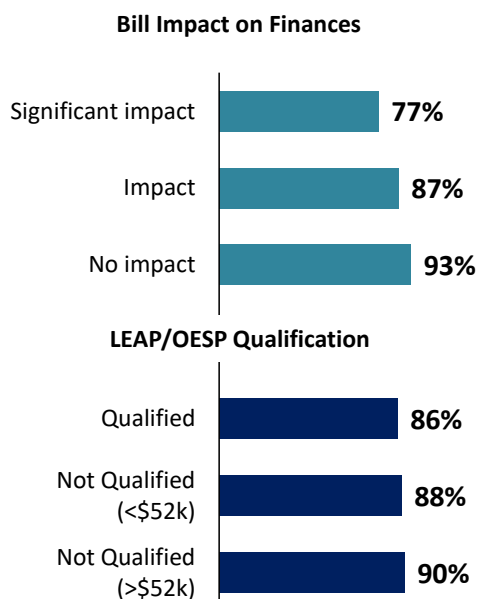
Regional Segmentation

Respondents who say "Satisfied"



Vulnerable Customer Segmentation

Respondents who say "Satisfied"



Representative Workbook

How can Hydro Ottawa Improve services?

Residential



28

Q

Is there anything in particular that Hydro Ottawa can do to improve its services to you?

Improving Services (n=7,347) 57% of respondents did not provide additional feedback	%
Reduce rates	16%
Nothing; happy with service	6%
Reduce number of unplanned outages	6%
Move to green energy/renewables/encourage self generation	4%
Move lines underground	4%
Adjust time of use/reduce/eliminate peak rates	4%
Bill for usage; eliminate/reduce delivery charge/fixed service fees	4%
Improve communication during outages	3%
Improve reliability and power quality	3%
Maintain/upgrade infrastructure/expand service	3%
More support for low/fixed income, seniors, differently abled	3%
Improve reliability during storms; harden system against weather	3%
Do not increase rates/keep rates affordable/minimize increases	2%
Better access to usage data online/reinstate usage emails/PeakSaver	2%
Find internal efficiencies/lower operating costs/lower executive salaries	2%
Improve billing (e.g. timing, payment methods, notices, etc)	2%
Provide (more) incentives and rebates/rewards for energy saving	2%
Improve customer service/better access to CSR for complaints/outage reporting/online portal	2%
More education on conservation/energy efficiency/peak time rates	1%
Improve clarity of bills; explain charges and calculations	1%
Improve restoration times	1%
Better tree maintenance	1%
Better accountability/transparency/info on sources of energy/general communications	1%
Against privatization/payment of dividends to city/profits should go to consumer savings	1%
Improve communication before planned outages	1%
Other	5%
None	19%
Don't Know	1%

Representative Workbook

Background Information

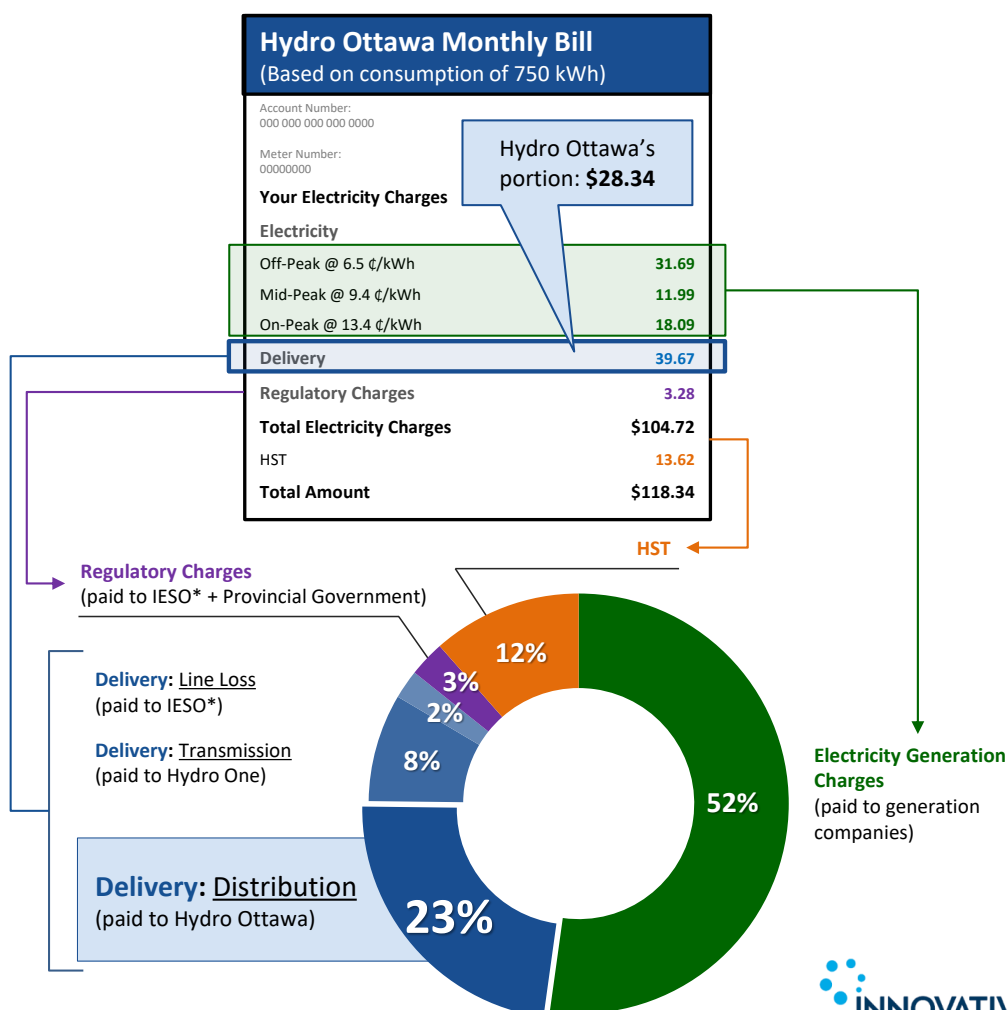
Residential



How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa's portion makes up about 23% of a typical residential customer's bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



* IESO = Independent Electricity System Operator.

Representative Workbook

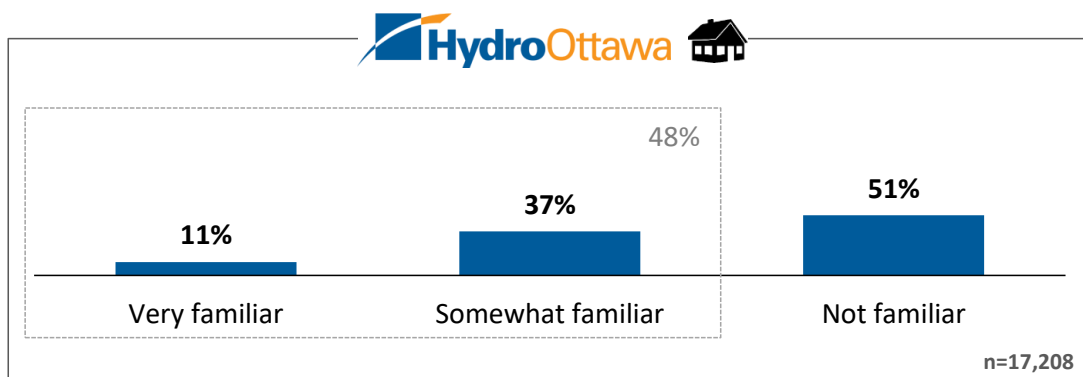
Residential



Familiarity with Portion of Bill Remitted to Hydro Ottawa

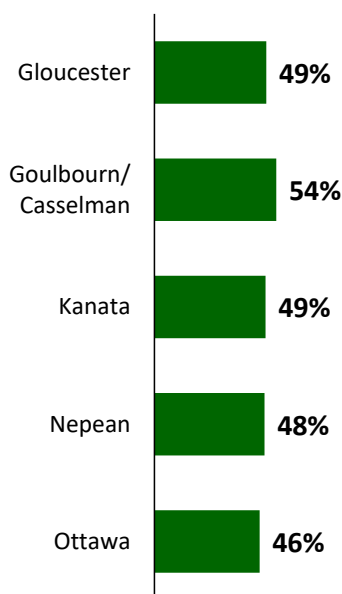
Q

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?



Regional Segmentation

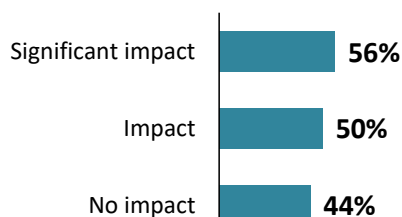
Respondents who say "Familiar"



Vulnerable Customer Segmentation

Respondents who say "Familiar"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Background Information

Residential



31

How did customer feedback shape Hydro Ottawa's preliminary plan?

Hydro Ottawa engages with its customers both in day-to-day interactions and in a variety of customer engagement surveys. **However, this consultation is unique, as it focuses on Hydro Ottawa's business plan that will cover the five year period from 2021 to 2025.**

Preliminary customer engagement found that:

- The clear majority of residential and small business customers are satisfied with the current service they receive;
- Despite being the top priorities, customers don't just expect Hydro Ottawa to focus exclusively on price and reliability;
- Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers.

Understanding that many customers are satisfied with the level of service they receive from Hydro Ottawa, including with the reliability of the distribution system, and value minimizing price increases above all else, Hydro Ottawa has developed a business plan that emphasizes four core principles:

1. **Minimize rate increases;**
2. **Maintain reliability and service quality;**
3. **Address key pressures to the system, including;**
 - Aging infrastructure;
 - An expanding customer base and continued population growth, and;
 - The effects of severe weather events.
4. **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

Representative Workbook

Principles of Hydro Ottawa's Plan

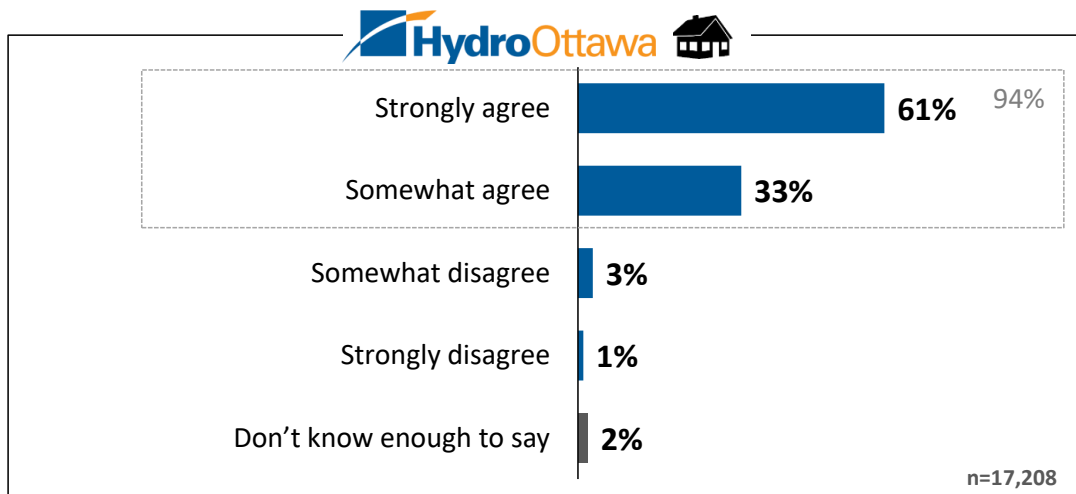
Residential



32

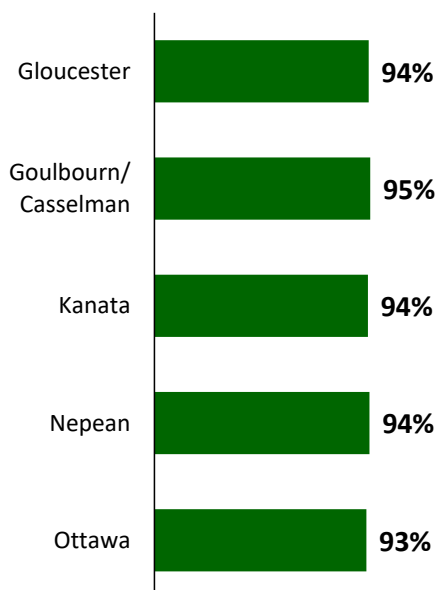
Q

Do you agree or disagree with the principles outlined above?



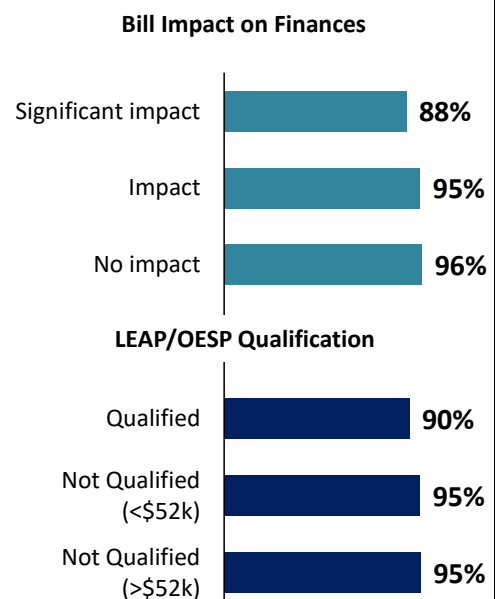
Regional Segmentation

Respondents who say "Agree"



Vulnerable Customer Segmentation

Respondents who say "Agree"



Representative Workbook

Changes to Principles of Hydro Ottawa's Plan

Residential



Q Is there anything that you would change about the four core principles outlined above? If yes, what would you change?

Additional Feedback (n=5,241)	%
70% of respondents did not provide additional feedback	
Transition to green/renewables	6%
'Freeze'/'reduce' rate increase, as opposed to 'minimize'	6%
Environment should be a (top) priority	5%
All principles are important	4%
New tech should be green focused	4%
Increasing rates is necessary for other three principles	3%
Investing in emerging tech is important/escalate priority	3%
Reducing rates/minimizing increases should be top priority	3%
Maintaining reliability and service quality should be top priority	3%
Educate, incentivize, encourage conservation	2%
Encourage EV adoption and prepare the grid	2%
Prudence is key; mistrust 'emerging' tech	2%
Prioritize hardening system against worsening weather/climate change	2%
Move lines underground	2%
Eliminate/reduce/clarify delivery charge; bill for usage	2%
Addressing key pressures should be top priority	2%
Prioritize transparency, accountability, fiscal responsibility	2%
Demo-based rates/supports (conservers, income brackets, seniors, urban vs. rural, usage, etc.)	2%
Need more information/have outstanding questions	1%
Improve' as opposed to 'maintain' reliability and service quality	1%
Alternative financing (e.g. developers, gov't, dividend to City, etc.)	1%
Find internal efficiencies	1%
Critical of question/survey (biased, leading, skeptical results will have impact, etc.)	1%
Adjust (exec) salaries	1%
Improve customer service and communication	1%
Investing in emerging tech is not a priority	1%
Eliminate/adjust Time of Use	1%
Managing aging infrastructure should be part of 'maintaining reliability and service quality'	1%
Other	8%
None	25%
Don't Know	1%

Representative Workbook

Background Information

Residential



34

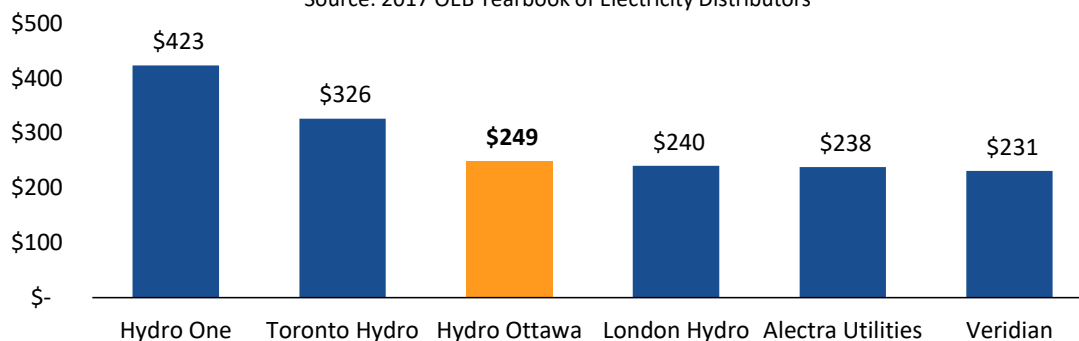
Finding efficiencies

Hydro Ottawa is continuing its focus on productivity and continuous improvement initiatives; which offset continuing costs and improves organizational effectiveness.

Hydro Ottawa's total operating costs are reported every year to the OEB and benchmarked against other distribution companies in Ontario. In the last year of publicly available data collected by the OEB, Hydro Ottawa's total operating cost per customer was **\$249**. This was, and historically has been, lower than the average Ontario distribution company cost of **\$304** per customer.

Six Largest Provincial Distributors: Operating Cost per Customer (\$)

Source: 2017 OEB Yearbook of Electricity Distributors



The choices Hydro Ottawa makes in its operating budget are primarily driven by technical analysis and expert assessments of best practices.

As promised earlier, this workbook does not ask questions that expect you to be an electricity expert.

The OEB runs an open and transparent review process where experts from the OEB and intervenor groups review and have the opportunity to question Hydro Ottawa's analyses and assessments. Anyone, including you are welcome to participate in the OEB process.

Representative Workbook

Approach to Bringing Customer Views into Plans

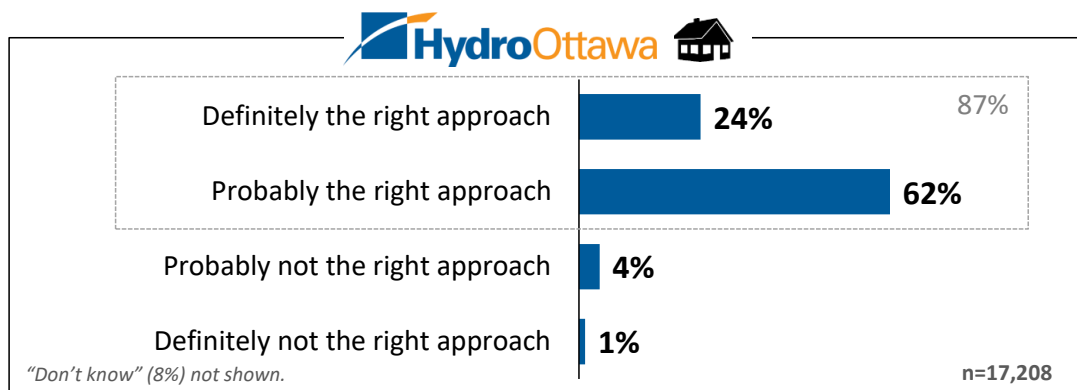
Residential



This workbook leaves detailed discussion of Hydro Ottawa's operating budget to experts from the OEB and intervenors in the formal OEB review; the workbook focuses on collecting your views on competing trade-offs in investments.

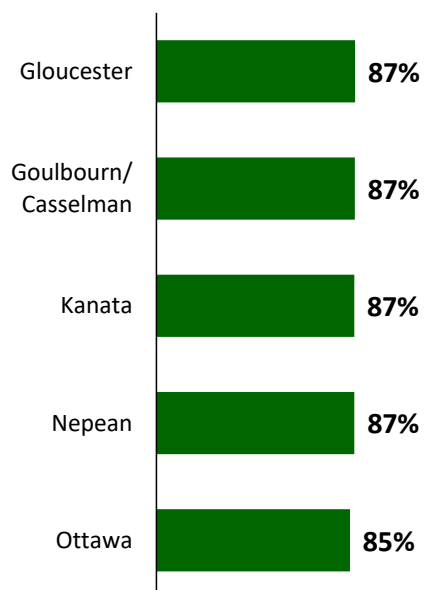
Q

Does this customer engagement process seem like the right approach to bring customer needs and preferences into Hydro Ottawa's plan?



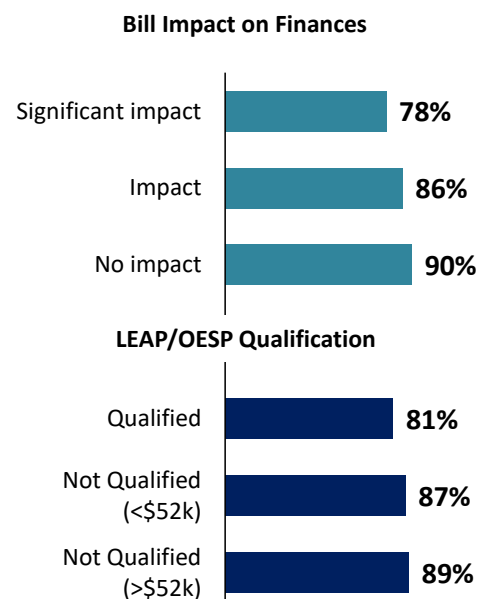
Regional Segmentation

Respondents who say "Right approach"



Vulnerable Customer Segmentation

Respondents who say "Right approach"



Representative Workbook

Residential



36

Changes to Approach to Bringing Customer Views into Plans

Q

Are there things that you would change about how Hydro Ottawa brings customer needs and preferences into Hydro Ottawa's plan? If so, what would you change?

Additional Feedback (n=3,385) 80% of respondents did not provide additional feedback	%
Continue customer engagement; ensure accessibility and representation	11%
Reduce cost/cost too high/minimize increase	6%
Critical of survey - too long/complex	5%
Ensure accountability/transparency	5%
Prioritize environment - alternatives, renewables, sustainability, carbon neutral operations, conservation etc.	4%
Follow up on survey; share results; prove customers were listened to	4%
Issue with rest of system (transmission, generation, policy, etc.)	4%
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	3%
Happy with service; keep up good work	3%
Alternative financing (e.g. developers, gov't, dividend to City, etc.)	3%
Customer education is important	2%
Need more information/have outstanding questions/defer to experts	2%
Appreciated survey/opportunity to give feedback; informative	2%
Demo-based rates/support - income brackets, seniors, big users, conservers, etc.	2%
Increase should not exceed inflation/cost of living	2%
Ontario rates are highest; model off/compare to systems outside Ontario	2%
Investment should be well thought out	2%
Prioritize reliability	2%
Eliminate/adjust Time of Use	1%
Reduce/eliminate delivery charge	1%
Other	4%
None	27%
Don't Know	3%

Representative Workbook

Non-discretionary expenditures

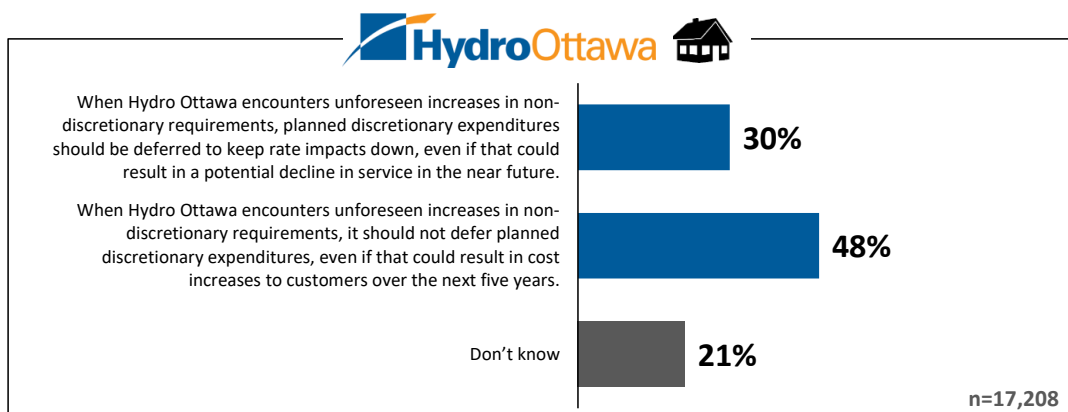
Residential



As federal, provincial and municipal demands change, Hydro Ottawa may need to implement unplanned, non-discretionary expenditures. It has a decision to make about how to accommodate unexpected non-discretionary spending which could impact other planned priorities.

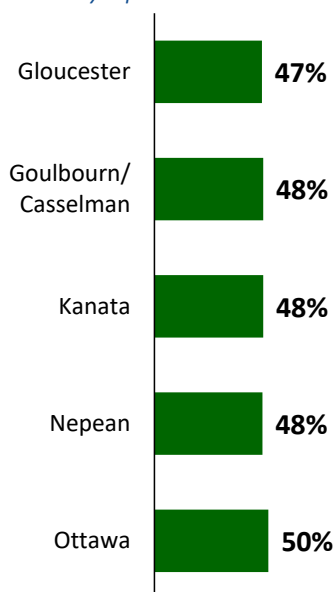
Q

Which of the following statements best represents your point of view regarding Hydro Ottawa's approach to discretionary and non-discretionary spending?



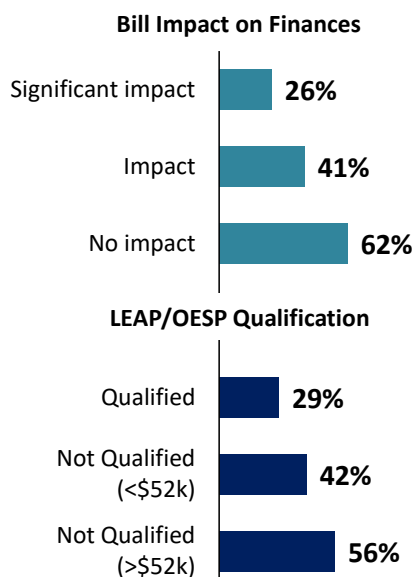
Regional Segmentation

Respondents who say "Do not defer planned discretionary expenditures"



Vulnerable Customer Segmentation

Respondents who say "Do not defer planned discretionary expenditures"



Representative Workbook

Residential



38

Additional Feedback: Non-discretionary expenditures

Q

Additional Feedback (Optional)

Additional Feedback (n=3,085) 82% of respondents did not provide additional feedback	%
There should already be a contingency plan/budget; rates shouldn't be affected	12%
Alternative financing (eg. developers, new connects, gov't, cause of expenditure, etc.)	9%
Service/reliability is more important than cost (within reason)	8%
Investing now leads to reduced future costs	7%
Depends on context; assess case-by-case	7%
Balance of options 1 and 2	7%
Plan better; there should be nothing 'unforeseen'	6%
More context required to answer	4%
Transparent communication/consultation in the event of increase/unforeseen expenditure	4%
Depends on the size of the increase	3%
Skeptical/critical (of question/options/survey)	2%
Ensure impact of decisions are fully understood/justified (eg. cost vs benefit, short vs long-term, etc.)	2%
Manage better; make do without increase or decline in service	2%
Keeping rates low is priority #1/minimize increases	2%
Reduce salaries/employee bonuses/pay from profits	2%
Lower rates	2%
Demo-based rates/supports (income brackets, seniors, usage, etc.)	1%
Survey/question too long/difficult to understand	1%
Prioritize environment - do not defer green investment	1%
Prioritize operational efficiency/minimize spending	1%
Short-term increases are fine, but should decrease in the long-term	1%
Bury lines to save in the long run	1%
Decision making should be long-term/future oriented	1%
Other	9%
Nothing	4%
Don't Know/ Refused	2%

Representative Workbook

Residential



39

Pacing investments in the overhead distribution system

Hydro Ottawa is considering three options for continued investment in the overhead distribution system:

- 1. Accelerated Approach:** Increased replacement of aging overhead transformers, switches, and poles to catch up and get ahead of growing number of poles at, or beyond, their end-of-life.
- 2. Included in Draft Plan:** Defer catch up in aging infrastructure to manage rate impact. Modest decrease of approximately \$1M per year in renewal of overhead infrastructure from 2016 to 2020 levels. Move to more targeted renewals of specific poor condition assets and less full renewals of broad areas.
- 3. Reduced Approach:** Deferral of proactive switch renewal, and pole replacement. Move to replacement of only critical assets.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.04 per bill each year (\$0.20 more per bill by 2025)	<ul style="list-style-type: none"> Increasing the replacement levels to address higher-risk assets, such as poles, which are at or near end-of-life. Increasing investments in switches to enhance operational efficiency. Reducing requirement for emergency renewals.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Moderate slowing of asset replacement. Increased future costs to catch up on expected end-of-life infrastructure. Some increase in emergency renewal replacements, significant increase not expected for next five years. Minor increases in customer impact as targeted and emergency renewals will result in more piecemeal replacements.
Reduced Approach <u>Decrease</u> of \$0.03 per bill each year (\$0.15 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Degradation in system reliability due to lower switch renewal. Switch failures typically occur on operation, resulting in longer restoration times. Moderate increases in targeted and emergency renewal, possibly resulting in multiple service visits in certain areas.

Representative Workbook

Residential

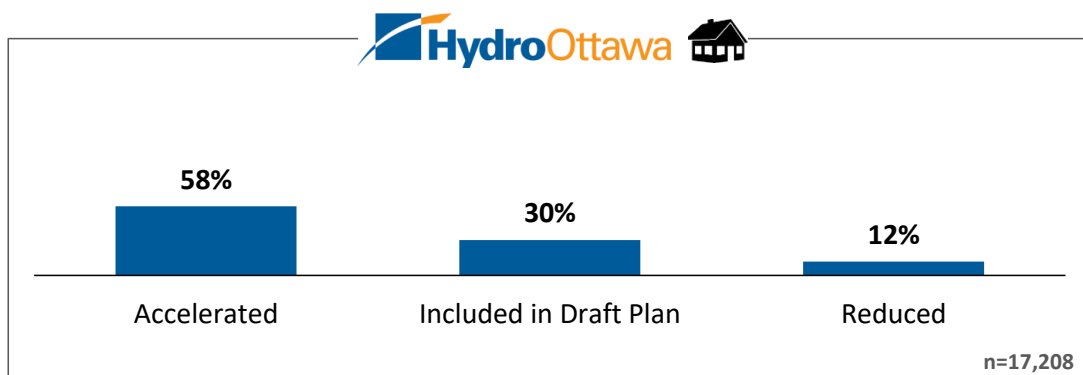


40

Pacing investments in the overhead distribution system

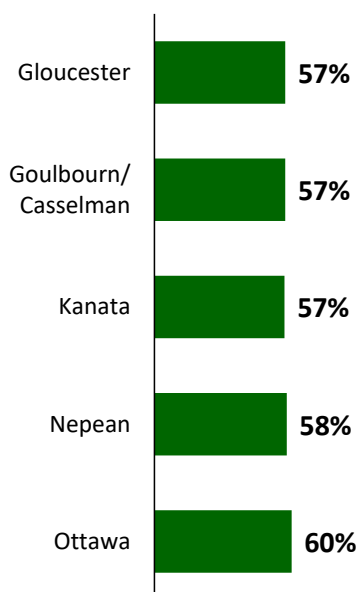
Q

Which of the following options do you prefer?



Regional Segmentation

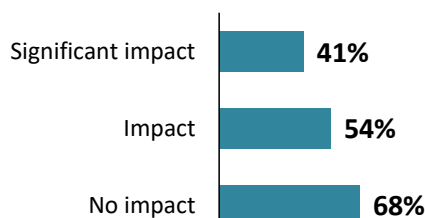
Respondents who say "Accelerated Approach"



Vulnerable Customer Segmentation

Respondents who say "Accelerated Approach"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Additional Feedback: Overhead

Residential



41

Q

Additional Feedback (Optional)

Additional Feedback (n=2,225) 87% of respondents did not provide additional feedback	%
Move lines underground	22%
Investing now leads to reduced future cost; proactive > reactive	12%
Critical of question/options presented	7%
Maintaining/upgrading system is important	6%
Need more information/have outstanding questions/defer to the experts	5%
Increase nominal/worth it	5%
Alternative financing (eg. developers, new builds, big businesses, partnerships, etc.)	5%
Invest in pole/cable tech	4%
Harden system against climate change/extreme weather	4%
Oppose any increase; cost too high already	3%
Prioritize finding efficiencies; minimize increase	2%
Safety/reliability is crucial	2%
Demo-based rates/supports (income brackets, seniors, urban vs rural, usage, etc.)	2%
Hydro Ottawa should have planned better	2%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Increase should not exceed inflation/cost of living	1%
Stronger infrastructure is worth paying more	1%
Plan for the future (including EVs, urban growth/densification, emergency preparedness etc.)	1%
Other	10%
None	7%

Note: Don't know: <1%

Representative Workbook

Residential



Pacing investments in the underground distribution system

42

Hydro Ottawa is considering four options when it comes to underground cable renewal:

- 1. Accelerated Approach:** Renewal of aging assets with increased spending directed to underground transformers and cables.
- 2. Enhanced Approach:** Renewal of aging assets with increased spending targeted for cable replacement.
- 3. Included in Draft Plan:** Balanced investment, defer catch up in replacement of aging infrastructure to manage rate impact. Continued and modest increases in proactive replacement of assets at higher risk of failure.
- 4. Reduced Approach:** Defer any increase in proactive asset replacement, moving to only critical repairs of the system.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.14 per bill each year (\$0.70 more per bill by 2025)	<ul style="list-style-type: none"> Increasing proactive replacement of aging infrastructure with a focus on transformer and cable replacement. Reduced asset risk and future investment to catch up. Accelerating asset renewal enabling rapid roll out of increased system capacity (EVs) and improved operations (faster restoration when outages occur). Reliability improvements reducing frequency and duration of outages. Reducing maintenance costs related to oil leaks.
Enhanced Approach <u>Additional</u> \$0.07 per bill each year (\$0.35 more per bill by 2025)	<ul style="list-style-type: none"> Replacing aging cables to reduce failure risk, with slowed investment in other underground infrastructure such as switches, and transformers. Manageable future investment will be required to catch-up. Increased rate of cable replacement will provide some improvements in asset failure and outage frequency.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Moderate rate of asset replacement, which is still higher than the 2016-2020 program Manageable level of future investment required to catch-up. Maintenance of system reliability with minor impact in service reliability.
Reduced Approach <u>Decrease</u> of \$0.07 per bill each year (\$0.35 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Potential reduction on system reliability with increasing outages in specific areas due to cable failures.

Representative Workbook

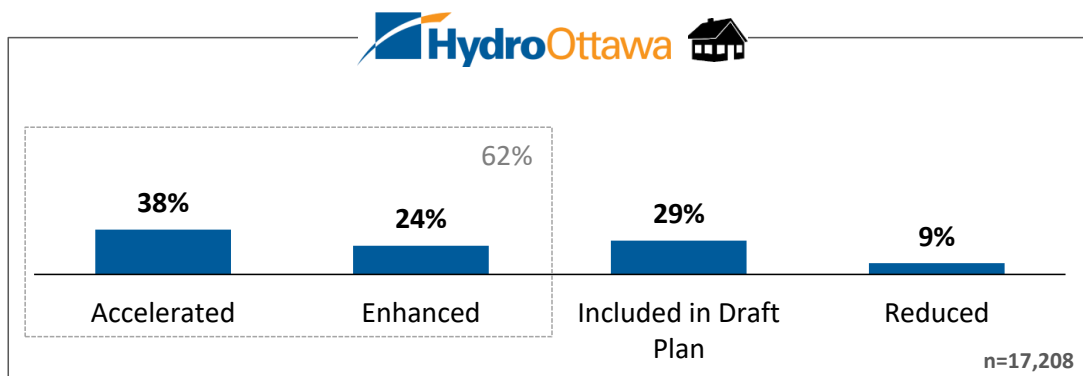
Residential



Pacing investments in the underground distribution system

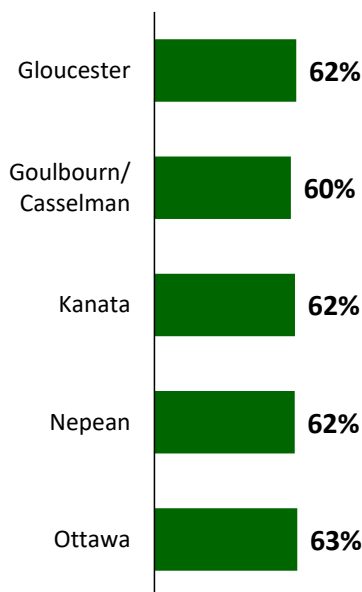
Q

Which of the following options do you prefer?



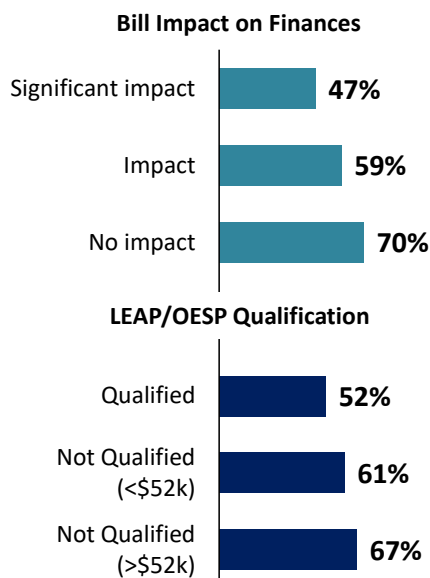
Regional Segmentation

Respondents who say "Accelerated or Enhanced"



Vulnerable Customer Segmentation

Respondents who say "Accelerated or Enhanced"



Representative Workbook

Additional Feedback: Underground

Residential



44

Q

Additional Feedback (Optional)

Final Comments (n=1,404)	%
92% of respondents did not provide additional feedback	
Investing now leads/should lead to reduced future cost; proactive > reactive	8%
Move lines underground	8%
Increase nominal/worth it	7%
Need more information/have outstanding questions	7%
Critical of question (eg. Insufficient options, leading, biased, etc.)	7%
Maintenance/replacement planning should have been done/lack of foresight	4%
Reliability/Safety is priority	4%
Prioritize finding efficiencies; minimize increase	3%
Research/investment in cabling technology necessary	3%
Harden system against worsening weather by burying cables	3%
Maintaining/upgrading the system is important	2%
Moderate/gradual approach preferred/target critical areas first/as they fail	2%
Decide based on positive ROI/cost-benefit analysis	2%
Plan for future (eg. EV adoption, urban development, future demands, emerging tech, etc.)	2%
Oppose any increase; cost too high already	2%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Only those affected should pay	2%
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	2%
More transparency/accountability/don't trust	1%
Coordinate with other companies/utilities to share costs	1%
Lower rates should be a priority	1%
Not qualified to respond/use experts	1%
Pay from profits/savings/not from customers	1%
Demo-based rates/supports (income brackets, seniors, urban vs rural, usage, EV adopters, etc.)	1%
Too expensive/unnecessary/defer for now	1%
Make do with less than 2.5%	1%
Consider environment/risk assessment necessary	1%
Other	10%
None	9%

Note: Don't know: <1%

Representative Workbook

Overhead/Underground Investments by Service Type

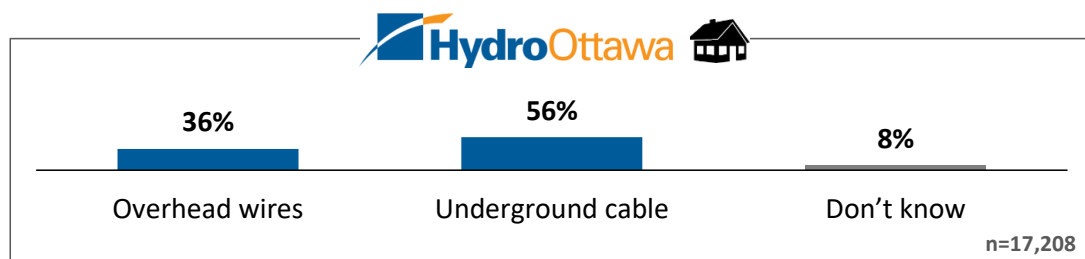
Residential



45

Q

To the best of your knowledge, how does your home receive electrical service?



Q

Pacing investments in the overhead distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	58%	61%	58%
Included in Draft Plan	30%	28%	31%
Reduced Approach	12%	10%	11%

Q

Pacing investments in the underground distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	38%	37%	39%
Enhanced Approach	24%	24%	24%
Included in Draft Plan	29%	30%	28%
Reduced Approach	9%	9%	8%

Representative Workbook

Background Information

Residential



Reliability experience

In order to provide feedback on Hydro Ottawa's plans, it's important to understand how the distribution system has performed in the past, as well as what's expected in the future.

A core objective of Hydro Ottawa's 2021-2025 rate application is to maintain current levels of reliability, while making targeted improvements to those areas experiencing below average service.

- The five-year average number of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.02 to 0.84 (total number of annual outages).
- The five year average duration of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.17 to 1.14 (total annual hours).

What is most likely to cause an outage?

Although both the number and duration of outages have decreased compared to the previous five-year average, defective equipment remains the top cause of outages within Hydro Ottawa's control.

That said, in 2018, severe weather presented a unique set of challenges for Hydro Ottawa's distribution system. One section of this consultation will focus on the impacts of severe weather, and the options for preparing the distribution system for more frequent and extreme weather.

Causes of Unscheduled Power Outages (five-year average: 2014 to 2018)



10%

Animal Contact: outages caused by animals such as birds and squirrels coming in contact with overhead power lines or transformers.



27%

Equipment Failure: unscheduled power outages from equipment failure usually occur with distribution assets that are beyond or approaching the end of their expected useful lives.



24%

Weather Related Events: adverse weather such as heavy rain, lightening, ice, snow, wind, extreme temperatures, freezing rain and frost can disrupt the distribution system.



39%

Other: includes tree contact (10%), and human interference (11%) (such as construction workers accidentally cutting power lines or motor vehicle accidents involving contact with distribution assets). 9% of outages are unknown, but most likely caused by animal contact.

Note: statistics do not include loss of supply from Hydro One.

Representative Workbook

Reliability Experience

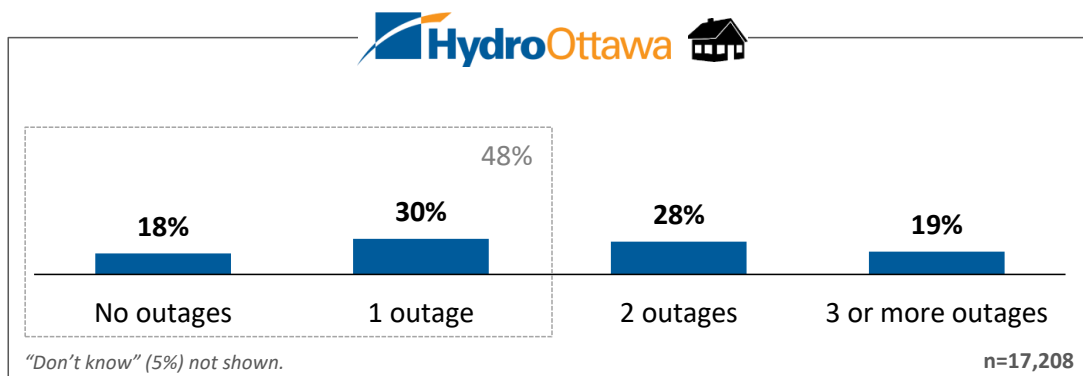
Residential



47

Q

Have you experienced any power outages at your home in the past 12 months which lasted longer than one minute?



Number of Outages	Gloucester	Goulbourn/ Casselman	Kanata	Nepean	Ottawa
No outages	19%	5%	13%	7%	31%
1 outage	29%	18%	30%	31%	34%
2 outages	27%	34%	30%	32%	21%
3 or more outages	20%	39%	21%	26%	8%
One or fewer outages	48%	23%	43%	38%	65%

Representative Workbook

Reliability Investments

Residential



48

Hydro Ottawa is considering four options when it comes to reliability investments:

- 1. Accelerated Approach:** Build power lines/new connections between substations to improve reliability. Enhance monitoring of substation and distribution equipment.
- 2. Included in Draft Plan:** Only build critical connections between substations. Enhance monitoring of station and distribution equipment.
- 3. Limited Approach:** Improve reliability for neighbourhoods experiencing the most frequent number of power outages. Enhance monitoring of substation and distribution equipment.
- 4. Reduced Approach:** Only improve reliability for neighbourhoods experiencing the most frequent number of power outages.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.02 per bill each year (\$0.10 more per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Increase system resilience and performance through addition of connections on distribution network. Supports reduction in outage duration. Target investments to areas that have below average reliability.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Maintain system resilience and performance through addition of connections on distribution network. Maintains outage duration at current levels. Target investments to areas that have below average reliability.
Limited Approach <u>Decrease</u> of \$0.04 per bill each year (\$0.20 less per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Target investments to areas that have below average reliability.
Reduced Approach <u>Decrease</u> of \$0.05 per bill each year (\$0.25 less per bill by 2025)	<ul style="list-style-type: none"> Target investments to areas that have below average reliability. No investment to improve/enhance reliability.

Representative Workbook

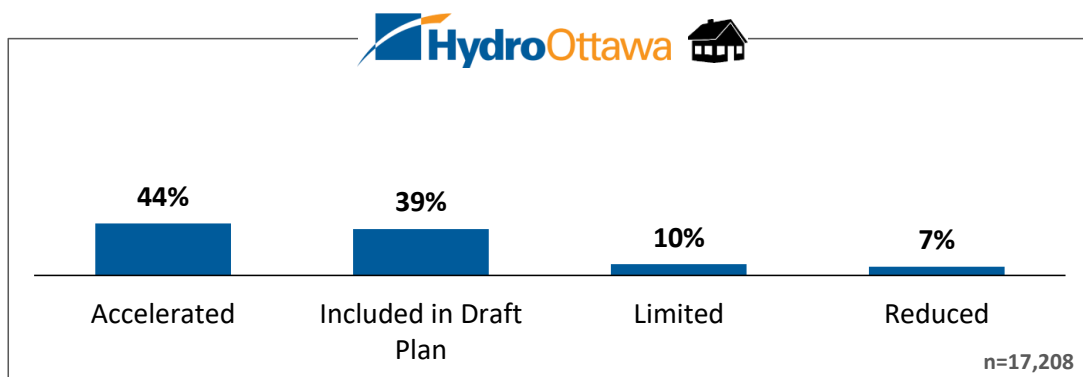
Reliability Investments

Residential



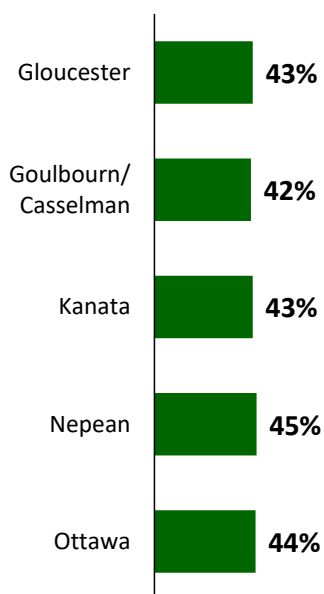
Q

Which of the following options do you prefer?



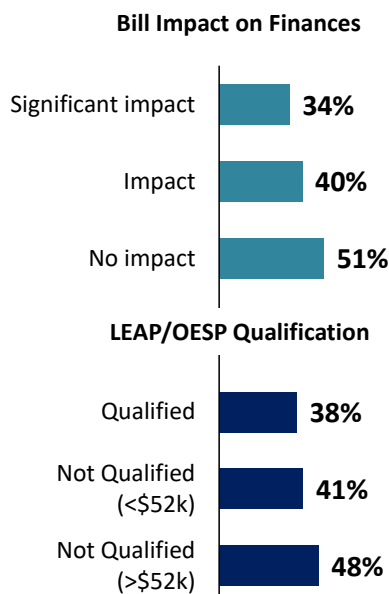
Regional Segmentation

Respondents who say "Accelerated"



Vulnerable Customer Segmentation

Respondents who say "Accelerated"



Representative Workbook

Additional Feedback: Reliability Investments

Residential



50

Q

Additional Feedback (Optional)

Additional Feedback (n=982)	%
94% of respondents did not provide additional feedback	
Reliability/short outage duration is priority #1	16%
Critical of question/options presented/biased/leading question	9%
Increase nominal/worth it	7%
Current reliability is adequate	6%
Prioritize hardening system against worsening weather	5%
Oppose any increase; cost too high already	5%
Investing now leads to reduced future cost; proactive > reactive	5%
Need more information/have outstanding questions	5%
Prioritize finding efficiencies; minimize increase	4%
Maintaining/upgrading system is important	4%
Move lines underground	4%
Alternative financing (eg. developers, new builds, big businesses, partnerships, etc.)	2%
Plan for future needs (eg. Increasing demand, EV adoption, etc.)	2%
Demo-based rates/supports (income brackets, seniors, urban vs rural, usage, etc.)	1%
Maintenance/replacement planning should have already been done/lack of foresight	1%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	1%
Other	6%
None	8%
Don't Know	3%

Representative Workbook

Background Information

Residential



51

Preparing for potential increases in severe weather

Hydro Ottawa's distribution system is designed to withstand environmental stresses and impacts, however, weather-related outages have been increasing in terms of frequency and severity over recent years. During 2018 there were three major events which, combined, resulted in system asset replacements of approximately \$4M.

In addition to impacting Hydro Ottawa's equipment, these events increase the resources required to safely and quickly respond to the storm damage and coordinate and communicate restoration efforts to customers.

Hydro Ottawa is currently in the process of completing a climate change vulnerability assessment to determine what steps should be taken to mitigate the impacts of changing climates. While the recommendations from this assessment have not yet been finalized, there are a number of steps Hydro Ottawa could consider taking to prepare for an increasing frequency of severe weather events. For example, changing pole replacement practices and standards would increase overhead structure strength and provide greater clearances from trees and vegetation.

Hydro Ottawa wants to know what your preferences are with respect to making investments in system resilience for severe weather that may or may not materialize over this rate period.



Representative Workbook

Preparing for potential increases in severe weather

Residential



52

Q

Which of the following options do you prefer?



I would be willing to pay \$0.05- \$0.10 more per monthly bill by 2025 for Hydro Ottawa to take measures to prepare for severe weather that may or may not occur.

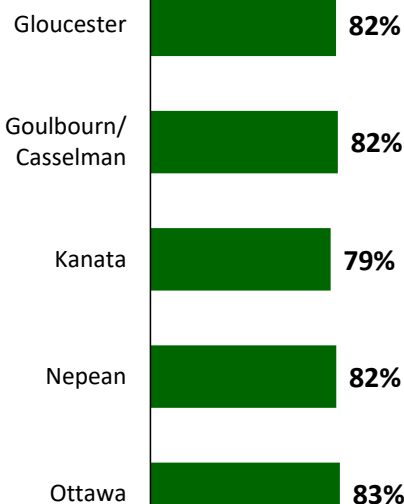
82%

Hydro Ottawa should not invest in measures to prepare for severe weather that may or may not occur.

18%

Regional Segmentation

Respondents who say "Willing to pay more to take measures to prepare for severe weather"



Vulnerable Customer Segmentation

Respondents who say "Willing to pay more to take measures to prepare for severe weather"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Additional Feedback: Severe Weather

Residential



53

Q

Additional Feedback (Optional)

Additional Feedback (n=2,182)	%
87% of respondents did not provide additional feedback	
Preparing for severe weather is important/worth the cost	12%
Critical of question - insufficient options	9%
Worsening weather is inevitable AND we must be prepared	9%
Move lines underground	8%
HO should have already been preparing/ customer already paying for this	6%
Need more information/ have outstanding questions/defer to experts	6%
Worsening weather is inevitable	5%
Alternative financing - salaries, profits, City dividend, etc.	5%
Reliability is crucial; need outweighs cost	3%
No use/unable to predict and/or prepare for worsening weather	3%
Investing now leads to reduced future costs; proactive > reactive	3%
Demand transparency/accountability in spending of this fund	2%
Fund must be untouchable/carried over year-year until needed	2%
Manage/prepare without increase	2%
Worsening weather is not a problem	2%
Ensure fiscal responsibility and good management	2%
Focus on tree maintenance	1%
Smaller/minimize increase	1%
Gov't/City should step in and pay for severe weather events	1%
Invest in alternative energy sources	1%
Unused funds should go back to customer/into the system	1%
Demo-based rates (income bracket, seniors, consumption, region, etc.)	1%
Reduce cost	1%
Increase is nominal/worth it	1%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	1%
Other	4%
None	7%

Note: Don't know: <1%

Representative Workbook

Background Information

Residential



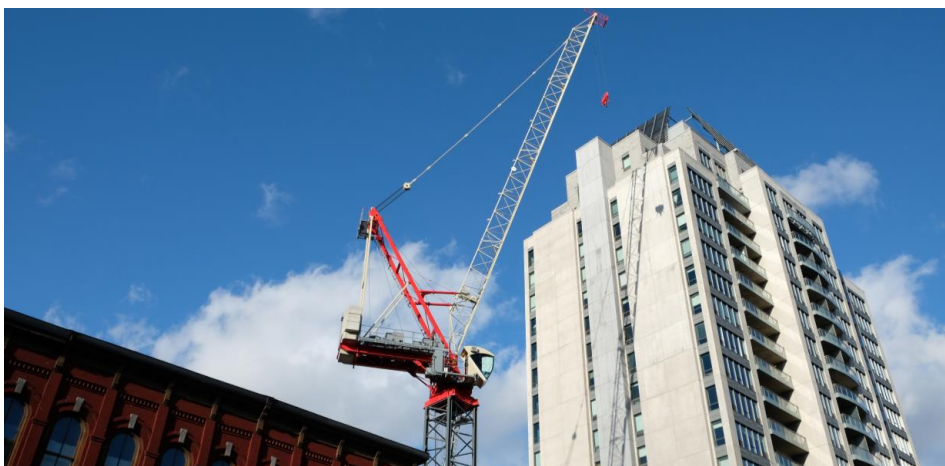
54

Serving a growing city

The population in Hydro Ottawa's service territory continues to grow. Hydro Ottawa must be prepared to serve new customers, while maintaining acceptable levels of service for existing customers. This means regularly assessing the capacity and reliability of its distribution system and its resilience to extreme weather events, and taking action when gaps are found.

A number of Hydro Ottawa's substations are approaching capacity and cannot accommodate future customer growth. Delaying planned investments could result in a decline in reliability for existing customers.

Hydro Ottawa's current plan only includes critical capacity investments; however, there is also an option to make further investments to get ahead of the growing demand for electricity supply.



Option	Outcome
Accelerated Approach Additional \$0.09 per bill each year (\$0.45 more per bill by 2025)	<ul style="list-style-type: none"> • Increase distribution system capacity investment to meet and exceed growing demand for electricity supply. • Distribution system capacity is moved ahead of the demand for electricity, eliminating reliability risk during peak demand days.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> • Slow distribution system capacity to critical investment only. • Distribution system capacity maintains pace with demand for electricity, or slightly lagging. No impact on ability to connect customers. • Results in modest increase to risk in reliability to areas of growth and increased risk of longer outages or inability to restore power to some customers if outages occur on peak demand days.

Representative Workbook

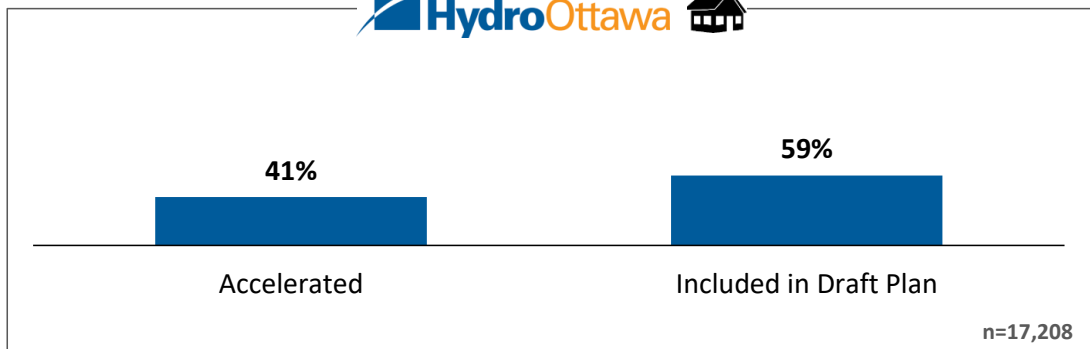
Serving a growing city

Residential



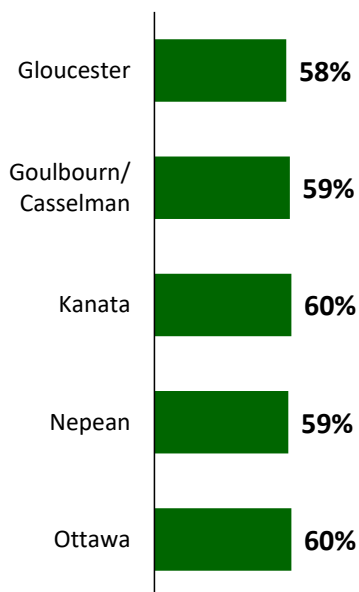
Q

Which of the following options do you prefer?



Regional Segmentation

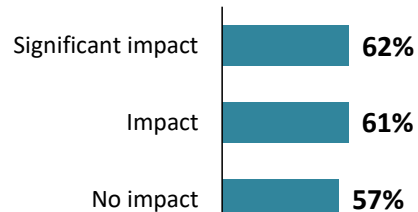
Respondents who say "Included in Draft Plan"



Vulnerable Customer Segmentation

Respondents who say "Included in Draft Plan"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Additional Feedback: Serving a growing city

Residential



56

Q

Additional Feedback (Optional)

Additional Feedback (n=1,803)	%
90% of respondents did not provide additional feedback	
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	32%
Plan for the future (including EVs, urban growth/densification, emergency preparedness etc.)	12%
Demo-based rates/supports (income brackets, seniors, urban vs rural, usage, etc.)	8%
Critical of question (insufficient options, biased, leading, etc.)	6%
Oppose any increase; cost too high already	6%
Investing now leads to reduced future cost; proactive > reactive	4%
Focus on conservation/energy efficiency vs. increased supply	4%
Safety/reliability is crucial	3%
Need more information/have outstanding questions	3%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Prioritize finding efficiencies; minimize increase	2%
Invest in existing infrastructure/not future needs	2%
Concerned about all these increases/costs adding up	1%
Increase nominal/worth it	1%
Research/Invest in methods of distribution;/self-generation/decentralisation	1%
Other	5%
None	6%
Don't Know	3%

Online Workbook

Background Information

Residential



57

Innovation: Investing for the future

Electricity distribution service is in the midst of unprecedented change – evolving towards a more decentralized, customer-centric, technologically-advanced and environmentally sustainable model.

Hydro Ottawa plans to continue engaging in research and development activities which offer value to its customers. This includes supporting the connection of Distributed Energy Resources (DERs). This small scale generation is connected to the grid close to the communities they serve. Hydro Ottawa's Great DR – phase two project (currently known as MiGen), where customers generate their own power and store what's not immediately used, is an example of innovation that is incorporated into the 2021-2025 plan.

Hydro Ottawa has also been actively involved in assessing and addressing customer needs within the emerging electric vehicle market, as well as, participating in a Battery Energy Storage Project, as part of the Smart Grid Program.

Looking forward, opportunities to develop new rate models and explore new energy services will offer customers more choice and control over their electricity needs.



Representative Workbook

Innovation: Investing for the future

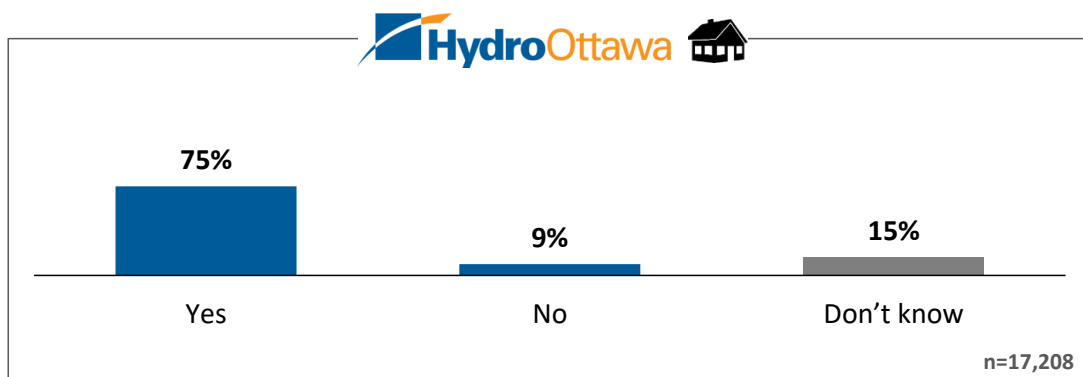
Residential



58

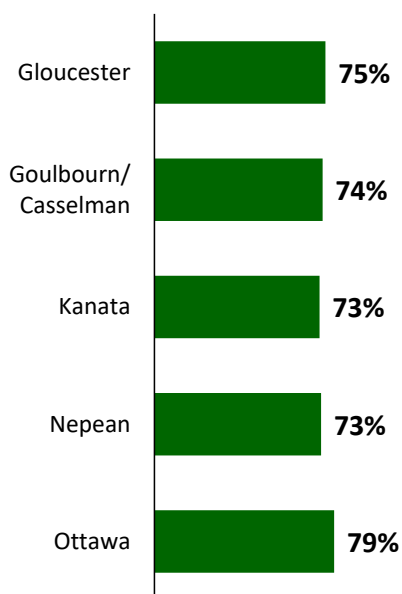
Q

Do you support Hydro Ottawa's strategy of leading change and engaging in industry projects that could shape the future of the energy marketplace?



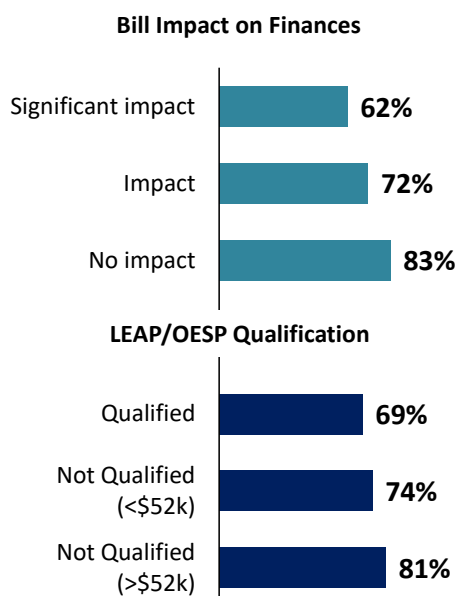
Regional Segmentation

Respondents who say "Yes"



Vulnerable Customer Segmentation

Respondents who say "Yes"



Representative Workbook

Innovation: Investing for the future

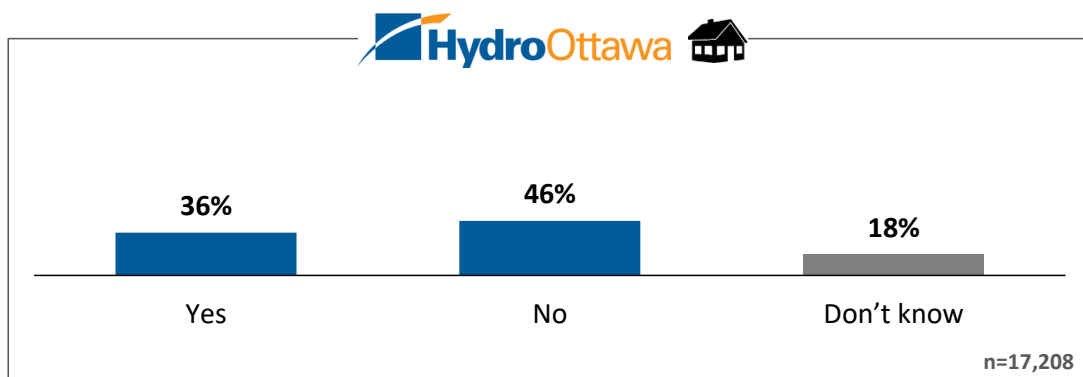
Residential



59

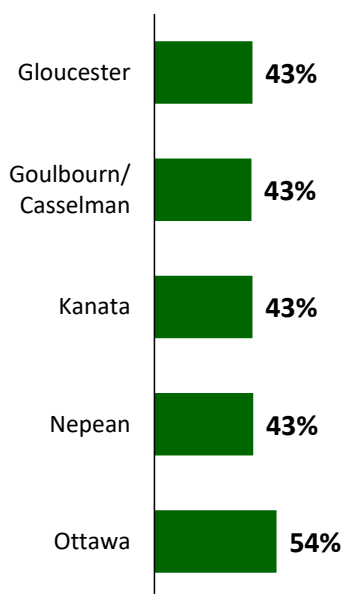
Q

Do you believe Hydro Ottawa should limit expenditures to those necessary to serve today's customers and existing needs, if this option could lower rate impacts in the short term?



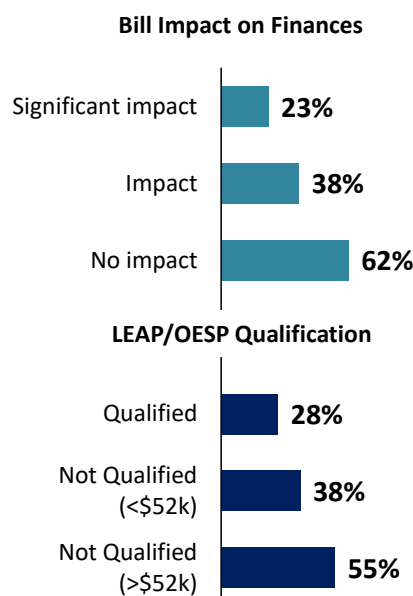
Regional Segmentation

Respondents who say "No"



Vulnerable Customer Segmentation

Respondents who say "No"



Representative Workbook

Residential



60

Additional Feedback: Innovation: Investing for the future

Q

Additional Feedback (Optional)

Additional Feedback (n=1,891) 89% of respondents did not provide additional feedback	%
Plan for future (urban growth, EV adoption, future demand, etc.)	11%
Critical of question (insufficient options, confusing, contradictory, biased, etc.)	9%
R&D, innovation is important/worth it	8%
Support alternative/renewable energy	6%
Allow opt-in funding/those interested should pay	6%
Alternative financing - partnerships, developers, gov't, dividends, etc.	5%
Support local generation and/or storage (decentralization, MiGen)	4%
Need more information/have outstanding questions	4%
Reduce rates; keep costs low	3%
Respond to markets (EV, emerging tech/innovations, etc.)	3%
Skeptical of/opposed to 'green' tech/EVs	3%
Be a leader; stay ahead/on the cusp	3%
Decide after thorough assessment (priorities, value, impact, etc.)	3%
Support investment IF it results in reduced cost	3%
Find a balance - neither lead nor lag; prudence	3%
Investing now will reduce future costs; proactive > reactive	2%
Demo-based rates (income brackets, business vs residential, those affected, etc.)	2%
Low priority/not interested/limit spending here	2%
Not worth increased rates	2%
Stay in your lane (distribution); others more qualified to research	1%
Support EVs	1%
Focus on present needs	1%
Other	7%
None	7%

Online Workbook

Background Information

Residential



61

Keeping the business running

Hydro Ottawa is more than just poles and wires – it's a business that needs to invest in tools, trucks, equipment, and facilities to maintain the distribution system and service its customers.

The types of expenditures in this category are:

- **Information Technology:** Systems required to securely operate the distribution system, manage customer information and privacy, and keep employees working effectively and efficiently.
- **Vehicles:** Bucket trucks and other vehicles used to move employees, equipment, and supplies throughout Hydro Ottawa's service territory to support the safe and reliable operation of the grid.
- **Facilities:** Warehouse, operations centres and administrative office.
- **Tools and Equipment:** Specialized safety tools and equipment to mitigate the risks associated with maintaining electricity distribution infrastructure.

When deciding whether to continue to maintain existing tools or replace them, Hydro Ottawa considers whether the risks and costs of continuing to use them outweighs the benefits of waiting longer to replace them. Hydro Ottawa must also consider the lead times required to replace some utility vehicles, such as bucket trucks, which can be as long as 18 months.



Representative Workbook

Keeping the business running

Residential



62

As a company, Hydro Ottawa needs equipment to maintain its distribution system and IT systems to manage the distribution system and customer information.

Q

Which of the following statements best represents your point of view?



Hydro Ottawa should find ways to make do with the business equipment it already has.

17%

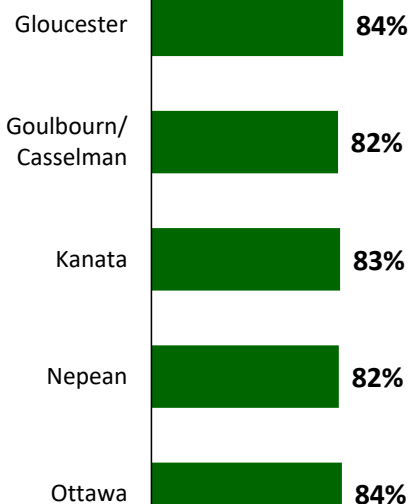
Hydro Ottawa should make the investments necessary to ensure its staff has the equipment they need to manage the distribution system efficiently and reliably.

83%

n=17,208

Regional Segmentation

Respondents who say "Hydro Ottawa should make the investment necessary"



Vulnerable Customer Segmentation

Respondents who say "Hydro Ottawa should make the investment necessary"

Bill Impact on Finances



LEAP/OESP Qualification



Representative Workbook

Additional Feedback: Keeping the business running

Residential



63

Q

Additional Feedback (Optional)

Additional Feedback (n=1,934) 89% of respondents did not provide additional feedback	%
Proper/efficient/up-to-date equipment is important	13%
Critical of question (insufficient/misleading options)	8%
Find balance between the two options (discretion, prudence, 'within reason')	8%
Ensure transparency/accountability of these expenditures	7%
Alternative financing - asset sharing, salaries, profits, internal efficiencies, etc.	7%
Safety (of work crews) is priority #1	6%
Invest when necessary/what's truly needed (need > want)	6%
Investing now leads to reduced future costs; proactive > reactive	4%
Prioritize thorough assessment	4%
Need more information/have outstanding questions	4%
Ensure cyber security	3%
Maximize asset life (regular maintenance, quality products)	3%
This should already be part of the budget/business plan/paid for	2%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Make decisions based on positive ROI/cost-benefit	2%
Ensure operational efficiency	2%
Current service is adequate; make do with what's in budget	2%
Reduce rates/cost	2%
Manage without increasing rates	2%
Minimize increases	1%
Other	6%
None	4%
Don't Know	2%

Representative Workbook

Vehicle replacement

Residential



Q

Which of the following vehicle replacement options do you prefer?



Option 1: Using a run-to-failure approach, replace vehicles only when they can no longer operate, knowing that some larger vehicles require an 18 month lead time to replace. This approach may impact restoration times and efficiency.

10%

Option 2: Make investments in the fleet on a vehicle-by-vehicle basis weighing age, kilometers driven, engine hours, repair history, availability of parts and internal mechanic assessments of the general vehicle condition.

83%

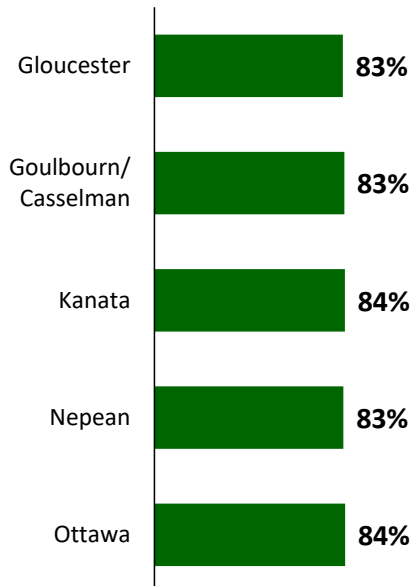
Option 3: Replace vehicles once they have reached the end of their recommended age, regardless of their condition, which is the most expensive and lowest risk option.

7%

n=17,208

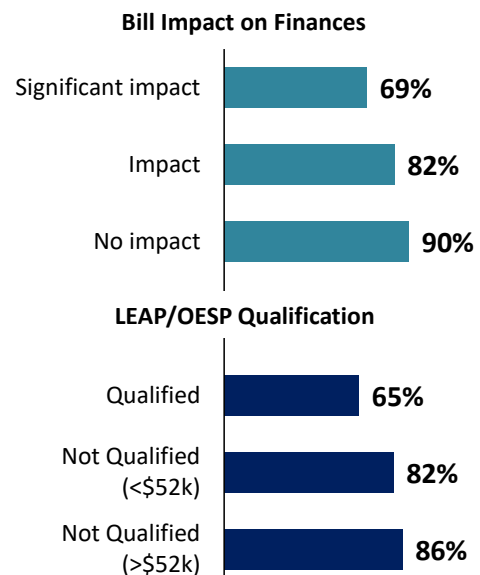
Regional Segmentation

Respondents who say "Option 2"



Vulnerable Customer Segmentation

Respondents who say "Option 2"



Representative Workbook

Additional Feedback: Vehicle Replacement

Residential



65

Q

Additional Feedback (Optional)

Additional Feedback (n=1,272)	%
93% of respondents did not provide additional feedback	
Maximize asset life (eg. no idling, rust protection, regular maintenance, skilled mechanics on staff)	13%
Transition to EV/hybrid/alternative fuel/greener fleet	12%
Critical of life cycle estimates (too low, arbitrary, etc.)	6%
Ensure effective management/planning ahead/budgeting	6%
Critical of question/survey (insufficient options, biased, leading etc.)	6%
Prioritize thorough assessment	5%
Ensure fiscal responsibility - eliminate waste, efficient spending, need > want, etc.	5%
Need more information/have outstanding questions	3%
Support run-to-failure	3%
Make decisions based on cost-benefit /ROI	3%
Prioritize safety/risk management	3%
Defer to the experts	3%
Find balance between options 1 and 2	3%
Sell retired assets	2%
Lease/rent/share the fleet/outsource	2%
Reduce rates/minimize increases	2%
Increase should be paid for by Hydro Ottawa/should have planned better/already budgeted	2%
Have spare assets ready	1%
New equipment necessary/reliable/reduces operating costs	1%
Reduce lead time (18 months seems excessive)	1%
Oppose run-to-failure	1%
Underground lines mean fewer trucks needed	1%
Find balance between options 2 and 3	1%
Explore more options (none quite right)	1%
Alternative financing - salaries, profits, asset sharing, etc.	1%
Make do with current fleet/spending here is low priority/limit spending	1%
Other	6%
None	9%

Note: Don't know: <1%

Representative Workbook

Finding efficiencies through technology investments

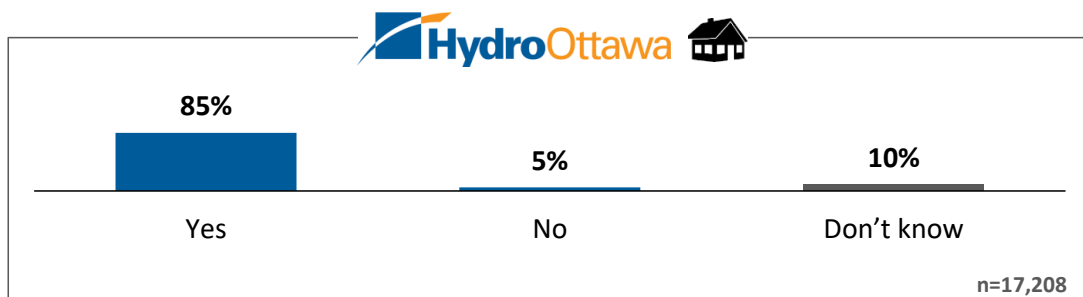
Residential



66

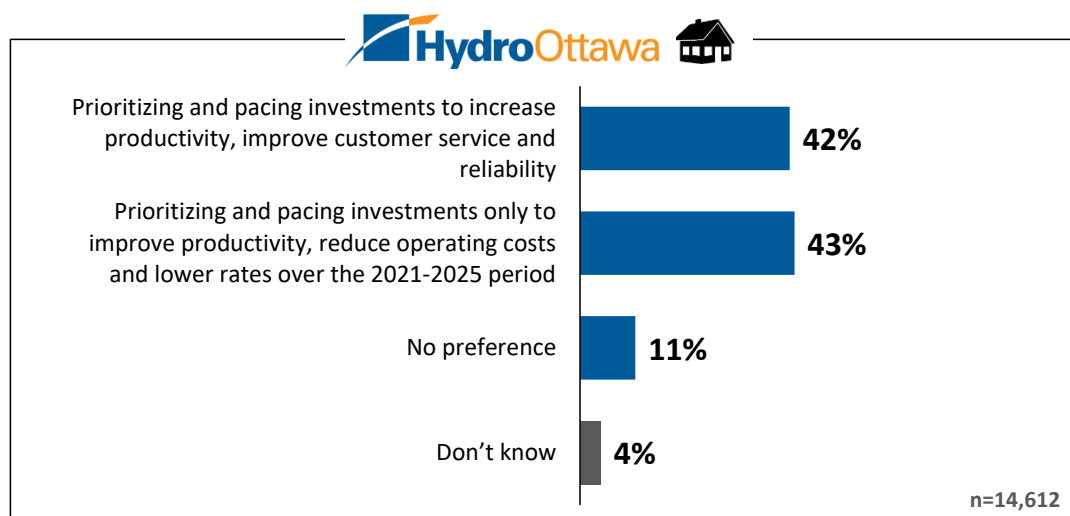
Q

Do you support Hydro Ottawa's view that prudent technological investments are necessary in order to meet its ongoing business and customer needs?



Q

[If yes to above] And which of the following options do you prefer?



Representative Workbook

Residential



67

Additional Feedback: Finding efficiencies through technology

Q

Additional Feedback (Optional)

Additional Feedback (n=1,250)	%
93% of respondents did not provide additional feedback	
Support this investment - general	14%
Need more information	7%
Ensure effective managing/planning/budgeting	6%
Ensure cyber security	4%
'Personalized experience' unnecessary/wasteful/no value	4%
Find a balance between options; assess case-by-case	4%
Critical of question (insufficient options, confusing, misleading, etc.)	4%
Prudence is key; thoughtful investment	4%
Use of 'prudence' here is problematic; leaves questions	4%
Only purchase and implement proven systems to avoid poor technology ie. Phoneix	4%
Keep rates low/minimize increase	3%
Customers service already adequate	3%
No frills on bills - focus simplicity, clarity, predictability	3%
Make do without increase; find efficiencies	2%
Invest in personnel; don't cut jobs	2%
Lack confidence in survey design, questions, or Hydro Ottawa to use the data	2%
Prioritize reliability	2%
Hydro Ottawa should pay cost/make cuts from within	2%
Source alternative, renewable energy or providers/be environment, climate conscientious	2%
Invest IF it leads to reduction in bills/increase in efficiency/productivity	2%
Low priority/limit spending/service is fine	2%
Prioritize a 'green' service', e.g. self-gen	2%
Plan needs to be more strategic, longer than 5 years	1%
Make decisions based on positive ROI/cost-benefit analysis	1%
Improvements needed to website, billing, communicating outages, usage to customers	1%
Alternative financing (e.g.. developers, new builds, big businesses, partnerships, etc.)	1%
Support self-usage-monitoring	1%
Other	5%
None	7%

Note: Don't know: <1%

Representative Workbook

Investment Alternative Summary

Residential



68

Investment Alternative Summary

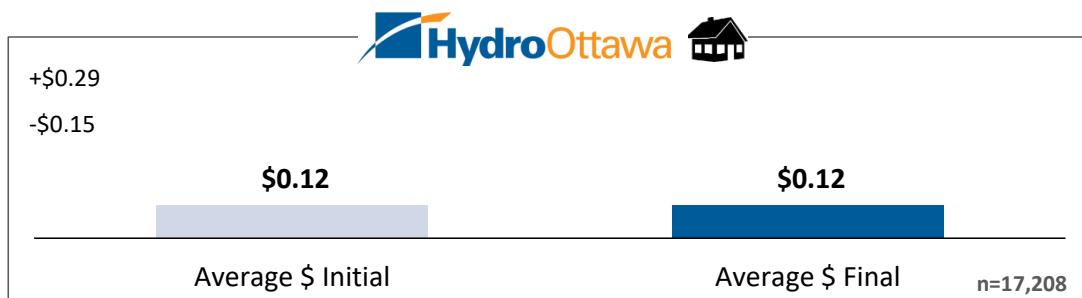
Throughout this workbook, you have been asked about some key choices that could impact your rates. Below is a summary of your answers to the questions that could impact your rates.

At the bottom of this page you will find the total bill impact of all the answers.

Having seen the total bill impact, please review your answers and change your responses if you desire; your potential rate impact will be re-calculated. You will have the opportunity to adjust your answers again until you feel you've reached the best balance for you.



Residential Customer Bill Impact Change and Magnitude of Bill Impact (MEAN)



Differences that are statistically significant at 95% are noted by an asterisk (*).

Initial Response

Monthly Rate Change	%
Maximum decrease (-\$0.15)	4%
Less than zero, less than max decrease	8%
Zero	15%
Great than zero, less than max increase	50%
Maximum increase (+\$0.29)	22%

Final Response

Monthly Rate Change	%
Maximum decrease (-\$0.15)	4%
Less than zero, less than max decrease	9%
Zero	17%
Great than zero, less than max increase	47%
Maximum increase (+\$0.29)	23%

Representative Workbook

Change in Initial Versus Final Response by Project

Residential



69

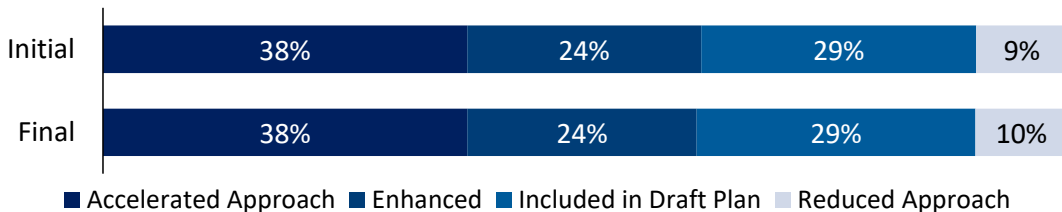
Q

Pacing investments in the overhead distribution system



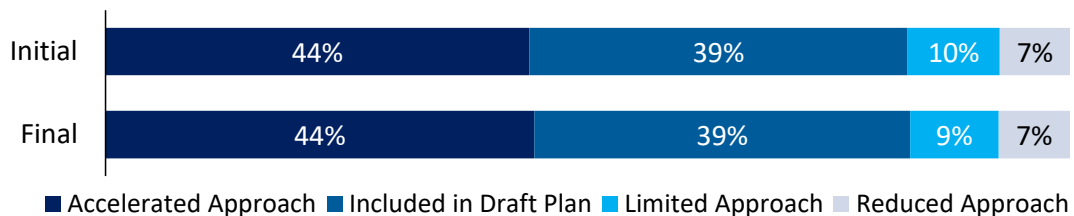
Q

Pacing Investments in the Underground Distribution System



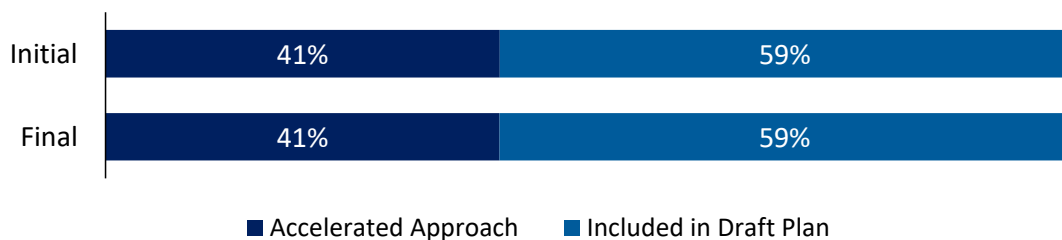
Q

Reliability Investments



Q

Serving a Growing City



Representative Workbook

Impact of Choices on Rates | Preamble

Residential



70

Impact of Hydro Ottawa's Plan

Hydro Ottawa has calculated the rate impact of implementing the options recommended by its planners and included it in its draft plans.

These priorities may change based on your input but Hydro Ottawa is looking for an investment program that aims to:

- **Minimize rate increases;**
- **Maintain reliability and service quality;**
- **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth, and;**
 - **The effects of severe weather events.**
- **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **2.5% per year for the period 2021-2025.**

At the end of the 5-year plan, the typical residential customer would see the distribution portion of their electricity bill increase by **\$3.74**. As a result, the distribution charges on the typical residential customer's monthly bill would increase from **\$28.47 in 2020** to **\$32.21 by 2025**.

Representative Workbook

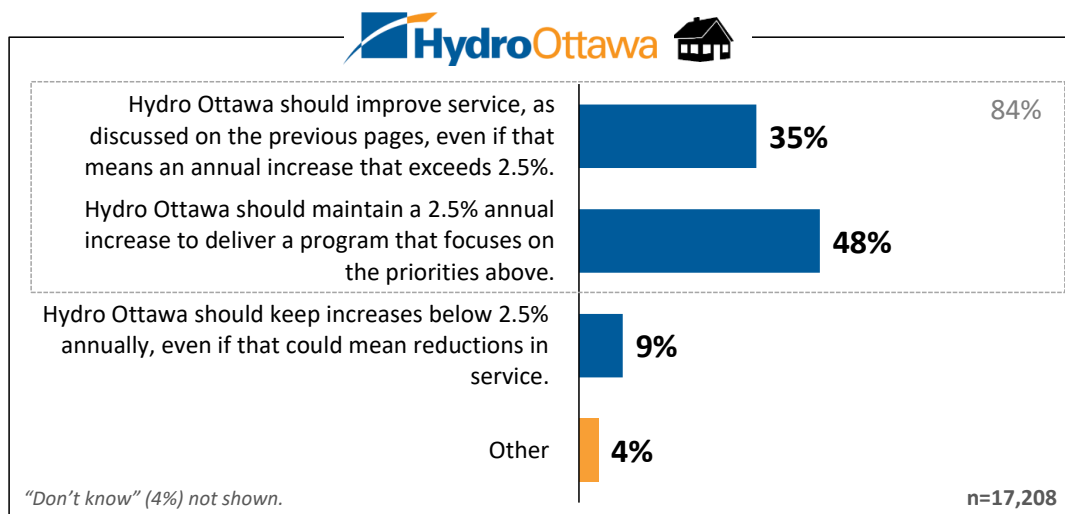
Impact of Hydro Ottawa's Plan

Residential



Q

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?



View of Hydro Ottawa's plan	Gloucester	Goulbourn/Casselman	Kanata	Nepean	Ottawa
Hydro Ottawa should improve services	34%	33%	34%	34%	40%
Stick with 2.5% increase	50%	51%	48%	49%	45%
Keep increases below 2.5%	9%	9%	10%	9%	8%
Other	4%	4%	5%	3%	4%
Don't know	4%	4%	3%	4%	3%
Improve services or stick with 2.5% increase	83%	84%	82%	83%	85%

Representative Workbook

Impact of Hydro Ottawa's Plan

Residential



72

Q

LEAP/OESP Qualification

View of Hydro Ottawa's plan	Total	Qualified	Not Qualified (<\$52k)	Not Qualified (>\$52k)
Hydro Ottawa should improve services	35%	24%	28%	43%
Stick with 2.5% increase	48%	45%	54%	45%
Keep increases below 2.5%	9%	14%	10%	7%
Other	4%	4%	3%	3%
Don't know	4%	13%	5%	1%
Improve services or stick with 2.5% increase	84%	69%	82%	89%

Q

Bill Impact on Finances

View of Hydro Ottawa's plan	Total	Significant impact	Impact	No impact
Hydro Ottawa should improve services	35%	16%	27%	50%
Stick with 2.5% increase	48%	47%	55%	43%
Keep increases below 2.5%	9%	22%	10%	3%
Other	4%	7%	4%	3%
Don't know	4%	8%	4%	2%
Improve services or stick with 2.5% increase	84%	63%	82%	93%

Representative Workbook

Impact of Hydro Ottawa's Plan

Residential



73

Q

Consumption Quartiles

View of Hydro Ottawa's plan	Total	Low	Medium-Low	Medium-High	High
Hydro Ottawa should improve services	35%	33%	35%	36%	37%
Stick with 2.5% increase	48%	49%	49%	48%	46%
Keep increases below 2.5%	9%	10%	9%	8%	9%
Other	4%	4%	3%	4%	4%
Don't know	4%	4%	4%	4%	3%
Improve services or stick with 2.5% increase	84%	82%	84%	84%	84%

Q

Customers are well served by Ontario's electricity system

View of Hydro Ottawa's plan	Total	Agree	Disagree	No opinion/DK
Hydro Ottawa should improve services	35%	37%	25%	32%
Stick with 2.5% increase	48%	49%	43%	45%
Keep increases below 2.5%	9%	7%	17%	9%
Other	4%	3%	10%	4%
Don't know	4%	3%	4%	10%
Improve services or stick with 2.5% increase	84%	87%	68%	78%

Representative Workbook

Final Comments

Residential



74

Q

Now that you have considered the various choices Hydro Ottawa has to make and the cost implications of those choices, do you have any final comments for Hydro Ottawa?

Final Comments (n=3,571) 79% of respondents did not provide additional feedback	%
Happy with service; keep up good work	8%
Skeptical/critical of survey	7%
Reduce cost/cost too high/ minimize increase	6%
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	6%
Appreciated survey/opportunity to give feedback; informative	5%
Maintaining/upgrading system is important	5%
Strong infrastructure is worth paying more; do what it takes	5%
Support the plan - general	4%
More communication/transparency (planned projects, operations, bill breakdown, etc.)	4%
Demo-based rates/support (income brackets, seniors, big users, conservers, etc.)	3%
Prioritize environment - alternatives, renewables, carbon neutral operations	3%
Adjust (exec) salaries to cover increase	2%
Increase should not exceed inflation/cost of living	2%
Issue with rest of system (transmission, generation, policy, etc.)	2%
Alternative financing - developers, govt, profits, internal efficiencies, dividends to city, etc.	2%
Investing now leads to/should lead to reduced future costs	2%
Decision making should be long-term/future oriented	2%
Aim for 2.5% but adjust within reason	2%
Investment should be well thought out	2%
Encourage/incentivize conservation	1%
Prioritize investing in tech	1%
Support accelerated/aggressive approach (within reason)	1%
Encourage self-generation	1%
Eliminate/adjust Time of Use	1%
Move lines underground	1%
Reduce/eliminate delivery charge	1%
Harden system against worsening weather	1%
Other	7%
None	11%

Representative Workbook

Final Thoughts: Workbook Diagnostics

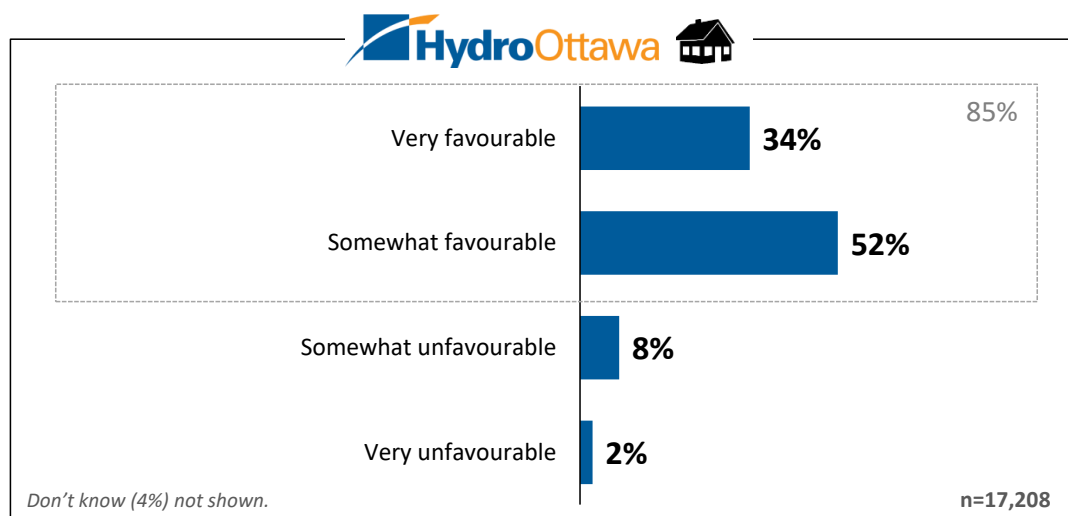
Residential



75

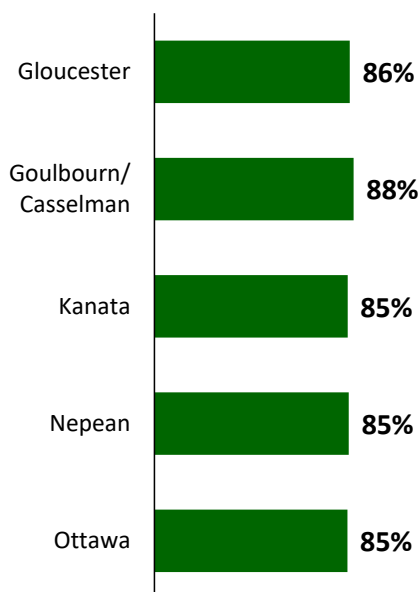
Q

Overall Impression: Did you have a favourable or unfavourable impression of the workbook you just completed?



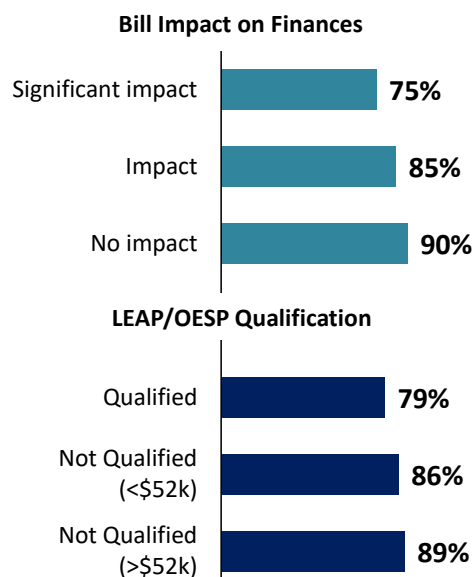
Regional Segmentation

Respondents who say "Favourable"



Vulnerable Customer Segmentation

Respondents who say "Favourable"



Representative Workbook

Final Thoughts: Workbook Diagnostics

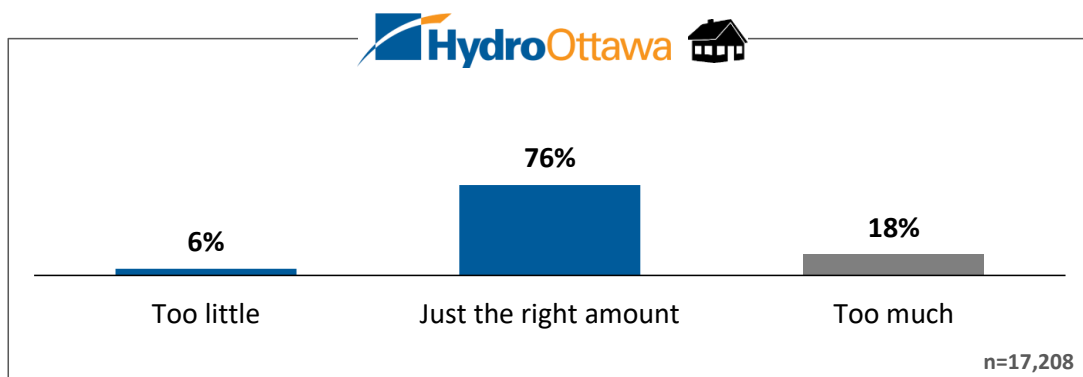
Residential



76

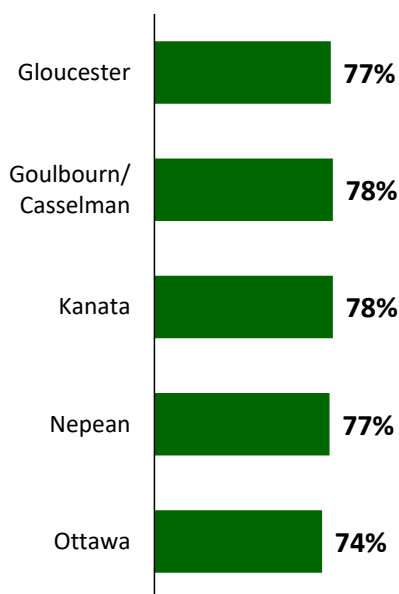
Q

Volume of Information: Did Hydro Ottawa provide too much information, not enough, or just the right amount?



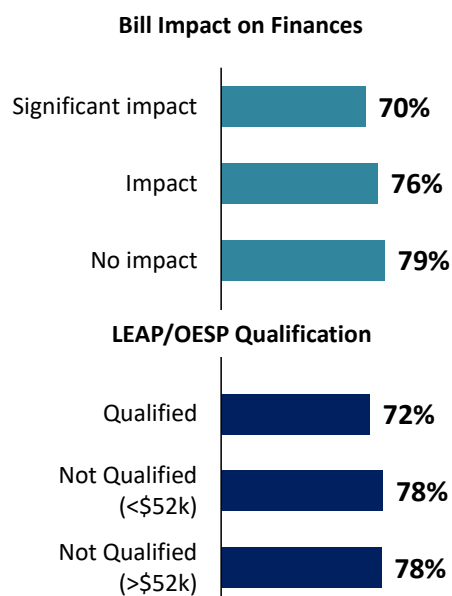
Regional Segmentation

Respondents who say "Just the right amount"



Vulnerable Customer Segmentation

Respondents who say "Just the right amount"



Representative Workbook

Survey Design & Methodology

Small Business



78



INNOVATIVE was engaged by Hydro Ottawa to gather input on preferences on program timing and balancing outcomes. **Pages 78 to 136** show the actual pages of the workbook that was sent and completed by customers. The only additions are the actual results.

Field Dates & Workbook Delivery

The **Small Business Online Workbook** was sent to all Hydro Ottawa small business customers who have provided the utility with an email address. Customers had an opportunity to complete the workbook between **August 20th and September 26th, 2019**.

Each customer received a unique URL that could be linked back to their annual consumption, region and rate class.

In total, the small business workbook was sent to **9,285** customers by-way-of e-blast from INNOVATIVE.

Small Business Online Workbook Completes

A total of **307** (unweighted) Hydro Ottawa small business customers completed the online workbook through a unique URL.

Sample Weighting

The small business online workbook sample has been weighted proportionately by region and consumption quartiles in order to be representative of the broader Hydro Ottawa service territory.

The table below summarizes the weighted sample breakdown by rate zone and quartile. For unweighted n-sizes, please consult page 11 of this report.

Weighted Sample	Consumption Quartiles				Total	Distribution
	Low	Medium-Low	Medium-High	High		
Gloucester	21	21	21	21	86	28%
Goulbourn/Casselman	5	5	5	5	20	6%
Kanata	9	9	9	9	34	11%
Nepean	20	20	20	20	81	26%
Ottawa	21	21	21	21	86	28%
Total	77	77	77	77	307	100%

Note: Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.

Representative Workbook

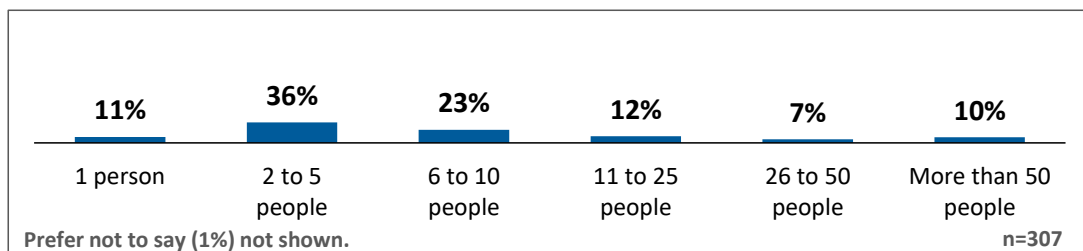
Firmographic Breakdown

Small Business

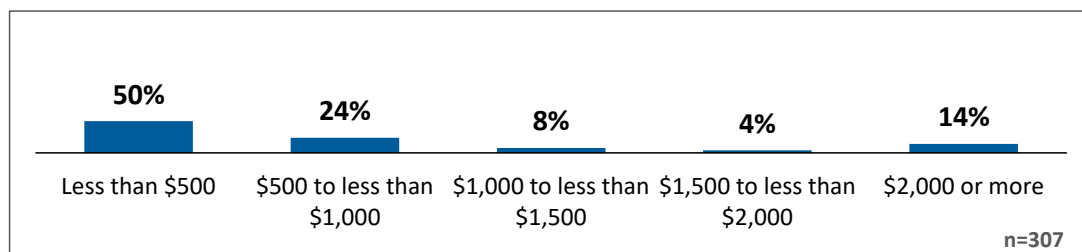


79

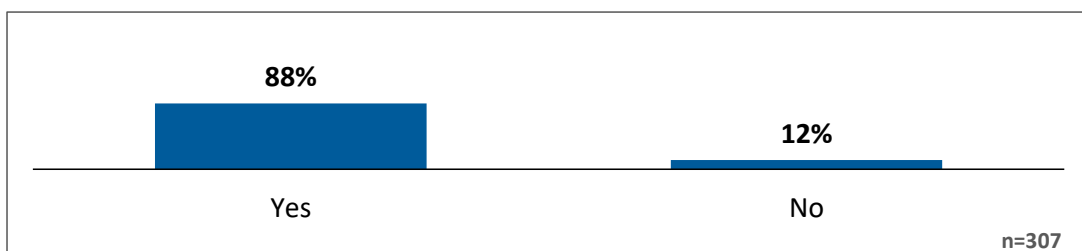
Q Company Size



Q Estimated Monthly Spend on Electricity



Q As part of your job, do you make decisions or influence decisions about electricity management?



Representative Workbook

Background Information

Small Business



80

Hydro Ottawa Limited (Hydro Ottawa) is looking for your input on choices that will help shape the service you receive and the price you pay.



Hydro Ottawa is developing its business plan for 2021 to 2025. This plan will determine the level of spending and investments Hydro Ottawa makes in equipment and infrastructure and the services it provides, as well as the rates you pay.



Hydro Ottawa is accountable to the provincial regulator, the **Ontario Energy Board (OEB)**, both in terms of sharing what customers say and demonstrating how they considered those views when undertaking the planning process.



You don't need to be an electricity expert to participate in this consultation. This workbook is focused on basic choices and provides the background information you need to answer the questions.

Building on previous customer feedback, the goal of this consultation is to allow Hydro Ottawa to better understand the needs and preferences of customers like you, and help them align their plan with what you have shared.

While your view may not always align exactly with the available options, please select the one that is closest to your point of view.

Those who complete the questions that follow will be invited to enter a draw to win one of four (4) \$500 cash prizes.

Depending on how much feedback you wish to provide, this consultation should take approximately 30-45 minutes to complete. If you need to pause and return at a later time to finish your feedback, your completed answers will be saved

If you are reading this on a smaller mobile device, you may want to consider accessing the survey from a tablet, desktop or laptop instead so that it is easier for you to read.

Representative Workbook

Background Information

Small Business



81

This consultation is about gathering your feedback on finding the right balance between the services you receive from Hydro Ottawa over the next five years and the price you pay.

Hydro Ottawa has important decisions to make about the pace and mix of expenditures it makes in equipment and infrastructure, the services it provides you as a customer, and the rates you pay.

Every five years, Hydro Ottawa submits a plan for its proposed rates and spending to the Ontario Energy Board for approval. They are now in the process of finalizing that plan.

- Earlier in 2019, Hydro Ottawa asked thousands of customers about their priorities and preferred outcomes for electricity distribution service.
- Using the feedback shared by customers, Hydro Ottawa built a plan that is intended to align with customer preferences. Want to learn more about how Hydro Ottawa plans? [Click here](#)
- Hydro Ottawa is now coming back to its customers with a series of expenditure options in order to finalize its draft plan for the next five years.

How will this customer consultation work?



Hydro Ottawa will ask for your feedback on a number of decisions it needs to make in order to finalize their plan. These decisions will impact both the services you receive, as well as the price you pay on the distribution portion of your electricity bill.



For each decision, Hydro Ottawa has identified the option that it feels balances customer feedback received to date to limit cost impacts, while prudently investing in the distribution system. These options have been included in the current plan, but may be influenced by your feedback.



Once you have finished sharing your thoughts on these decisions, you will have an opportunity to review your responses and the estimated total rate impact of those choices. You will be able to change your responses until you feel you have found the right mix of investments and estimated rate impact.

Representative Workbook

Background Information

Small Business



82

How will your views impact Hydro Ottawa's plans and rates?

The Ontario Energy Board (OEB) sets electricity rates in Ontario.



Electricity distributors like Hydro Ottawa are funded by the distribution rates paid by its customers. Electricity distributors are required to file a rate application with the OEB to request a change in distribution rates based on its plans for capital and operating costs.

As a customer, how are my interests protected?

The OEB requires all electricity distributors in Ontario, like Hydro Ottawa, to consider customer needs and preferences as they develop their business plan and distribution system plan.

The OEB then reviews Hydro Ottawa's plan and proposed rates in an open and transparent public process known as a rate hearing. Any individual or group may participate during Hydro Ottawa's application to ask questions or seek more information about Hydro Ottawa's plan and application.

Hydro Ottawa will be held accountable for the way you were consulted, the information shared with you and the ways in which the plan considers what you say.

At the end of the process, the OEB will weigh the evidence and decide on the rates Hydro Ottawa can charge its customers.

Representative Workbook

Small Business

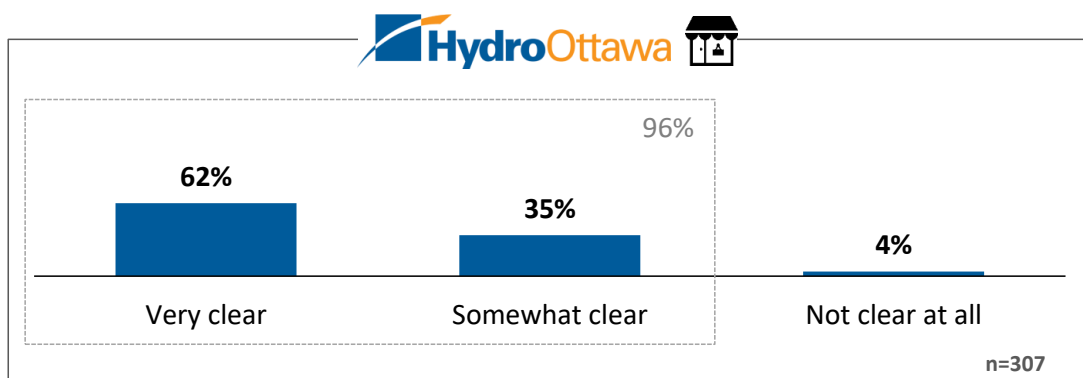


83

Purpose of Hydro Ottawa's customer consultation

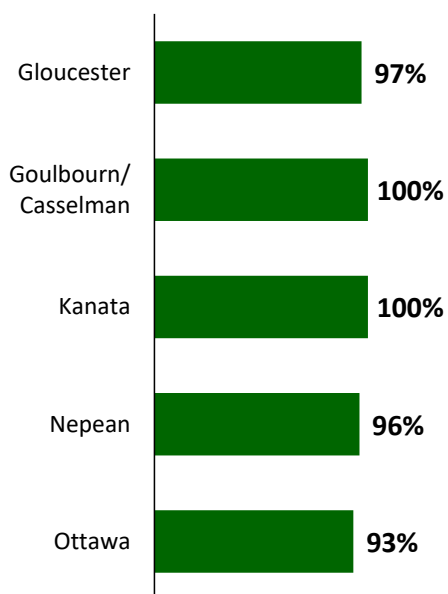
Q

Do you feel that the purpose of Hydro Ottawa's customer consultation is clear?



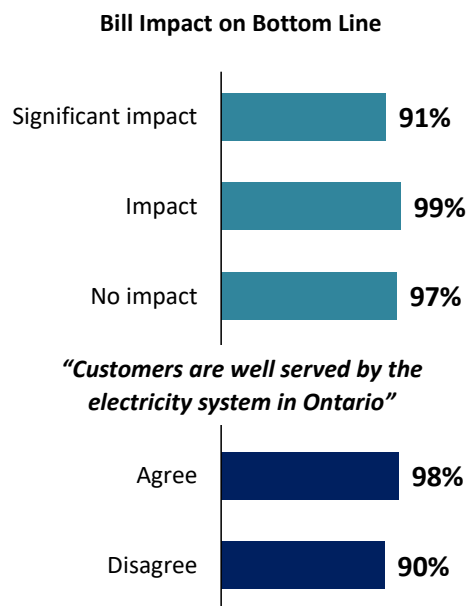
Regional Segmentation

Respondents who say "Clear"



Environmental Control Segmentation

Respondents who say "Clear"



Representative Workbook

Background Information

Small Business



84

Understanding Ontario's electricity system and Hydro Ottawa's role

Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

Generation

Where electricity comes from

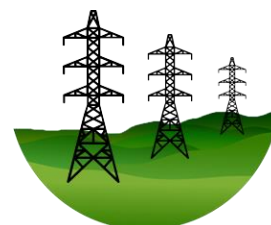
Ontario's electricity is generated using a mix of nuclear, gas-fired, and water power (hydro), as well as biomass and renewable sources such as wind and solar technology. In Ontario, a number of companies own these generating stations but approximately half of the electricity is generated by Ontario Power Generation. The Independent Electricity System Operator (IESO) balances the supply of, and demand for, electricity on a second-by-second basis and directs its flow across the high-voltage transmission lines.



Transmission

How electricity travels across Ontario

Once generated, electricity must be transported to electrical substations across the province. Due to the large amount of power and long distances, transmission normally takes place at high voltages with the lines suspended on large, steel towers. The province has more than 30,000 kilometres of 'electricity highway', most of which is owned and operated by Hydro One.



Local Distribution

How electricity is delivered to the end-consumer



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers. Its local distribution system is connected to the transmission grid through its distribution stations and transformers. This allows the voltage to be decreased so it can be distributed and safely used in homes and organizations across Hydro Ottawa's service territory.

Hydro Ottawa's distribution system is complex. It consists of approximately 50,000 poles, 2,700 km of overhead power lines, 3,000 km of underground cable, and 45,000 transformers.

Representative Workbook

Familiarity with Ontario's electricity system

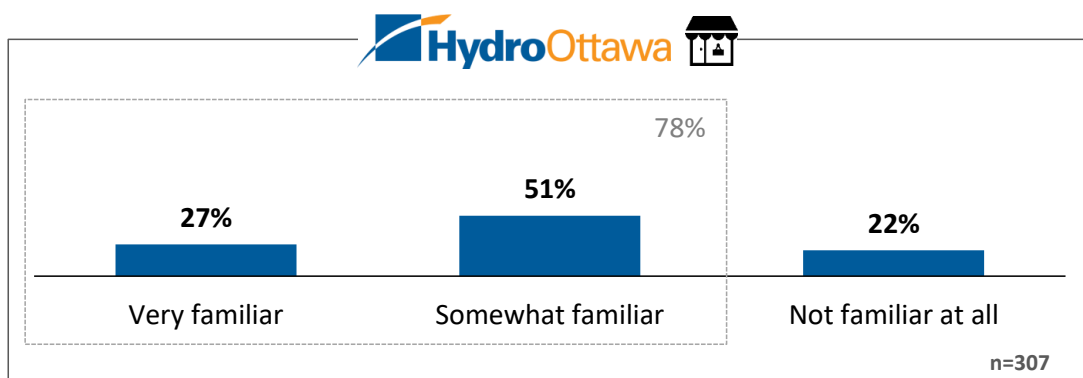
Small Business



85

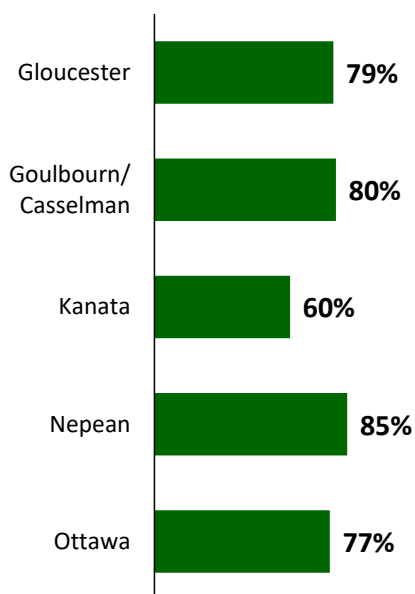
Q

Before this consultation, how familiar were you with various parts of the electricity system, how they work together, and for which services Hydro Ottawa is responsible?



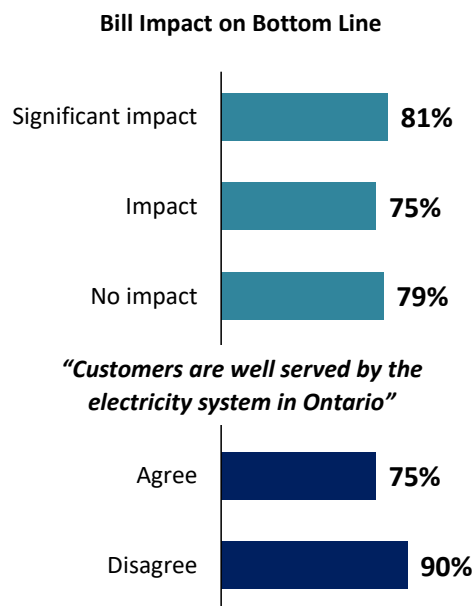
Regional Segmentation

Respondents who say "Familiar"



Environmental Control Segmentation

Respondents who say "Familiar"



Representative Workbook

Environmental Controls

Small Business

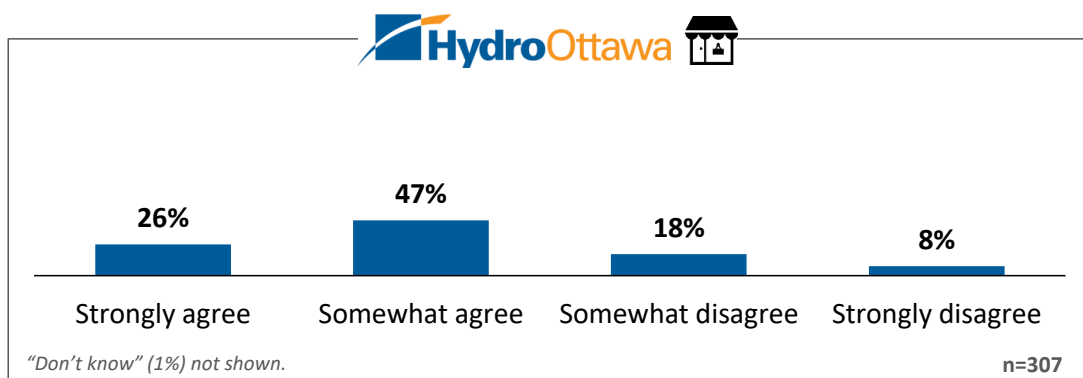


86

Thinking generally about the electricity system in Ontario, including generation, transmission and local distribution, do you agree or disagree with the following statements?

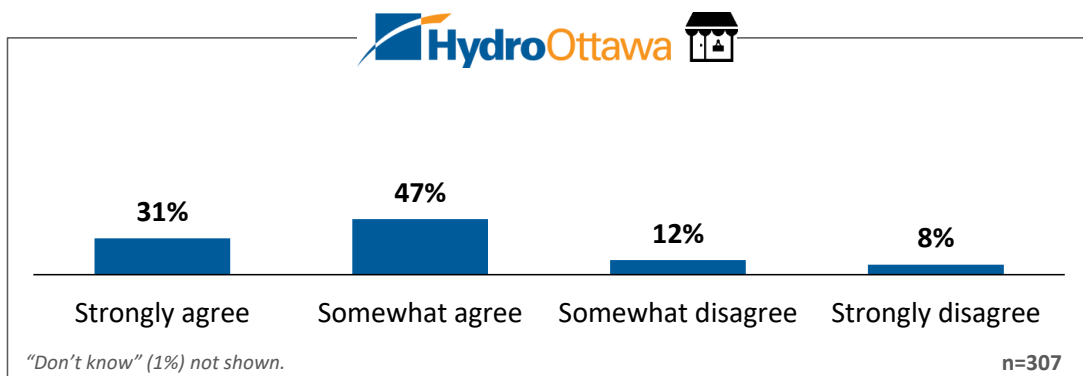
Q

The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.



Q

Customers are well served by the electricity system in Ontario.



Representative Workbook

Small Business



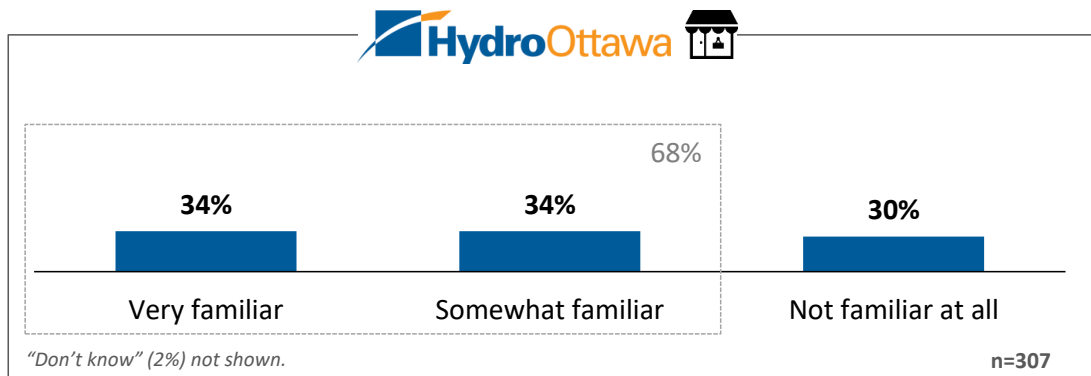
87

Familiarity with how Hydro Ottawa receives funding

Hydro Ottawa is entirely funded through the rates its customers pay and does not receive taxpayer money for its operations or investments.

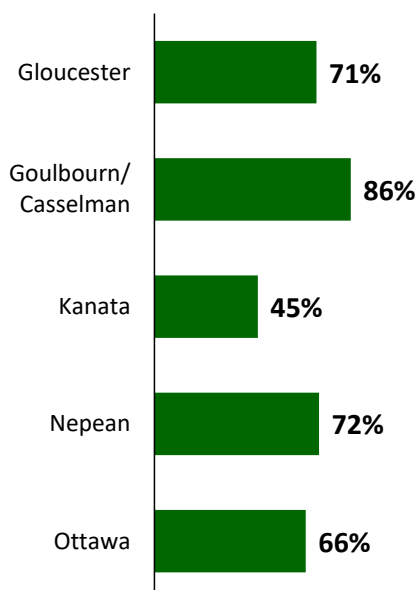
Q

Before this consultation, were you aware of how Hydro Ottawa received its funding?



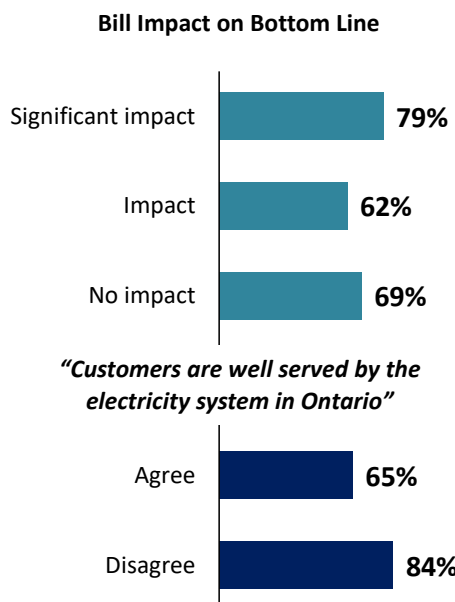
Regional Segmentation

Respondents who say "Familiar"



Environmental Control Segmentation

Respondents who say "Familiar"



Representative Workbook

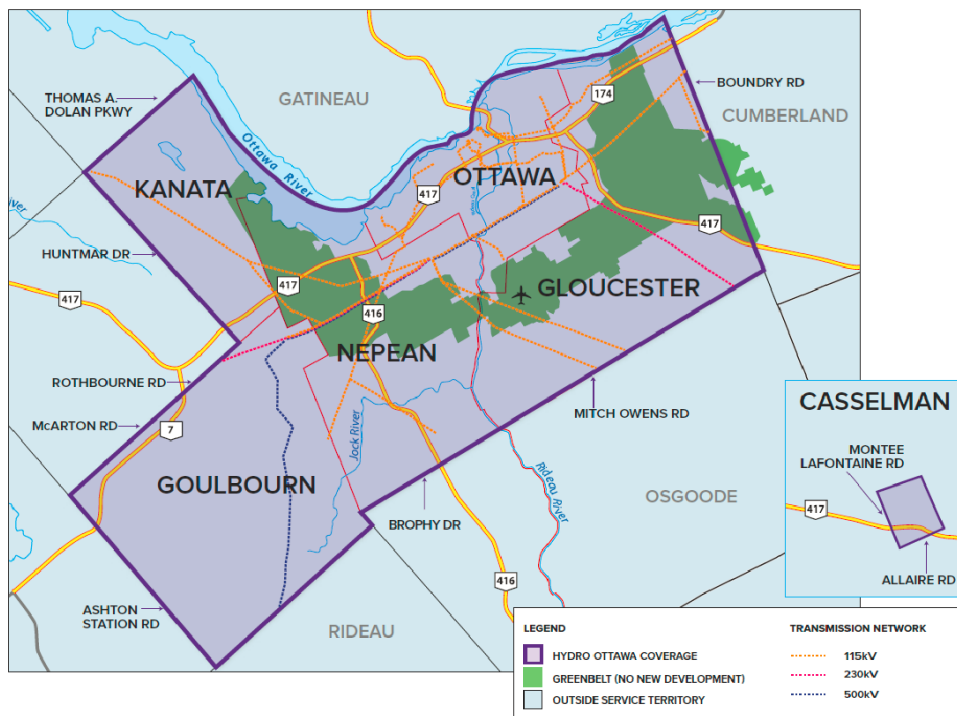
Background Information

Small Business



Hydro Ottawa fast facts

- Private business corporation 100% owned by its shareholder, the City of Ottawa
- Third largest municipally-owned electricity distributor in Ontario
- Serves approximately 335,000 homes and businesses (more than one million consumers)
- Service territory of 1,116 square kilometers that includes most of the City of Ottawa and the Village of Casselman
- Over 600 employees
- Does not receive taxpayer money to fund its operations or its investments in the distribution system
- Entirely funded through the rates its customers pay



Representative Workbook

Overall Satisfaction with Hydro Ottawa

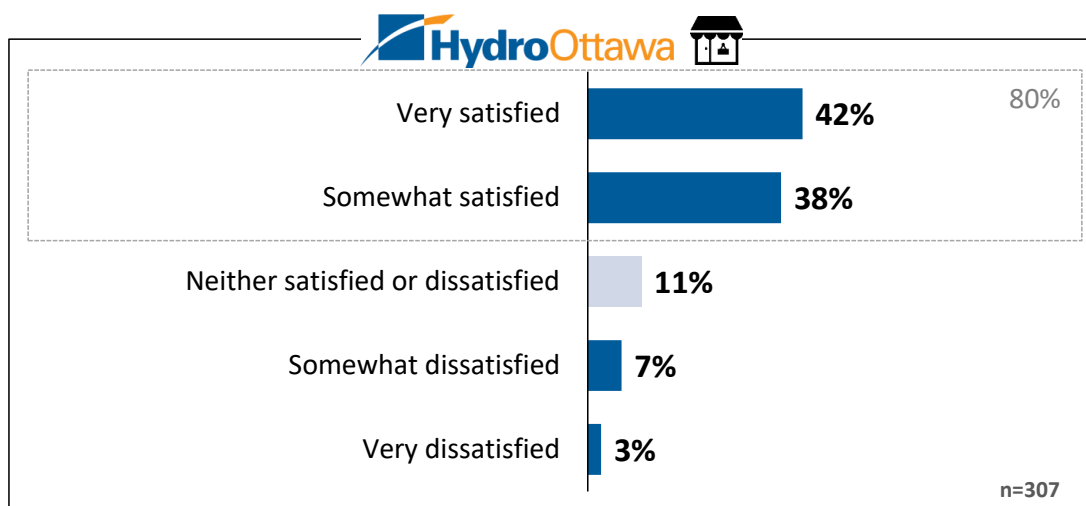
Small Business



89

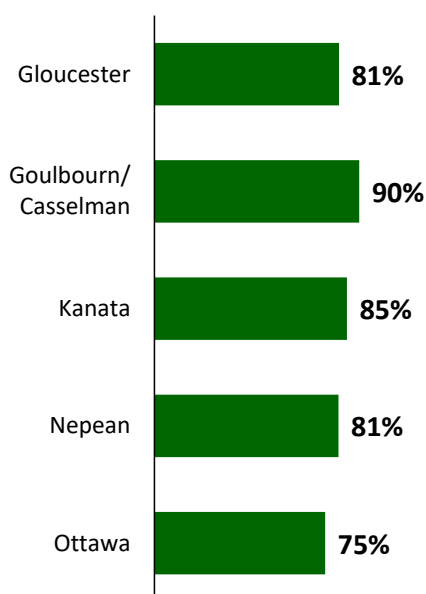
Q

Thinking specifically about the services provided to you and your community by Hydro Ottawa, how satisfied or dissatisfied are you with the services that you receive?



Regional Segmentation

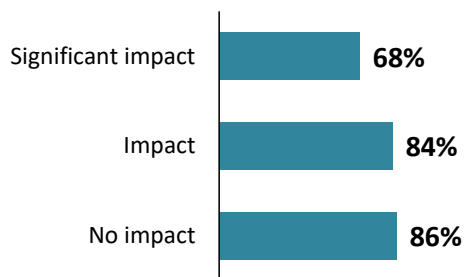
Respondents who say "Satisfied"



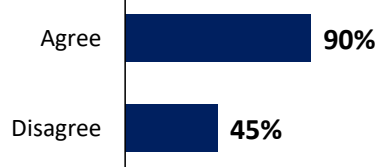
Environmental Control Segmentation

Respondents who say "Satisfied"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

How can Hydro Ottawa Improve services?

Small Business



90

Q

Is there anything in particular that Hydro Ottawa can do to improve its services to you?

Additional Comments (n=128) 58% of respondents did not provide additional feedback	n-size
Reduce rates	19
Reduce number of unplanned outages	10
Nothing; happy with service	8
Bill for usage; eliminate/reduce delivery charge/fixed service fees	8
Move lines underground	7
Do not increase rates/keep rates affordable/minimize increases	6
Improve reliability and power quality	6
Provide (more) incentives and rebates/rewards for energy saving	5
Move to green energy/renewables/encourage self generation	4
Better access to usage data online/reinstate usage emails/PeakSaver	3
Improve customer service/better access to CSR for complaints/outage reporting/online portal	3
Find internal efficiencies/lower operating costs/lower executive salaries	3
Improve billing (e.g. timing, payment methods, notices, etc)	2
Improve reliability during storms; harden system against weather	2
Maintain/upgrade infrastructure/expand service	2
Improve restoration times	1
Improve clarity of bills; explain charges and calculations	1
Against privatization/payment of dividends to city/profits should go to consumer savings	1
Prioritize long-term planning/management (eg. EV adoption, EV charging stations, urban growth, emerging tech, etc.)	1
More education on conservation/energy efficiency/peak time rates	1
Better accountability/transparency/info on sources of energy/general communications	1
Better tree maintenance	1
Other	12
None	20

Representative Workbook

Background Information

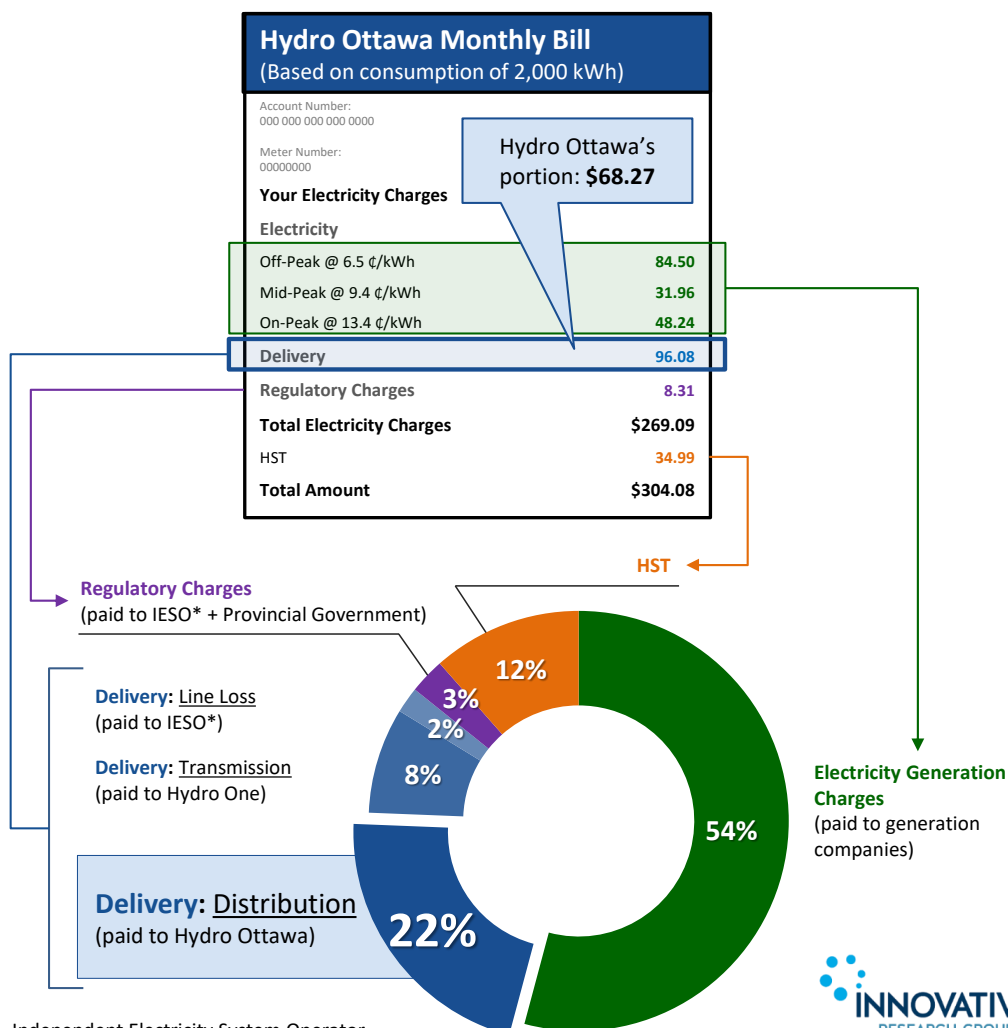
Small Business



How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa's portion makes up about 21% of a typical small business customer's bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



* IESO = Independent Electricity System Operator.

Representative Workbook

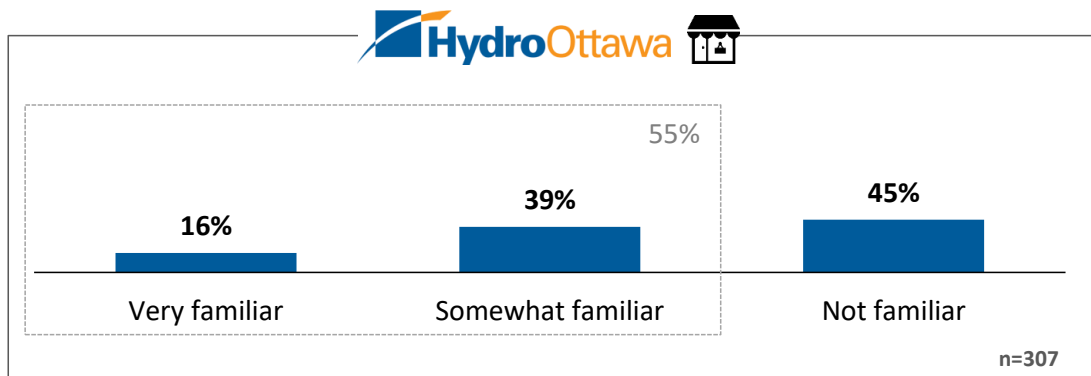
Small Business



Familiarity with Portion of Bill Remitted to Hydro Ottawa

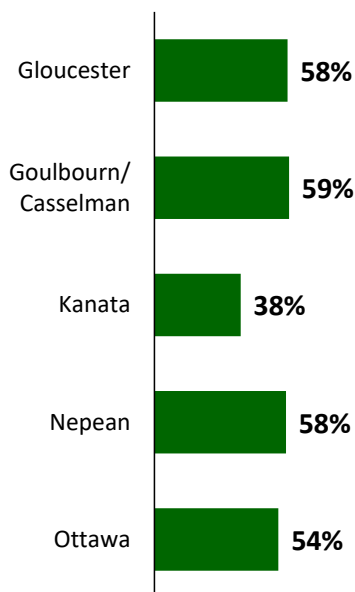
Q

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?



Regional Segmentation

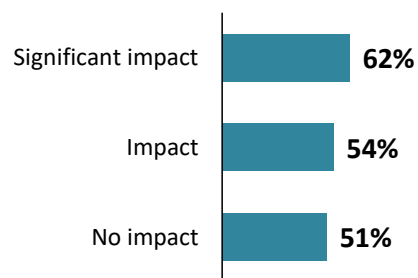
Respondents who say "Familiar"



Environmental Control Segmentation

Respondents who say "Familiar"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Background Information

Small Business



93

How did customer feedback shape Hydro Ottawa's preliminary plan?

Hydro Ottawa engages with its customers both in day-to-day interactions and in a variety of customer engagement surveys. **However, this consultation is unique, as it focuses on Hydro Ottawa's business plan that will cover the five year period from 2021 to 2025.**

Preliminary customer engagement found that:

- The clear majority of residential and small business customers are satisfied with the current service they receive;
- Despite being the top priorities, customers don't just expect Hydro Ottawa to focus exclusively on price and reliability;
- Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers.

Understanding that many customers are satisfied with the level of service they receive from Hydro Ottawa, including with the reliability of the distribution system, and value minimizing price increases above all else, Hydro Ottawa has developed a business plan that emphasizes four core principles:

1. **Minimize rate increases;**
2. **Maintain reliability and service quality;**
3. **Address key pressures to the system, including;**
 - Aging infrastructure;
 - An expanding customer base and continued population growth, and;
 - The effects of severe weather events.
4. **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

Representative Workbook

Principles of Hydro Ottawa's Plan

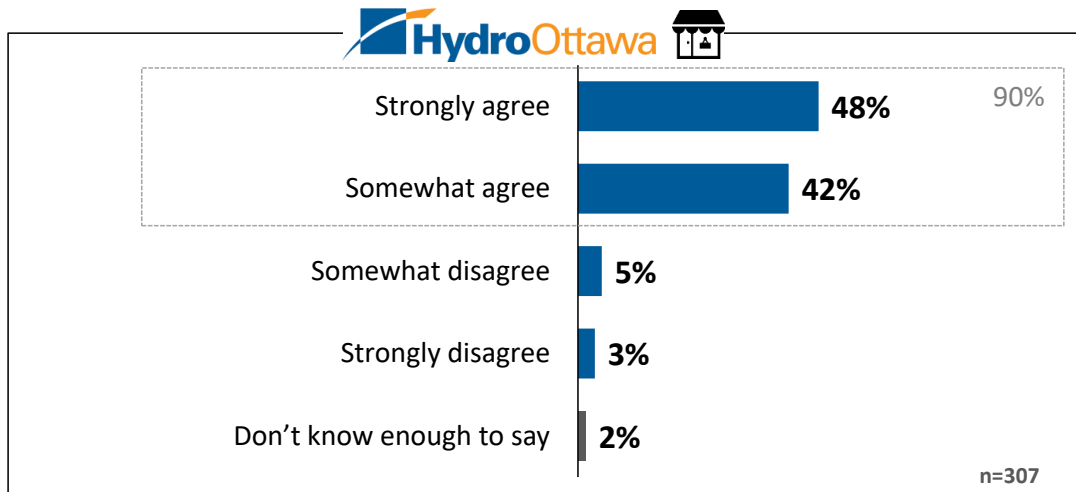
Small Business



94

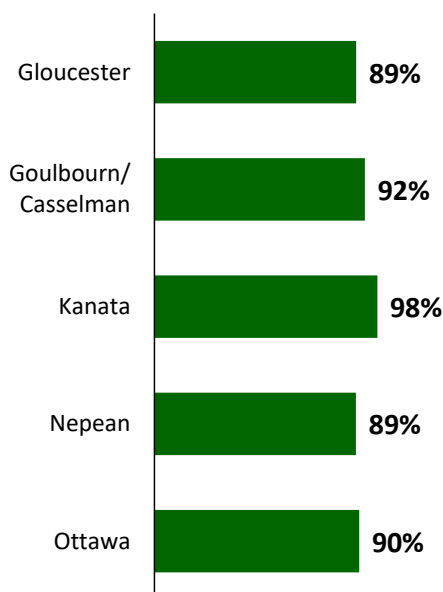
Q

Do you agree or disagree with the principles outlined above?



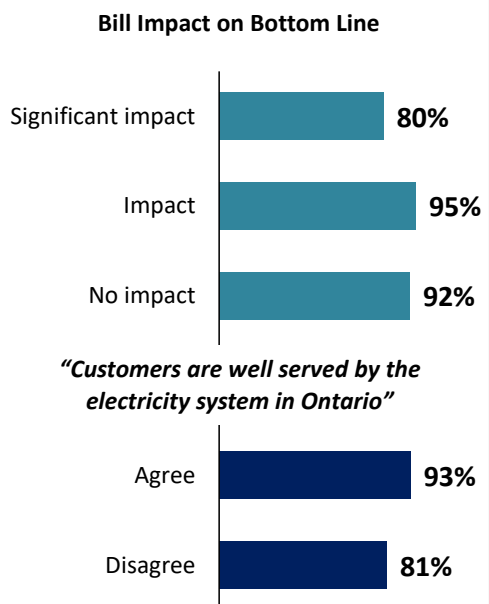
Regional Segmentation

Respondents who say "Agree"



Environmental Control Segmentation

Respondents who say "Agree"



Representative Workbook

Changes to Principles of Hydro Ottawa's Plan

Small Business



95

Q

Is there anything that you would change about the four core principles outlined above? If yes, what would you change?

Additional Comments (n=96) 69% of respondents did not provide additional feedback	n-size
Prioritize transparency, accountability, fiscal responsibility	10
'Freeze'/'reduce' rate increase, as opposed to 'minimize'	6
Environment should be a (top) priority	6
Investing in emerging tech is important/escalate priority	6
Find internal efficiencies	5
Reducing rates/minimizing increases should be top priority	5
Transition to green/renewables	4
Investing in emerging tech is not a priority	4
All principles are important	4
Addressing key pressures should be top priority	4
Eliminate/reduce/clarify delivery charge; bill for usage	4
Prudence is key; mistrust 'emerging' tech	3
Increasing rates is necessary for other three principles	3
Educate, incentivize, encourage conservation	2
Prioritize hardening system against worsening weather/climate change	2
'Improve' as opposed to 'maintain' reliability and service quality	2
Improve customer service and communication	1
Maintaining reliability and service quality should be top priority	1
Critical of question/survey (biased, leading, skeptical results will have impact, etc.)	1
Adjust (exec) salaries	1
Encourage EV adoption and prepare the grid	1
Move lines underground	1
Other	4
None	16
Don't know	1

Representative Workbook

Background Information

Small Business



96

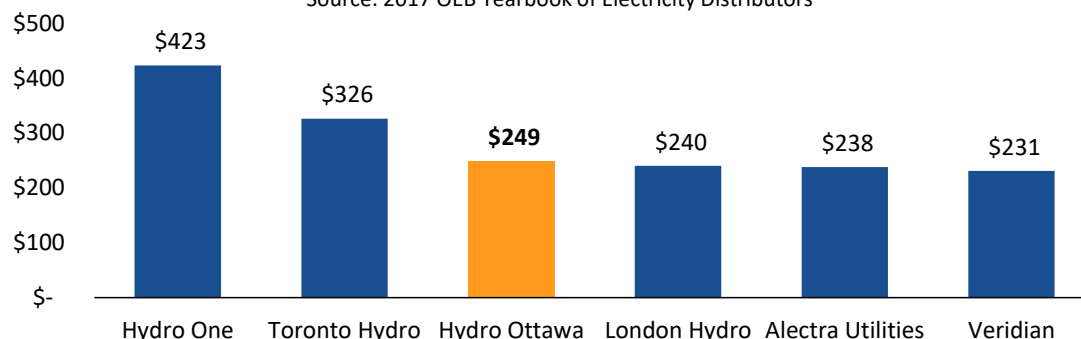
Finding efficiencies

Hydro Ottawa is continuing its focus on productivity and continuous improvement initiatives; which offset continuing costs and improves organizational effectiveness.

Hydro Ottawa's total operating costs are reported every year to the OEB and benchmarked against other distribution companies in Ontario. In the last year of publicly available data collected by the OEB, Hydro Ottawa's total operating cost per customer was **\$249**. This was, and historically has been, lower than the average Ontario distribution company cost of **\$304** per customer.

Six Largest Provincial Distributors: Operating Cost per Customer (\$)

Source: 2017 OEB Yearbook of Electricity Distributors



The choices Hydro Ottawa makes in its operating budget are primarily driven by technical analysis and expert assessments of best practices.

As promised earlier, this workbook does not ask questions that expect you to be an electricity expert.

The OEB runs an open and transparent review process where experts from the OEB and intervenor groups review and have the opportunity to question Hydro Ottawa's analyses and assessments. Anyone, including you are welcome to participate in the OEB process.

Representative Workbook

Approach to Bringing Customer Views into Plans

Small Business

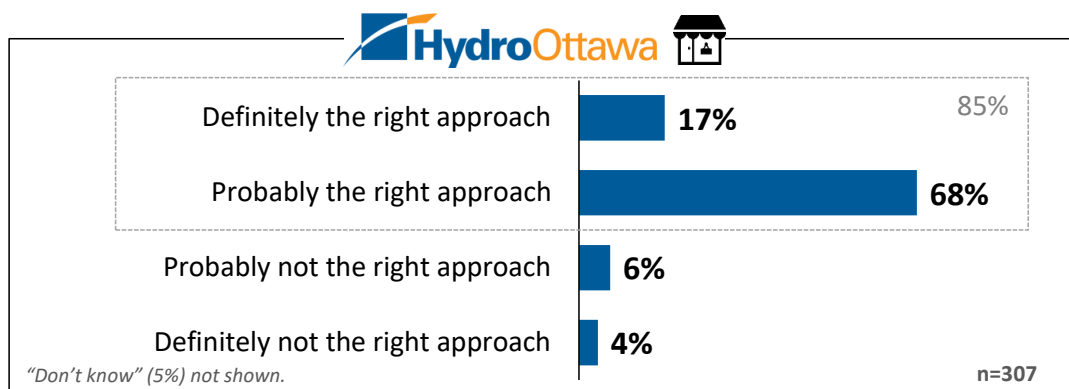


97

This workbook leaves detailed discussion of Hydro Ottawa's operating budget to experts from the OEB and intervenors in the formal OEB review; the workbook focuses on collecting your views on competing trade-offs in investments.

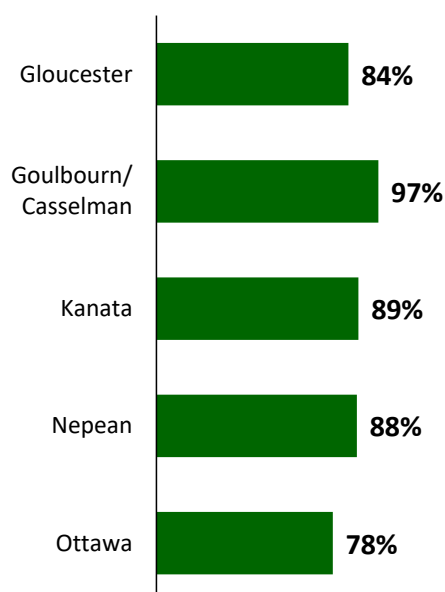
Q

Does this customer engagement process seem like the right approach to bring customer needs and preferences into Hydro Ottawa's plan?



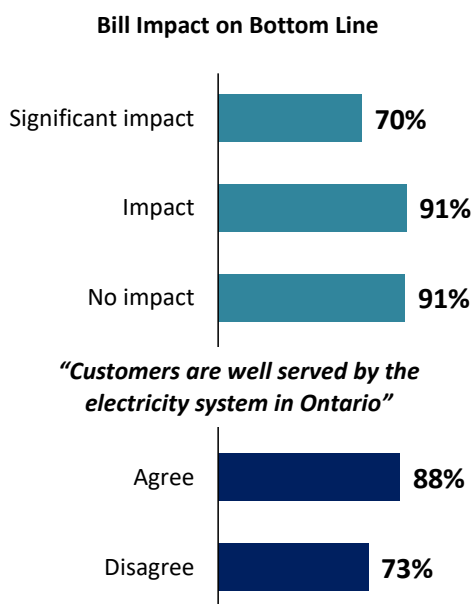
Regional Segmentation

Respondents who say "Right approach"



Environmental Control Segmentation

Respondents who say "Right approach"



Representative Workbook

Small Business



98

Changes to Approach to Bringing Customer Views into Plans

Q

Are there things that you would change about how Hydro Ottawa brings customer needs and preferences into Hydro Ottawa's plan? If so, what would you change?

Additional Comments (n=59) 81% of respondents did not provide additional feedback	n-size
Reduce cost/cost too high/minimize increase	6
Ensure accountability/transparency	5
Increase should not exceed inflation/cost of living	4
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	3
Ontario rates are highest; model off/compare to systems outside Ontario	3
Issue with rest of system (transmission, generation, policy, etc.)	3
Appreciated survey/opportunity to give feedback; informative	3
Happy with service; keep up good work	3
Continue customer engagement; ensure accessibility and representation	2
Follow up on survey; share results; prove customers were listened to	2
Reduce/eliminate delivery charge	2
Demo-based rates/support - income brackets, seniors, big users, conservers, etc.	2
Customer education is important	2
Critical of survey - too long/complex	2
Prioritize environment - alternatives, renewables, sustainability, carbon neutral operations, conservation etc.	2
Other	1
Nothing	13
Don't Know	3

Representative Workbook

Non-discretionary expenditures

Small Business

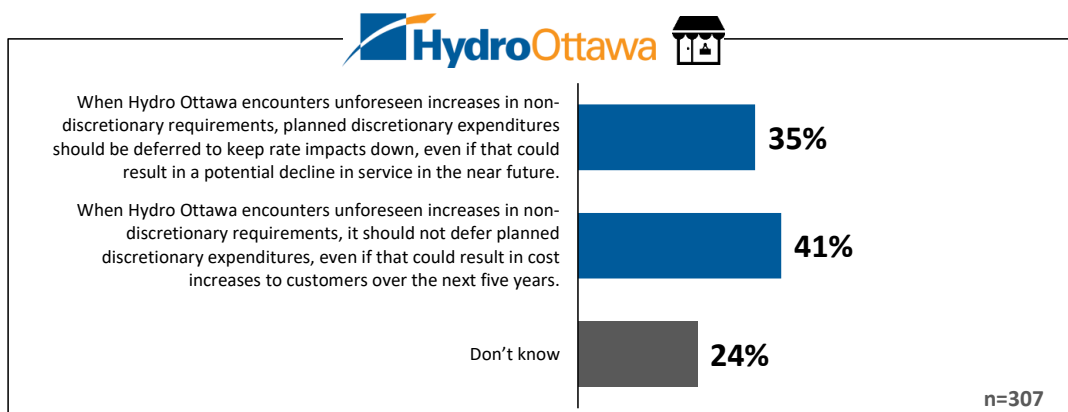


99

As federal, provincial and municipal demands change, Hydro Ottawa may need to implement unplanned, non-discretionary expenditures. It has a decision to make about how to accommodate unexpected non-discretionary spending which could impact other planned priorities.

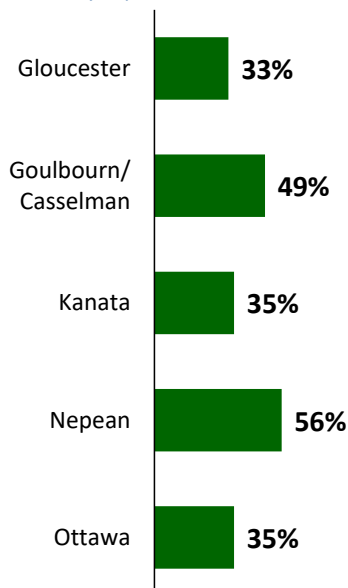
Q

Which of the following statements best represents your point of view regarding Hydro Ottawa's approach to discretionary and non-discretionary spending?



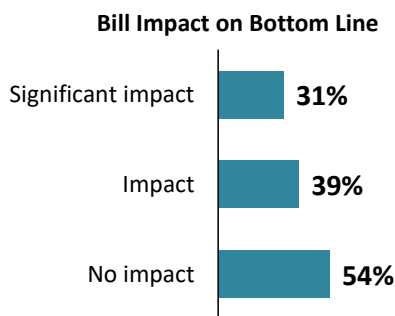
Regional Segmentation

Respondents who say "Do not defer planned discretionary expenditures"

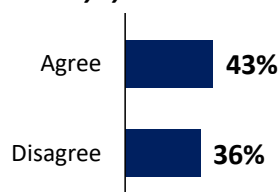


Environmental Control Segmentation

Respondents who say "Do not defer planned discretionary expenditures"



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Small Business



100

Additional Feedback: Non-discretionary expenditures

Q

Additional Feedback (Optional)

Additional Comments (n=62) 80% of respondents did not provide additional feedback	n-size
There should already be a contingency plan/budget; rates shouldn't be affected	10
Alternative financing (eg. developers, new connects, gov't, cause of expenditure, etc.)	7
Investing now leads to reduced future costs	6
Service/reliability is more important than cost (within reason)	6
Depends on the size of the increase	4
Transparent communication/consultation in the event of increase/unforeseen expenditure	4
Ensure impact of decisions are fully understood/justified (eg. cost vs benefit, short vs long-term, etc.)	4
Plan better; there should be nothing 'unforeseen'	3
Balance of options 1 and 2	2
More context required to answer	2
Reduce salaries/employee bonuses/pay from profits	1
Keeping rates low is priority #1/minimize increases	1
Skeptical/critical (of question/options/survey)	1
Prioritize environment - do not defer green investment	1
Other	10
Don't know	1

Representative Workbook

Small Business



101

Pacing investments in the overhead distribution system

Hydro Ottawa is considering three options for continued investment in the overhead distribution system:

- 1. Accelerated Approach:** Increased replacement of aging overhead transformers, switches, and poles to catch up and get ahead of growing number of poles at, or beyond, their end-of-life.
- 2. Included in Draft Plan:** Defer catch up in aging infrastructure to manage rate impact. Modest decrease of approximately \$1M per year in renewal of overhead infrastructure from 2016 to 2020 levels. Move to more targeted renewals of specific poor condition assets and less full renewals of broad areas.
- 3. Reduced Approach:** Deferral of proactive switch renewal, and pole replacement. Move to replacement of only critical assets.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.13 per bill each year (\$0.65 more per bill by 2025)	<ul style="list-style-type: none"> Increasing the replacement levels to address higher-risk assets, such as poles, which are at or near end-of-life. Increasing investments in switches to enhance operational efficiency. Reducing requirement for emergency renewals.
Included in Draft Plan <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none"> Moderate slowing of asset replacement. Increased future costs to catch up on expected end-of-life infrastructure. Some increase in emergency renewal replacements, significant increase not expected for next five years. Minor increases in customer impact as targeted and emergency renewals will result in more piecemeal replacements.
Reduced Approach <u>Decrease</u> of \$0.08 per bill each year (\$0.40 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Degradation in system reliability due to lower switch renewal. Switch failures typically occur on operation, resulting in longer restoration times. Moderate increases in targeted and emergency renewal, possibly resulting in multiple service visits in certain areas.

102

Representative Workbook

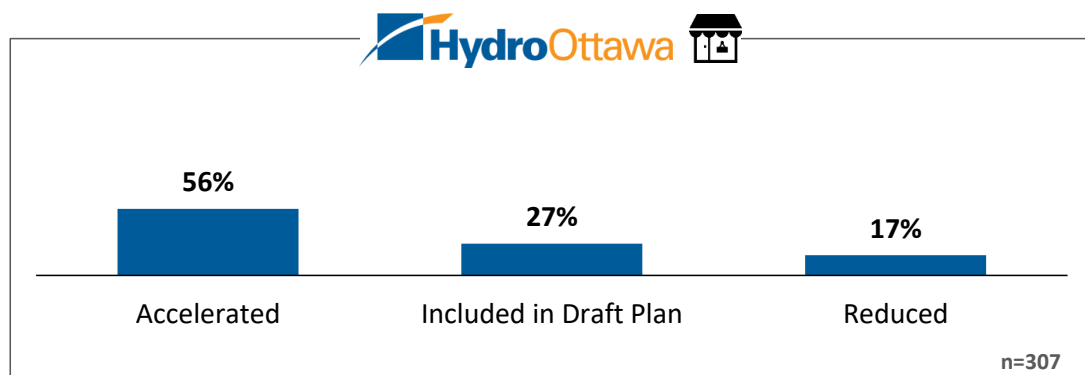
Small Business



Pacing investments in the overhead distribution system

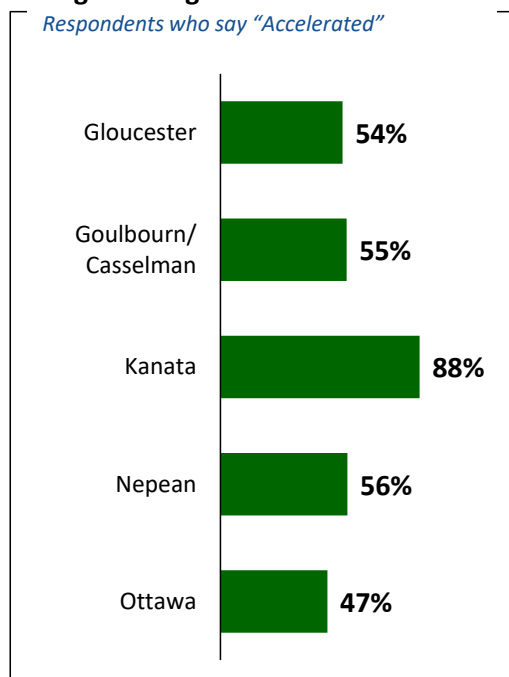
Q

Which of the following options do you prefer?



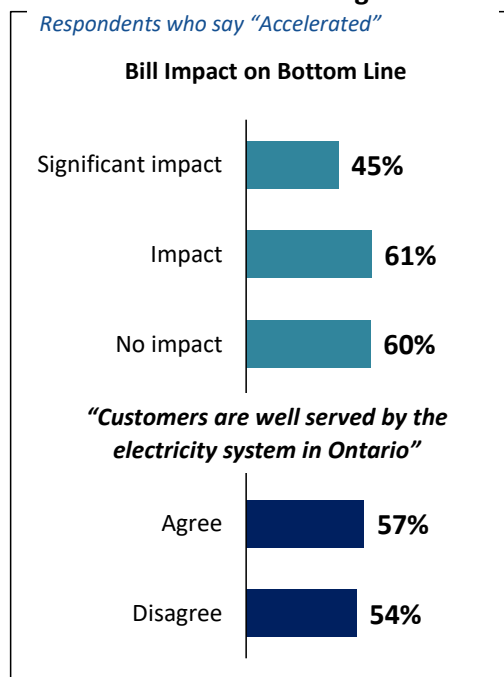
Regional Segmentation

Respondents who say "Accelerated"



Environmental Control Segmentation

Respondents who say "Accelerated"



Representative Workbook

Additional Feedback: Overhead

Small Business



103

Q

Additional Feedback (Optional)

Additional Comments (n=39) 87% of respondents did not provide additional feedback	n-size
Move lines underground	9
Critical of question/options presented	6
Maintaining/upgrading system is important	5
Need more information/have outstanding questions/defer to the experts	4
Investing now leads to reduced future cost; proactive > reactive	3
Invest in pole/cable tech	2
Harden system against climate change/extreme weather	2
Prioritize finding efficiencies; minimize increase	1
Increase should not exceed inflation/cost of living	1
Other	3
None	1
Don't Know	1

Representative Workbook

Small Business



104

Pacing investments in the underground distribution system

Hydro Ottawa is considering four options when it comes to underground cable renewal:

- 1. Accelerated Approach:** Renewal of aging assets with increased spending directed to underground transformers and cables.
- 2. Enhanced Approach:** Renewal of aging assets with increased spending targeted for cable replacement.
- 3. Included in Draft Plan:** Balanced investment, defer catch up in replacement of aging infrastructure to manage rate impact. Continued and modest increases in proactive replacement of assets at higher risk of failure.
- 4. Reduced Approach:** Defer any increase in proactive asset replacement, moving to only critical repairs of the system.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.40 per bill each year (\$2.00 more per bill by 2025)	<ul style="list-style-type: none"> Increasing proactive replacement of aging infrastructure with a focus on transformer and cable replacement. Reduced asset risk and future investment to catch up. Accelerating asset renewal enabling rapid roll out of increased system capacity (EVs) and improved operations (faster restoration when outages occur). Reliability improvements reducing frequency and duration of outages. Reducing maintenance costs related to oil leaks.
Enhanced Approach <u>Additional</u> \$0.20 per bill each year (\$1.00 more per bill by 2025)	<ul style="list-style-type: none"> Replacing aging cables to reduce failure risk, with slowed investment in other underground infrastructure such as switches, and transformers. Manageable future investment will be required to catch-up. Increased rate of cable replacement will provide some improvements in asset failure and outage frequency.
Included in Draft Plan <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none"> Moderate rate of asset replacement, which is still higher than the 2016-2020 program Manageable level of future investment required to catch-up. Maintenance of system reliability with minor impact in service reliability.
Reduced Approach <u>Decrease</u> of \$0.20 per bill each year (\$1.00 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Potential reduction on system reliability with increasing outages in specific areas due to cable failures.

Representative Workbook

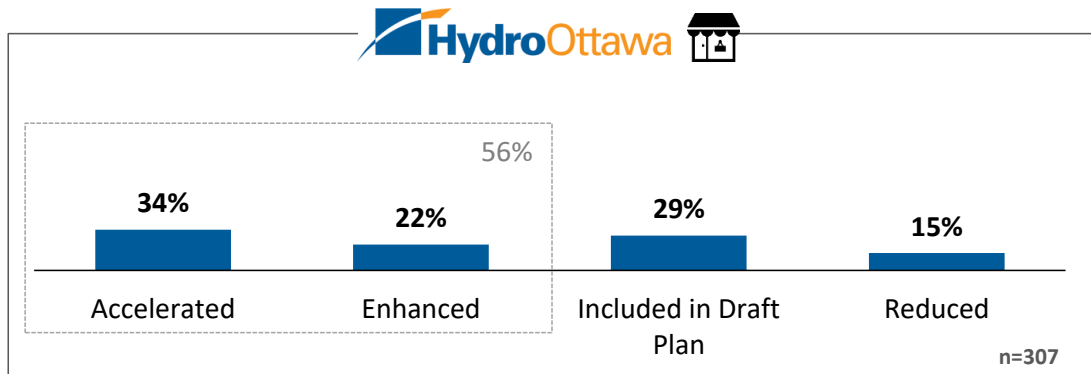
Small Business



Pacing investments in the underground distribution system

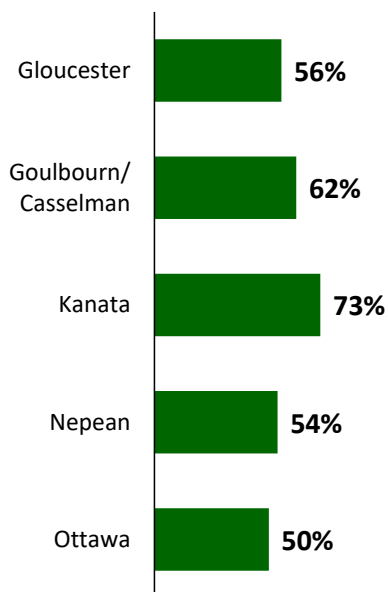


Which of the following options do you prefer?



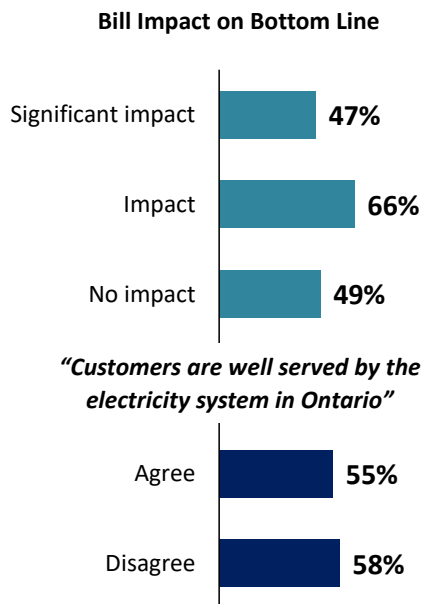
Regional Segmentation

Respondents who say "Accelerated/enhanced"



Environmental Control Segmentation

Respondents who say "Accelerated/enhanced"



Representative Workbook

Additional Feedback: Underground

Small Business



106

Q

Additional Feedback (Optional)

Additional Comments (n=25) 92% of respondents did not provide additional feedback	n-size
Critical of question (eg. Insufficient options, leading, biased, etc.)	3
Need more information/have outstanding questions	3
Prioritize finding efficiencies; minimize increase	2
Increase nominal/worth it	2
Reliability/safety is priority	2
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	2
Demo-based rates/supports (income brackets, seniors, urban vs rural, usage, EV adopters, etc.)	1
Move lines underground	1
Maintenance/replacement planning should have been done/lack of foresight	1
Investing now leads/should lead to reduced future cost; proactive > reactive	1
Maintaining/upgrading the system is important	1
Too expensive/unnecessary/defer for now	1
Make do with less than 2.5%	1
Other	4
None	1

Representative Workbook

Small Business

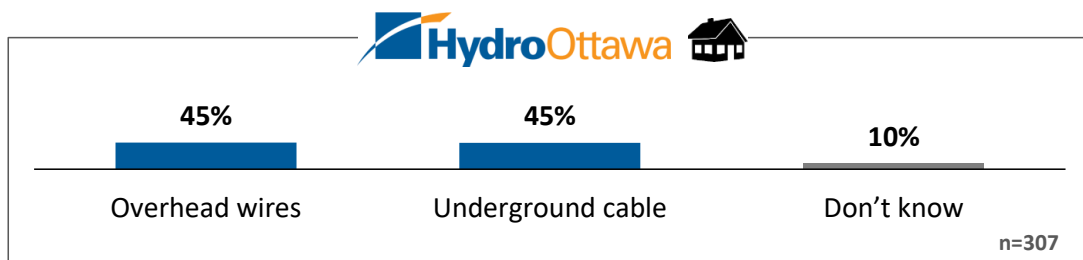


107

Overhead/Underground Investments by Service Type

Q

To the best of your knowledge, how does your organization receive electrical service?



Q

Pacing investments in the overhead distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	56%	59%	54%
Included in Draft Plan	27%	25%	28%
Reduced Approach	17%	15%	19%

Q

Pacing investments in the underground distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	34%	41%	29%
Enhanced Approach	22%	21%	22%
Included in Draft Plan	29%	22%	36%
Reduced Approach	15%	15%	13%

Representative Workbook

Background Information

Small Business



Reliability experience

In order to provide feedback on Hydro Ottawa's plans, it's important to understand how the distribution system has performed in the past, as well as what's expected in the future.

A core objective of Hydro Ottawa's 2021-2025 rate application is to maintain current levels of reliability, while making targeted improvements to those areas experiencing below average service.

- The five-year average number of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.02 to 0.84 (total number of annual outages).
- The five year average duration of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.17 to 1.14 (total annual hours).

What is most likely to cause an outage?

Although both the number and duration of outages have decreased compared to the previous five-year average, defective equipment remains the top cause of outages within Hydro Ottawa's control.

That said, in 2018, severe weather presented a unique set of challenges for Hydro Ottawa's distribution system. One section of this consultation will focus on the impacts of severe weather, and the options for preparing the distribution system for more frequent and extreme weather.

Causes of Unscheduled Power Outages (five-year average: 2014 to 2018)



10%

Animal Contact: outages caused by animals such as birds and squirrels coming in contact with overhead power lines or transformers.



27%

Equipment Failure: unscheduled power outages from equipment failure usually occur with distribution assets that are beyond or approaching the end of their expected useful lives.



24%

Weather Related Events: adverse weather such as heavy rain, lightening, ice, snow, wind, extreme temperatures, freezing rain and frost can disrupt the distribution system.



39%

Other: includes tree contact (10%), and human interference (11%) (such as construction workers accidentally cutting power lines or motor vehicle accidents involving contact with distribution assets). 9% of outages are unknown, but most likely caused by animal contact.

Note: statistics do not include loss of supply from Hydro One.

Representative Workbook

Reliability Experience

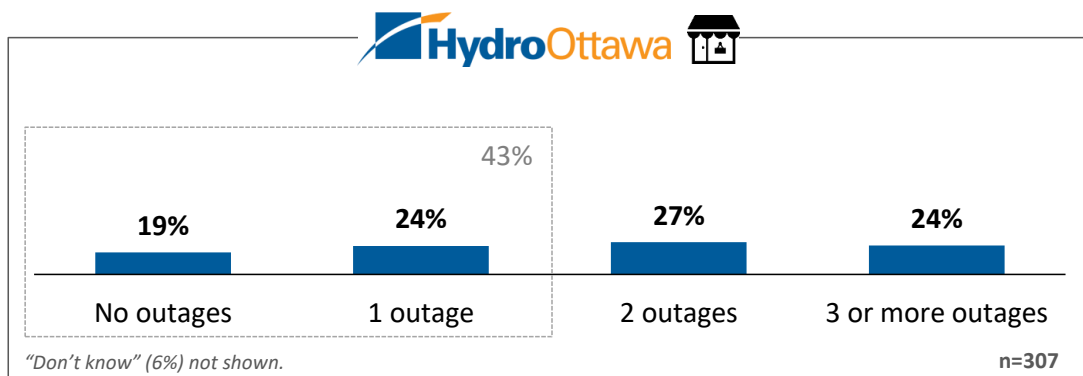
Small Business



109

Q

Have you experienced any power outages at your business in the past 12 months which lasted longer than one minute?



Number of Outages	Gloucester	Goulbourn/ Casselman	Kanata	Nepean	Ottawa
No outages	22%	5%	27%	8%	24%
1 outage	22%	18%	34%	22%	25%
2 outages	27%	24%	31%	29%	25%
3 or more outages	25%	38%	8%	39%	14%
One or fewer outages	45%	23%	61%	30%	50%

Representative Workbook

Reliability Investments

Small Business



110

Hydro Ottawa is considering four options when it comes to reliability investments:

1. **Accelerated Approach:** Build power lines/new connections between substations to improve reliability. Enhance monitoring of substation and distribution equipment.
2. **Included in Draft Plan:** Only build critical connections between substations. Enhance monitoring of station and distribution equipment.
3. **Limited Approach:** Improve reliability for neighbourhoods experiencing the most frequent number of power outages. Enhance monitoring of substation and distribution equipment.
4. **Reduced Approach:** Only improve reliability for neighbourhoods experiencing the most frequent number of power outages.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.05 per bill each year (\$0.25 more per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Increase system resilience and performance through addition of connections on distribution network. Supports reduction in outage duration. Target investments to areas that have below average reliability.
Included in Draft Plan <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Maintain system resilience and performance through addition of connections on distribution network. Maintains outage duration at current levels. Target investments to areas that have below average reliability.
Limited Approach <u>Decrease</u> of \$0.10 per bill each year (\$0.50 less per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Target investments to areas that have below average reliability.
Reduced Approach <u>Decrease</u> of \$0.15 per bill each year (\$0.75 less per bill by 2025)	<ul style="list-style-type: none"> Target investments to areas that have below average reliability. No investment to improve/enhance reliability.

Representative Workbook

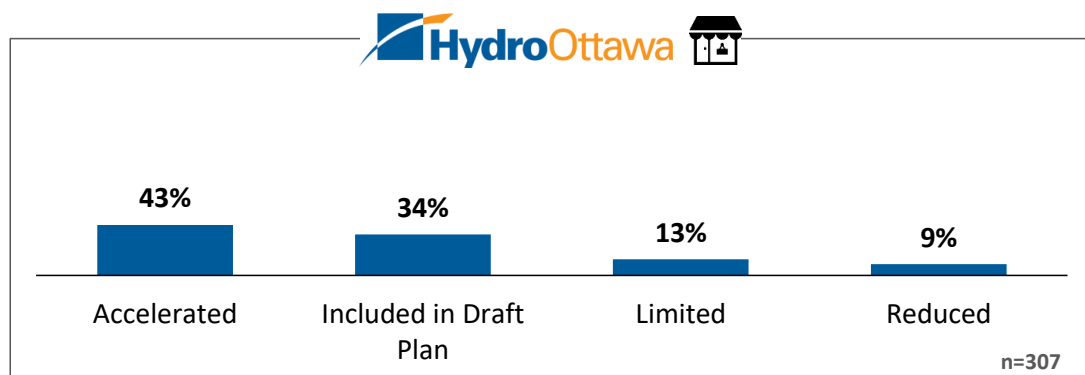
Reliability Investments

Small Business



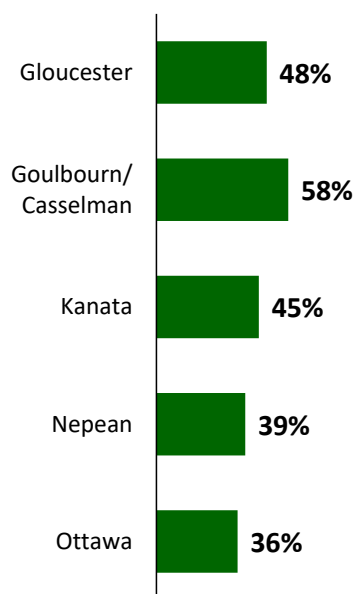
Q

Which of the following options do you prefer?



Regional Segmentation

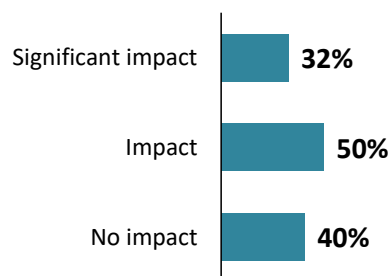
Respondents who say "Accelerated"



Environmental Control Segmentation

Respondents who say "Accelerated"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Additional Feedback: Reliability Investments

Small Business



112

Q

Additional Feedback (Optional)

Additional Comments (n=21) 93% of respondents did not provide additional feedback	n-size
Reliability/short outage duration is priority #1	4
Prioritize finding efficiencies; minimize increase	2
Current reliability is adequate	2
Alternative financing (eg. developers, new builds, big businesses, partnerships, etc.)	2
Investing now leads to reduced future cost; proactive > reactive	2
Critical of question/options presented/biased/leading question	1
Oppose any increase; cost too high already	1
Move lines underground	1
Prioritize hardening system against worsening weather	1
Other	2
None	4

Representative Workbook

Background Information

Small Business



113

Preparing for potential increases in severe weather

Hydro Ottawa's distribution system is designed to withstand environmental stresses and impacts, however, weather-related outages have been increasing in terms of frequency and severity over recent years. During 2018 there were three major events which, combined, resulted in system asset replacements of approximately \$4M.

In addition to impacting Hydro Ottawa's equipment, these events increase the resources required to safely and quickly respond to the storm damage and coordinate and communicate restoration efforts to customers.

Hydro Ottawa is currently in the process of completing a climate change vulnerability assessment to determine what steps should be taken to mitigate the impacts of changing climates. While the recommendations from this assessment have not yet been finalized, there are a number of steps Hydro Ottawa could consider taking to prepare for an increasing frequency of severe weather events. For example, changing pole replacement practices and standards would increase overhead structure strength and provide greater clearances from trees and vegetation.

Hydro Ottawa wants to know what your preferences are with respect to making investments in system resilience for severe weather that may or may not materialize over this rate period.



Representative Workbook

Small Business



114

Preparing for potential increases in severe weather

Q

Which of the following options do you prefer?



I would be willing to pay \$0.05- \$0.10 more per monthly bill by 2025 for Hydro Ottawa to take measures to prepare for severe weather that may or may not occur.

76%

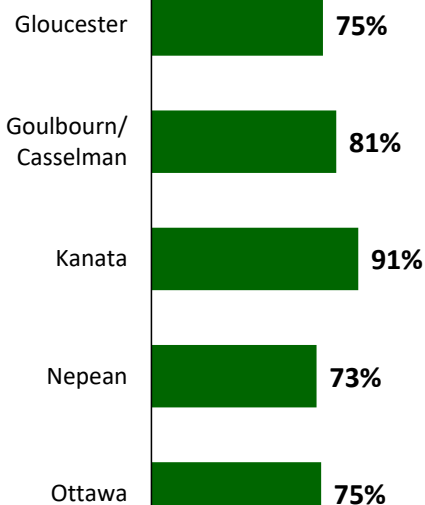
Hydro Ottawa should not invest in measures to prepare for severe weather that may or may not occur.

24%

n=307

Regional Segmentation

Respondents who say "Willing to pay more to take measures to prepare for severe weather"



Environmental Control Segmentation

Respondents who say "Willing to pay more to take measures to prepare for severe weather"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Additional Feedback: Severe Weather

Small Business



115

Q

Additional Feedback (Optional)

Additional Comments (n=38) 88% of respondents did not provide additional feedback	n-size
Worsening weather is inevitable AND we must be prepared	6
No use/unable to predict and/or prepare for worsening weather	6
Critical of question - insufficient options	4
Hydro Ottawa should have already been preparing/ customer already paying for this	3
Alternative financing - salaries, profits, City dividend, etc.	3
Worsening weather is inevitable	2
Preparing for severe weather is important/worth the cost	2
Manage/prepare without increase	2
Need more information/ have outstanding questions/defer to experts	1
Reduce cost	1
Fund must be untouchable/carried over year-year until needed	1
Smaller/minimize increase	1
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	1
Ensure fiscal responsibility and good management	1
Move lines underground	1
Other	1
None	3

Representative Workbook

Background Information

Small Business



116

Serving a growing city

The population in Hydro Ottawa's service territory continues to grow. Hydro Ottawa must be prepared to serve new customers, while maintaining acceptable levels of service for existing customers. This means regularly assessing the capacity and reliability of its distribution system and its resilience to extreme weather events, and taking action when gaps are found.

A number of Hydro Ottawa's substations are approaching capacity and cannot accommodate future customer growth. Delaying planned investments could result in a decline in reliability for existing customers.

Hydro Ottawa's current plan only includes critical capacity investments; however, there is also an option to make further investments to get ahead of the growing demand for electricity supply.



Option	Outcome
Accelerated Approach <u>Additional</u> \$0.25 per bill each year (\$1.25 more per bill by 2025)	<ul style="list-style-type: none"> • Increase distribution system capacity investment to meet and exceed growing demand for electricity supply. • Distribution system capacity is moved ahead of the demand for electricity, eliminating reliability risk during peak demand days.
Included in Draft Plan <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none"> • Slow distribution system capacity to critical investment only. • Distribution system capacity maintains pace with demand for electricity, or slightly lagging. No impact on ability to connect customers. • Results in modest increase to risk in reliability to areas of growth and increased risk of longer outages or inability to restore power to some customers if outages occur on peak demand days.

Representative Workbook

Serving a growing city

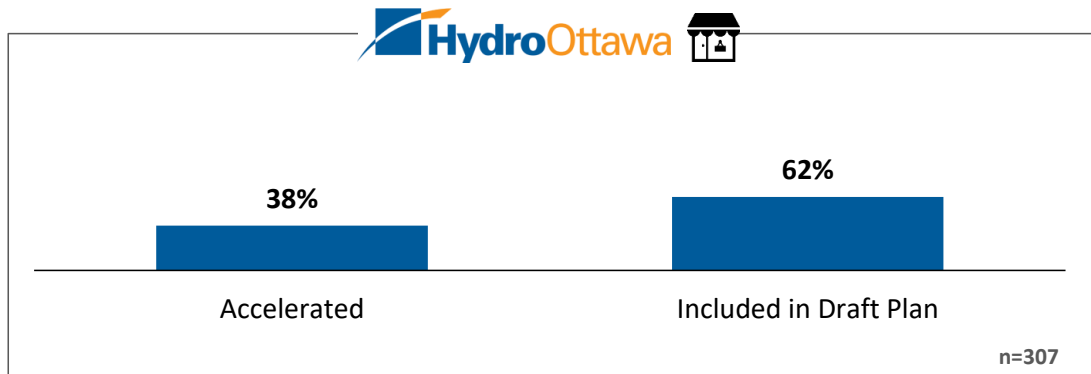
Small Business



117

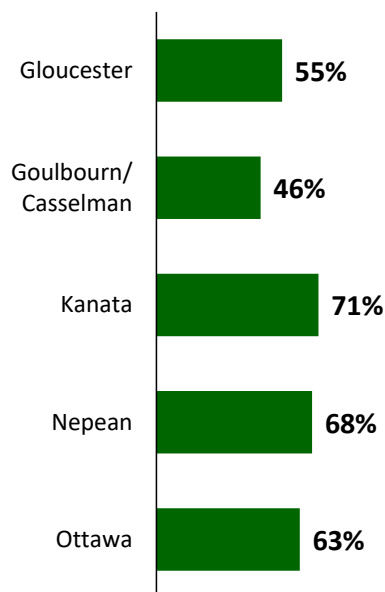
Q

Which of the following options do you prefer?



Regional Segmentation

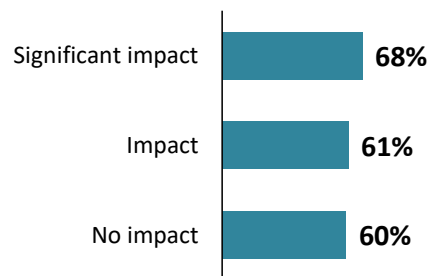
Respondents who say "Included in Draft Plan"



Environmental Control Segmentation

Respondents who say "Included in Draft Plan"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Additional Feedback: Serving a growing city

Small Business



118

Q

Additional Feedback (Optional)

Additional Comments (n=30) 90% of respondents did not provide additional feedback	n-size
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	12
Oppose any increase; cost too high already	5
Critical of question (insufficient options, biased, leading, etc.)	3
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	3
Concerned about all these increases/costs adding up	2
Plan for the future (including EVs, urban growth/densification, emergency preparedness etc.)	1
Investing now leads to reduced future cost; proactive > reactive	1
Other	2
None	1

Online Workbook

Background Information

Small Business



119

Innovation: Investing for the future

Electricity distribution service is in the midst of unprecedented change – evolving towards a more decentralized, customer-centric, technologically-advanced and environmentally sustainable model.

Hydro Ottawa plans to continue engaging in research and development activities which offer value to its customers. This includes supporting the connection of Distributed Energy Resources (DERs). This small scale generation is connected to the grid close to the communities they serve. Hydro Ottawa's Great DR – phase two project (currently known as MiGen), where customers generate their own power and store what's not immediately used, is an example of innovation that is incorporated into the 2021-2025 plan.

Hydro Ottawa has also been actively involved in assessing and addressing customer needs within the emerging electric vehicle market, as well as, participating in a Battery Energy Storage Project, as part of the Smart Grid Program.

Looking forward, opportunities to develop new rate models and explore new energy services will offer customers more choice and control over their electricity needs.



Representative Workbook

Innovation: Investing for the future

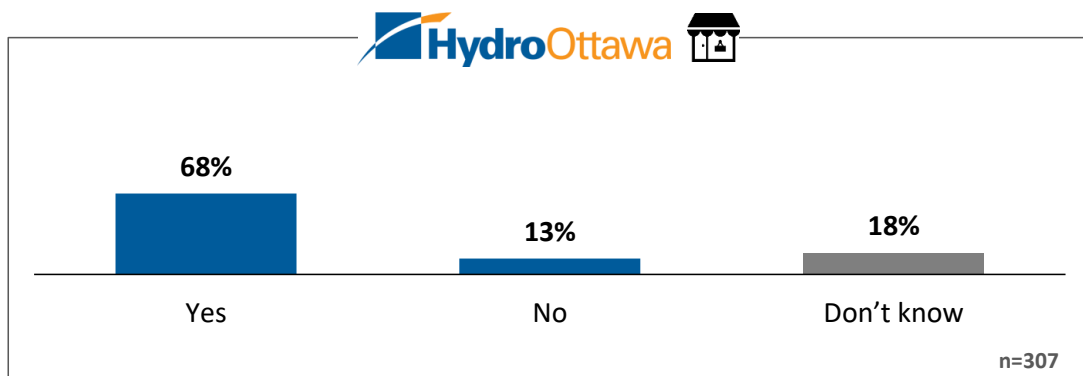
Small Business



120

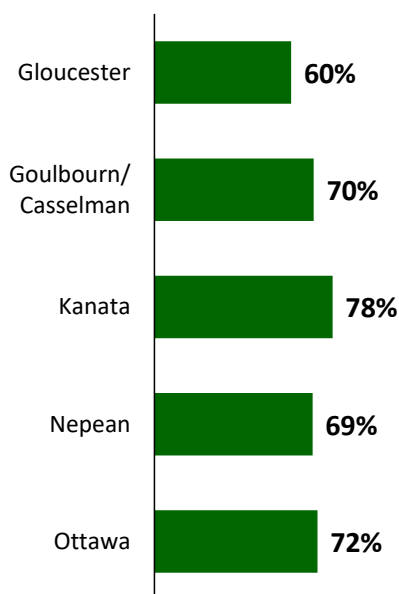
Q

Do you support Hydro Ottawa's strategy of leading change and engaging in industry projects that could shape the future of the energy marketplace?



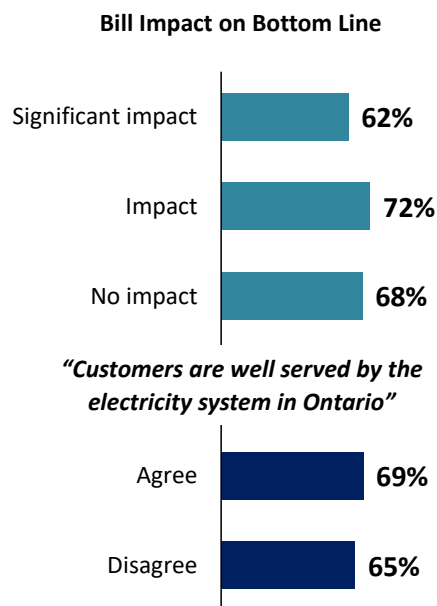
Regional Segmentation

Respondents who say "Yes"



Environmental Control Segmentation

Respondents who say "Yes"



Representative Workbook

Innovation: Investing for the future

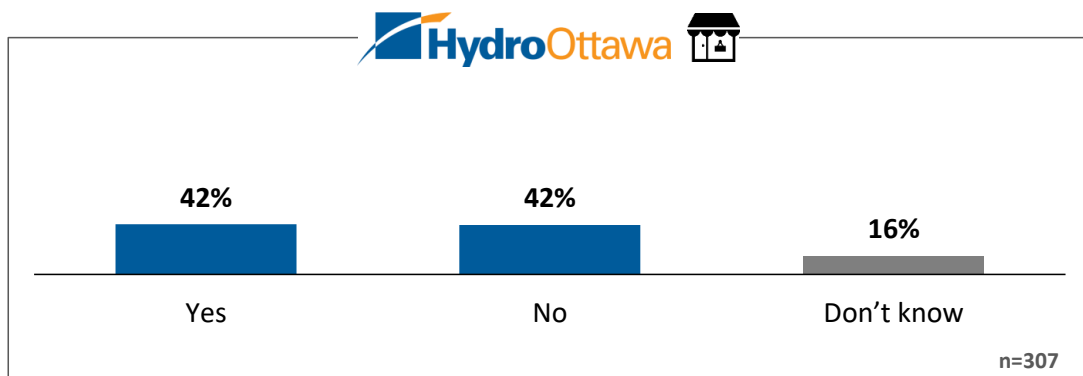
Small Business



121

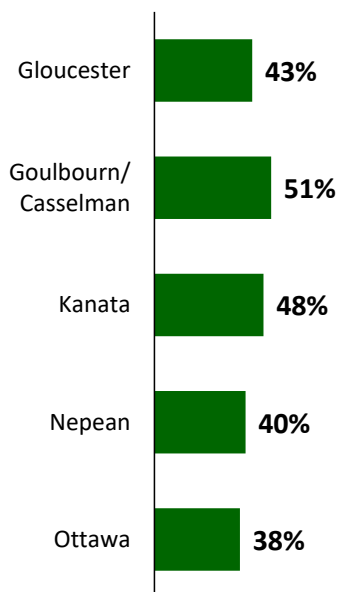
Q

Do you believe Hydro Ottawa should limit expenditures to those necessary to serve today's customers and existing needs, if this option could lower rate impacts in the short term?



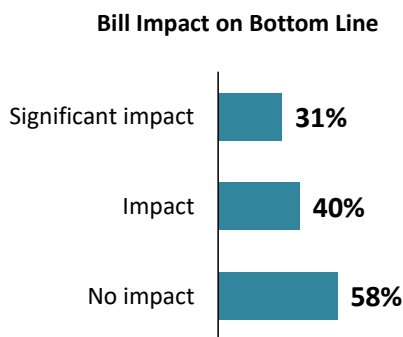
Regional Segmentation

Respondents who say "No"



Environmental Control Segmentation

Respondents who say "No"



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Small Business



122

Additional Feedback: Innovation: Investing for the future

Q

Additional Feedback (Optional)

Additional Comments (n=34) 89% of respondents did not provide additional feedback	n-size
Reduce rates; keep costs low	5
Plan for future (urban growth, EV adoption, future demand, etc.)	5
Support local generation and/or storage (decentralization, MiGen)	3
Skeptical of/opposed to 'green' tech/EVs	2
Allow opt-in funding/those interested should pay	2
R&D, innovation is important/worth it	2
Decide after thorough assessment (priorities, value, impact, etc.)	2
Support alternative/renewable energy	1
Support investment IF it results in reduced cost	1
Alternative financing - partnerships, developers, gov't, dividends, etc.	1
Focus on present needs	1
Respond to markets (EV, emerging tech/ innovations, etc.)	1
Need more information/have outstanding questions	1
Critical of question (insufficient options, confusing, contradictory, biased, etc.)	1
Other	5

Online Workbook

Background Information

Small Business



123

Keeping the business running

Hydro Ottawa is more than just poles and wires – it's a business that needs to invest in tools, trucks, equipment, and facilities to maintain the distribution system and service its customers.

The types of expenditures in this category are:

- **Information Technology:** Systems required to securely operate the distribution system, manage customer information and privacy, and keep employees working effectively and efficiently.
- **Vehicles:** Bucket trucks and other vehicles used to move employees, equipment, and supplies throughout Hydro Ottawa's service territory to support the safe and reliable operation of the grid.
- **Facilities:** Warehouse, operations centres and administrative office.
- **Tools and Equipment:** Specialized safety tools and equipment to mitigate the risks associated with maintaining electricity distribution infrastructure.

When deciding whether to continue to maintain existing tools or replace them, Hydro Ottawa considers whether the risks and costs of continuing to use them outweighs the benefits of waiting longer to replace them. Hydro Ottawa must also consider the lead times required to replace some utility vehicles, such as bucket trucks, which can be as long as 18 months.



Representative Workbook

Keeping the business running

Small Business



124

As a company, Hydro Ottawa needs equipment to maintain its distribution system and IT systems to manage the distribution system and customer information.

Q

Which of the following statements best represents your point of view?



Hydro Ottawa should find ways to make do with the business equipment it already has.

28%

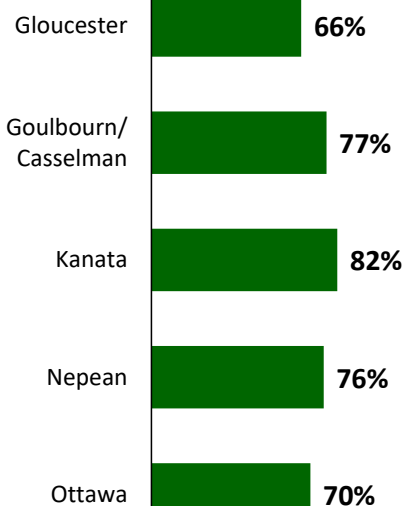
Hydro Ottawa should make the investments necessary to ensure its staff has the equipment they need to manage the distribution system efficiently and reliably.

72%

n=307

Regional Segmentation

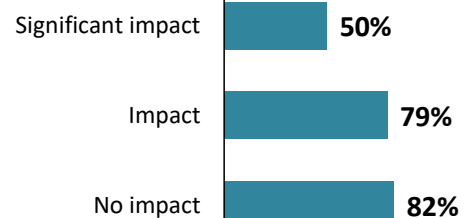
Respondents who say "Hydro Ottawa should make the investment necessary"



Environmental Control Segmentation

Respondents who say "Hydro Ottawa should make the investment necessary"

Bill Impact on Bottom Line



"Customers are well served by the electricity system in Ontario"



Representative Workbook

Small Business



125

Additional Feedback: Keeping the business running

Q

Additional Feedback (Optional)

Additional Comments (n=29) 91% of respondents did not provide additional feedback	n-size
Alternative financing - asset sharing, salaries, profits, internal efficiencies, etc.	4
Investing now leads to reduced future costs; proactive > reactive	4
Proper/efficient/up-to-date equipment is important	3
Safety (of work crews) is priority #1	3
Find balance between the two options (discretion, prudence, 'within reason')	2
Make decisions based on positive ROI/cost-benefit	2
Critical of question (insufficient/misleading options)	2
Need more information/have outstanding questions	2
Minimize increases	1
Ensure transparency/accountability of these expenditures	1
Prioritize thorough assessment	1
Other	4

Representative Workbook

Vehicle replacement

Small Business



126

Q

Which of the following vehicle replacement options do you prefer?



Option 1: Using a run-to-failure approach, replace vehicles only when they can no longer operate, knowing that some larger vehicles require an 18 month lead time to replace. This approach may impact restoration times and efficiency.

17%

Option 2: Make investments in the fleet on a vehicle-by-vehicle basis weighing age, kilometers driven, engine hours, repair history, availability of parts and internal mechanic assessments of the general vehicle condition.

77%

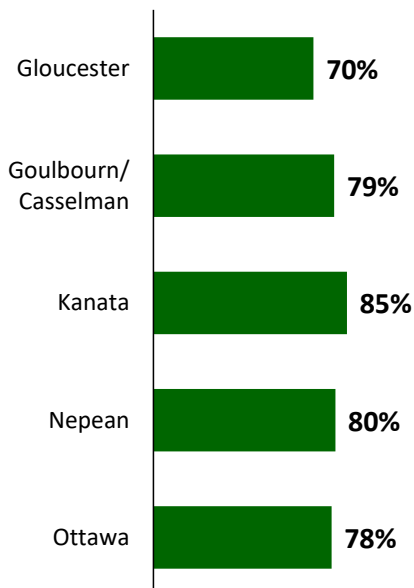
Option 3: Replace vehicles once they have reached the end of their recommended age, regardless of their condition, which is the most expensive and lowest risk option.

5%

n=307

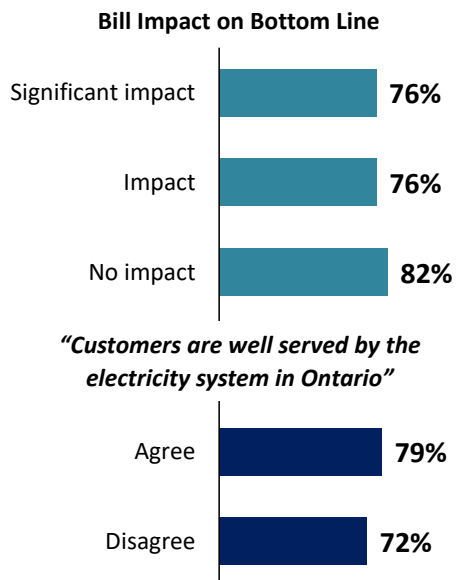
Regional Segmentation

Respondents who say "Option 2"



Environmental Control Segmentation

Respondents who say "Option 2"



Representative Workbook

Additional Feedback: Vehicle replacement

Small Business



127

Q

Additional Feedback (Optional)

Additional Comments (n=34) 89% of respondents did not provide additional feedback	n-size
Maximize asset life (eg. no idling, rust protection, regular maintenance, skilled mechanics on staff)	5
Critical of life cycle estimates (too low, arbitrary, etc.)	5
Make decisions based on cost-benefit /ROI	3
Critical of question/survey (insufficient options, biased, leading etc.)	2
Transition to EV/hybrid/alternative fuel/greener fleet	2
Ensure effective management/planning ahead/budgeting	2
Find balance between options 2 and 3	2
New equipment necessary/reliable/reduces operating costs	2
Explore more options (none quite right)	2
Support run-to-failure	2
Oppose run-to-failure	1
Lease/rent/share the fleet/outsource	1
Prioritize thorough assessment	1
Ensure fiscal responsibility - eliminate waste, efficient spending, need > want, etc.	1
Make do with current fleet/spending here is low priority/limit spending	1
Need more information/have outstanding questions	1
Other	1

Representative Workbook

Small Business

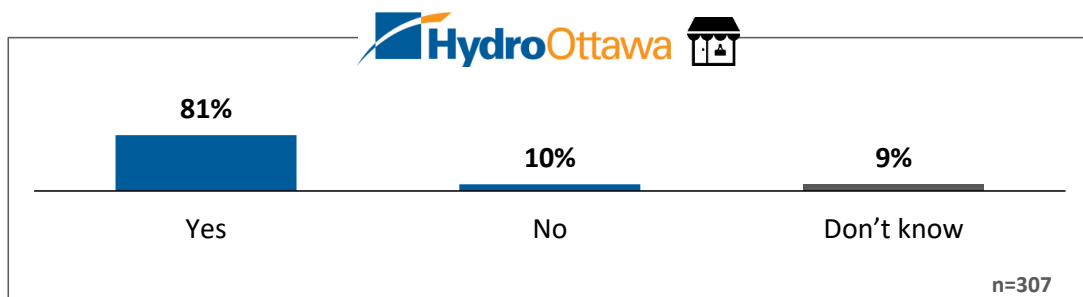


128

Additional Feedback: Finding efficiencies through technology

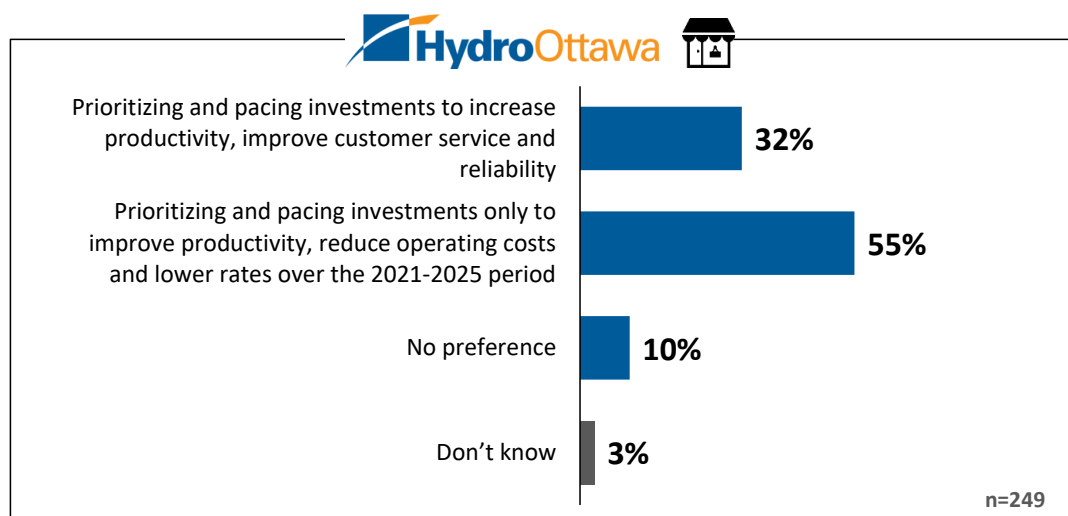
Q

Do you support Hydro Ottawa's view that prudent technological investments are necessary in order to meet its ongoing business and customer needs?



Q

[If yes to above] And which of the following options do you prefer?



Representative Workbook

Small Business



129

Additional Feedback: Finding efficiencies through technology

Q

Additional Feedback (Optional)

Additional Comments (n=19) 94% of respondents did not provide additional feedback	n-size
Support this investment - general	7
Low priority/limit spending/service is fine	3
Lack confidence in survey design, questions, or Hydro Ottawa to use the data	2
Keep rates low/minimize increase	2
Invest IF it leads to reduction in bills/increase in efficiency/productivity	1
Ensure cyber security	1
Use of 'prudence' here is problematic; leaves questions	1
Ensure effective managing/planning/budgeting	1
Other	2

Representative Workbook

Investment Alternative Summary

Small Business



130

Investment Alternative Summary

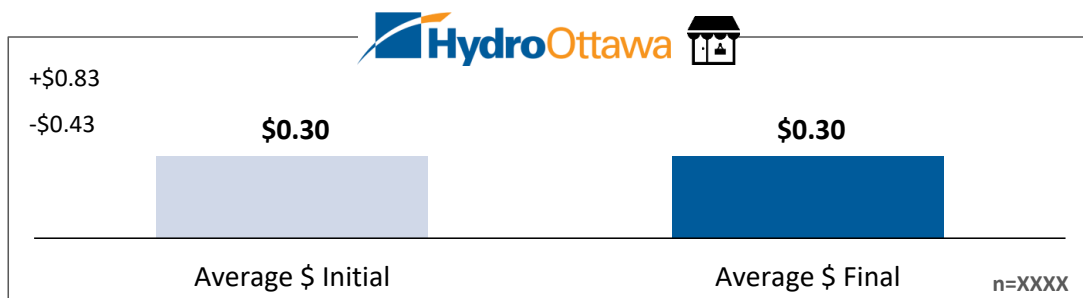
Throughout this workbook, you have been asked about some key choices that could impact your rates. Below is a summary of your answers to the questions that could impact your rates.

At the bottom of this page you will find the total bill impact of all the answers.

Having seen the total bill impact, please review your answers and change your responses if you desire; your potential rate impact will be re-calculated. You will have the opportunity to adjust your answers again until you feel you've reached the best balance for you.



Small Business Customer Bill Impact Change and Magnitude of Bill Impact (MEAN)



Differences that are statistically significant at 95% are noted by an asterisk (*).

Initial Response

Monthly Rate Change	%
Maximum decrease (-\$0.43)	6%
Less than zero, less than max decrease	12%
Zero	14%
Great than zero, less than max increase	49%
Maximum increase (+\$0.83)	20%

Final Response

Monthly Rate Change	%
Maximum decrease (-\$0.43)	7%
Less than zero, less than max decrease	11%
Zero	17%
Great than zero, less than max increase	45%
Maximum increase (+\$0.83)	20%

Representative Workbook

Change in Initial Versus Final Response by Project

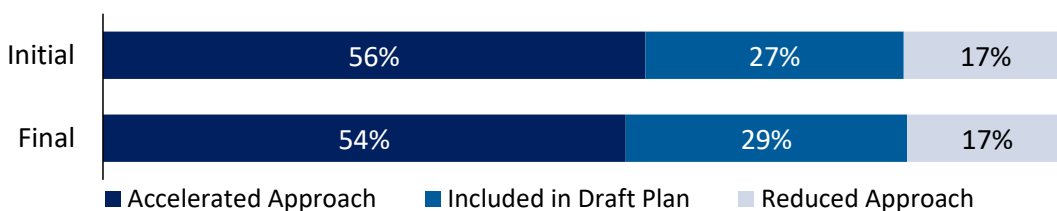
Small Business



131

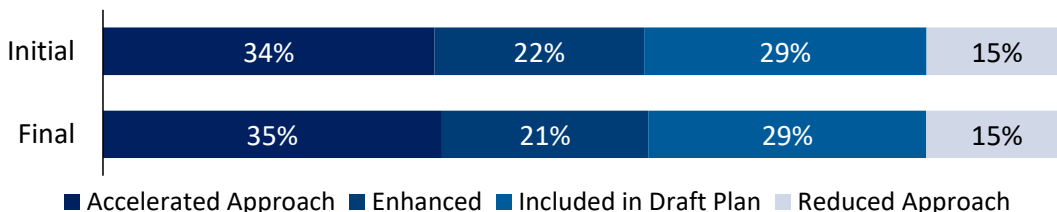
Q

Pacing investments in the overhead distribution system



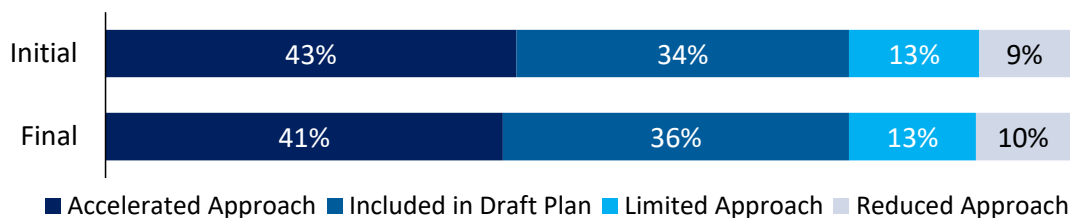
Q

Pacing Investments in the Underground Distribution System



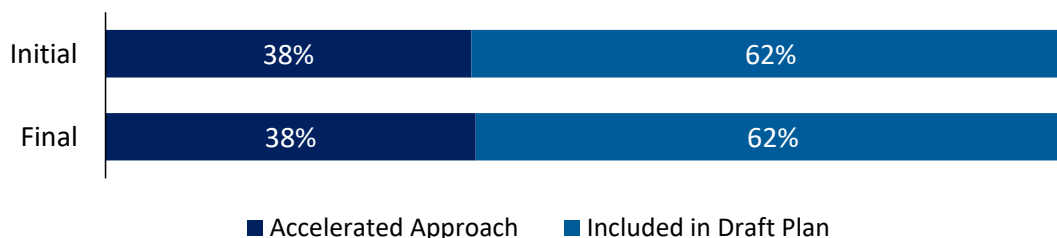
Q

Reliability Investments



Q

Serving a Growing City



Representative Workbook

Impact of Choices on Rates | Preamble

Small Business



132

Impact of Hydro Ottawa's Plan

Hydro Ottawa has calculated the rate impact of implementing the options recommended by its planners and included it in its draft plans.

These priorities may change based on your input but Hydro Ottawa is looking for an investment program that aims to:

- **Minimize rate increases;**
- **Maintain reliability and service quality;**
- **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth, and;**
 - **The effects of severe weather events.**
- **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **3.5% per year for the period 2021-2025.**

At the end of the 5-year plan, the typical small business customer would see the distribution portion of their electricity bill increase by **\$13.27**. As a result, the distribution charges on the typical small business customer's monthly bill would increase from **\$70.72 in 2020** to **\$83.99 by 2025**.

Representative Workbook

Impact of Hydro Ottawa's Plan

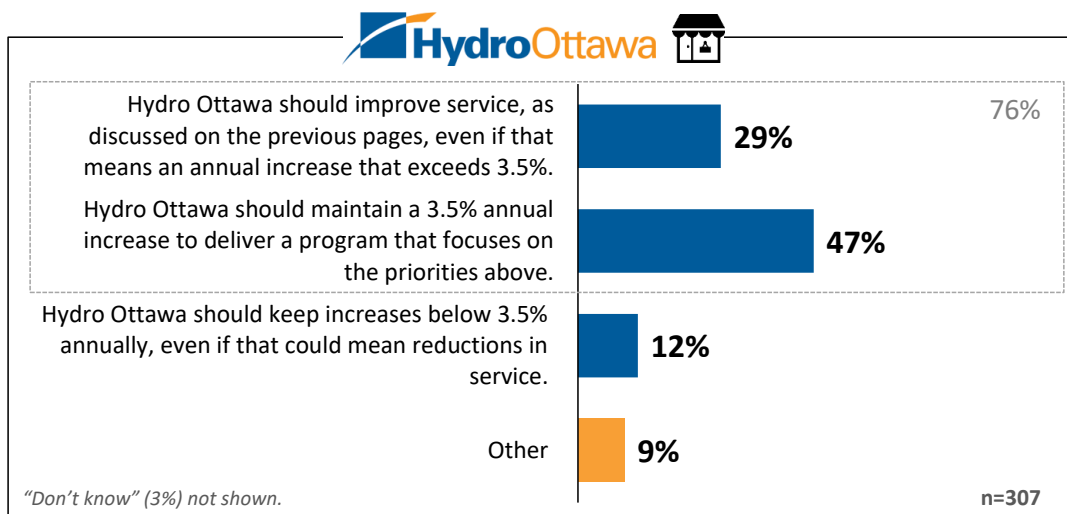
Small Business



133

Q

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?



View of Hydro Ottawa's plan	Gloucester	Goulbourn/Casselman	Kanata	Nepean	Ottawa
Hydro Ottawa should improve services	23%	44%	31%	28%	30%
Stick with 3.5% increase	45%	46%	61%	46%	44%
Keep increases below 3.5%	15%	3%	6%	13%	12%
Other	11%	5%	-	13%	9%
Don't know	6%	3%	2%	-	3%
Improve services or stick with 3.5% increase	68%	90%	92%	74%	75%

Representative Workbook

Impact of Hydro Ottawa's Plan

Small Business



134

Q

"Customers are well served by the electricity system in Ontario"

View of Hydro Ottawa's plan	Agree	Disagree
Hydro Ottawa should improve services	31%	21%
Stick with 3.5% increase	50%	33%
Keep increases below 3.5%	12%	13%
Other	4%	28%
Don't know	2%	6%
Improve services or stick with 3.5% increase	82%	54%

Q

Bill Impact on Bottom Line

View of Hydro Ottawa's plan	Significant impact	Impact	No impact
Hydro Ottawa should improve services	17%	31%	38%
Stick with 3.5% increase	44%	50%	47%
Keep increases below 3.5%	15%	10%	11%
Other	21%	6%	4%
Don't know	3%	4%	-
Improve services or stick with 3.5% increase	61%	80%	85%

Representative Workbook

Final Comments

Small Business



135

Q

Now that you have considered the various choices Hydro Ottawa has to make and the cost implications of those choices, do you have any final comments for Hydro Ottawa?

Final Comments (n=59) 81% of respondents did not provide additional feedback	n-size
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	7
Issue with rest of system (transmission, generation, policy, etc.)	6
Reduce cost/cost too high/ minimize increase	5
Alternative financing - developers, govt, profits, internal efficiencies, dividends to city, etc.	5
Skeptical/critical of survey	4
More communication/transparency (planned projects, operations, bill breakdown, etc.)	3
Maintaining/upgrading system is important	3
Increase should not exceed inflation/cost of living	2
Decision making should be long-term/future oriented	2
Encourage/incentivize conservation	2
Happy with service; keep up good work	2
Appreciated survey/opportunity to give feedback; informative	2
Aim for 3.5% but adjust within reason	2
Strong infrastructure is worth paying more; do what it takes	1
Investment should be well thought out	1
Demo-based rates/support (income brackets, seniors, big users, conservers, etc.)	1
Other	3
None	7
Don't Know	2

Representative Workbook

Final Thoughts: Workbook Diagnostics

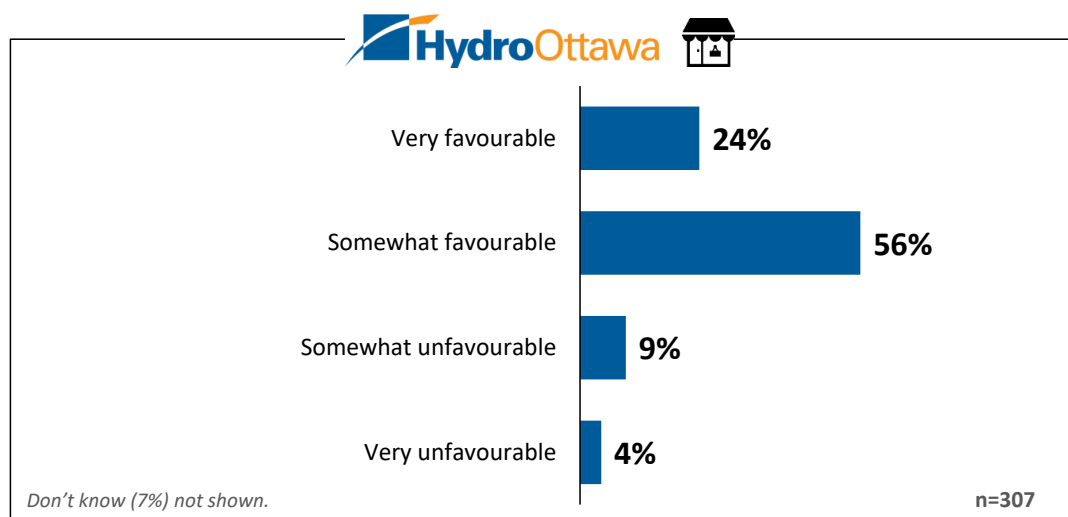
Small Business



136

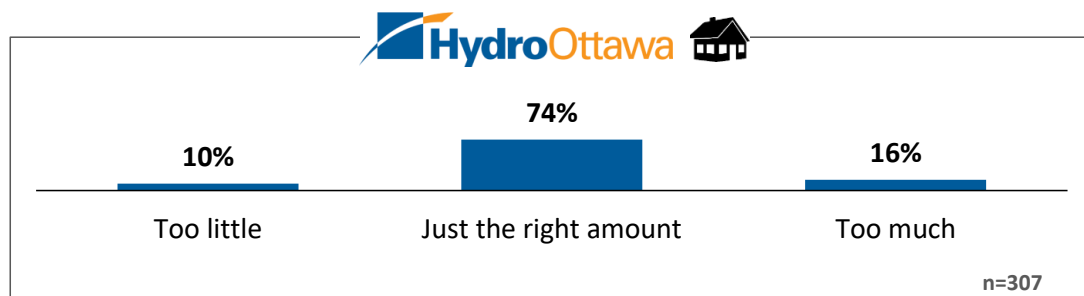
Q

Overall Impression: Did you have a favourable or unfavourable impression of the workbook you just completed?



Q

Volume of Information: Did Hydro Ottawa provide too much information, not enough, or just the right amount?





Building Understanding.

Personalized research to connect you and your audiences.

For more information, please contact:

Julian Garas

Senior Consultant

(t) 416-640-4133

(e) jgaras@innovativeresearch.ca

Jason Lockhart

Vice President

(t) 416-642-7177

(e) jlockhart@innovativeresearch.ca

Appendix 6.0



2021-2025 Rate Application

Voluntary Report



This report and all of the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited.

November 2019

STRICTLY PRIVILEGED AND CONFIDENTIAL

Voluntary Workbook

Survey Design & Methodology

Residential &
Small Business



2



INNOVATIVE was engaged by Hydro Ottawa to gather input on preferences on program timing and balancing outcomes. **Pages 3 to 60** show the actual pages of the workbook completed by customers (for illustration, the residential version has been used. Refer to the Representative Report for the small business version). The only additions are the actual results.

Field Dates & Workbook Delivery

The **Voluntary Online Workbook** was accessible to all Hydro Ottawa residential and small business customers between **August 20th and September 26th, 2019**.

INNOVATIVE hosted the online portal at the following URLs: *HydroOttawa.ca/survey* and in French at *HydroOttawa.ca/sondage*.

Hydro Ottawa promoted the voluntary workbook through their website, social media, bill inserts, digital advertisements and other tactics.

Each customer was able to select their rate class, ultimately providing them with a workbook customized for whether they were a residential or small business customer. The website saved their progress as they answered each question, thus preventing customers from completing questions repeatedly. Upon completion, the site was no longer accessible at the web address given.

Voluntary Online Workbook Completes

A total of **1,711** (unweighted) Hydro Ottawa residential and small business customers completed the voluntary online workbook through the generic website link. Due to the small number of Hydro Ottawa small business customers who completed the voluntary workbook, results from both rate classes have been combined for analysis purposes.

The voluntary online workbook sample has not been weighted, therefore, is not representative of the broader Hydro Ottawa customer base.

Unweighted Sample	Rate Class		Total	Workbook Distribution
	Residential	Small Business		
Gloucester	478	2	480	28%
Goulbourn/Casselman	124	0	124	7%
Kanata	160	1	161	9%
Nepean	402	2	404	24%
Ottawa	536	6	542	32%
Total	1,700	11	1,711	100%

Note: Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers. Caution interpreting results with small n-sizes.

Voluntary Workbook

Demographic Breakdown

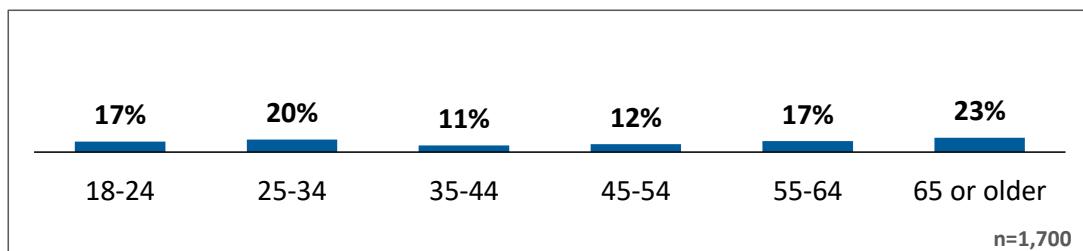
Residential &
Small Business



3

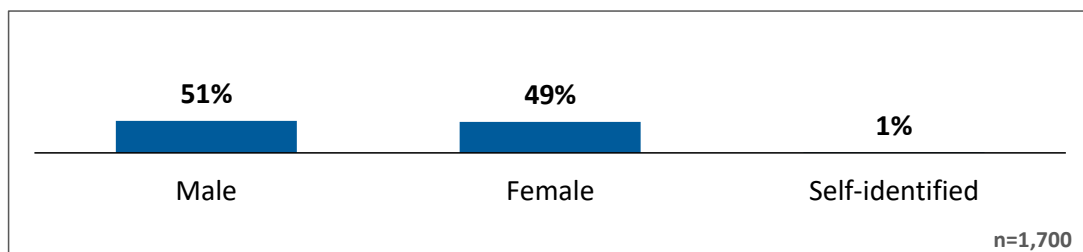
Q

Age (Residential Only)



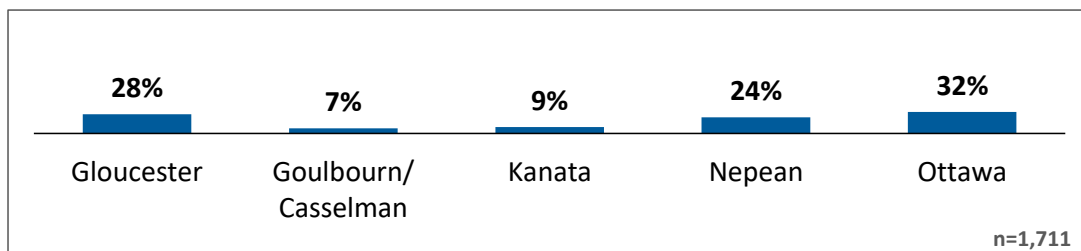
Q

Gender (Residential Only)



Q

Region (Residential & Small Business)



Voluntary Workbook

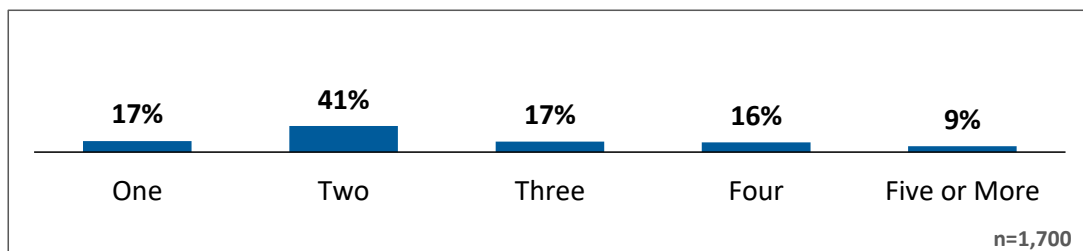
Demographic Breakdown

Residential &
Small Business

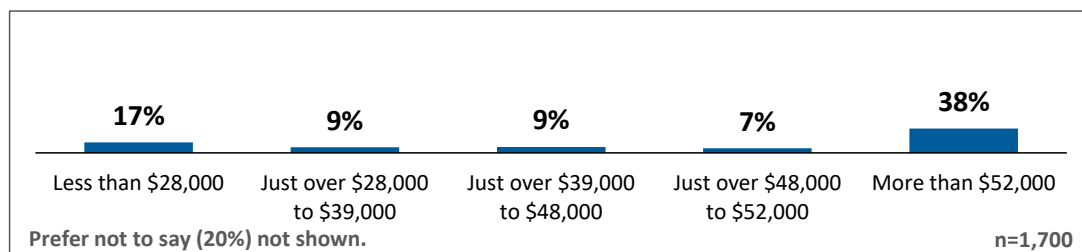


4

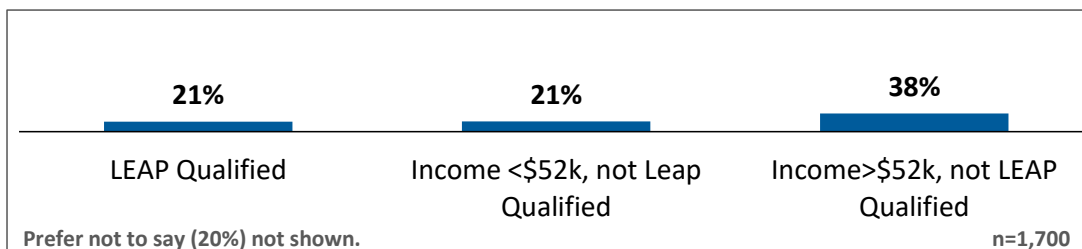
Q Household Size (Residential Only)



Q After Tax Household Income (Residential Only)



Q LEAP Qualification (calculated based on household size and income)



Voluntary Workbook

Environmental Controls

Residential &
Small Business

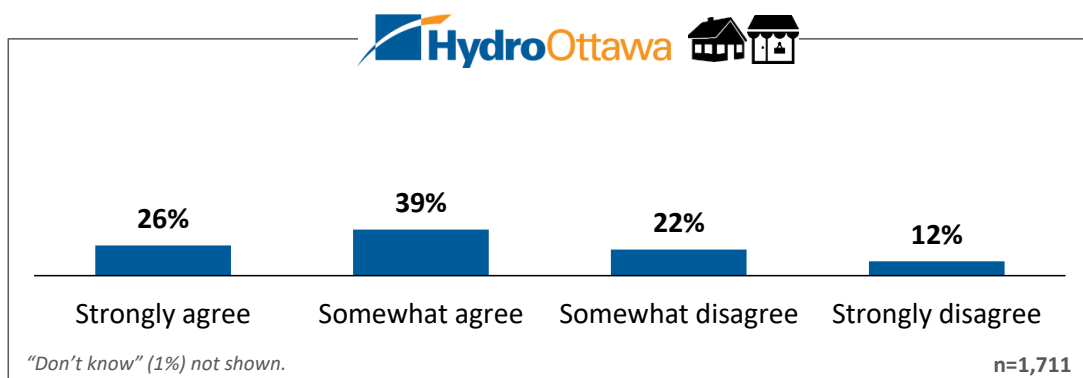


5

Thinking generally about the electricity system in Ontario, including generation, transmission and local distribution, do you agree or disagree with the following statements?

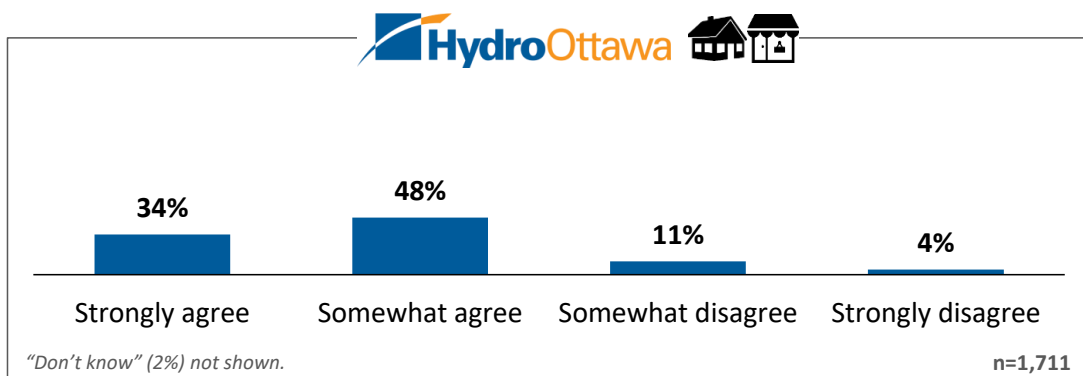
Q

The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.



Q

Customers are well served by the electricity system in Ontario.



Voluntary Workbook




Background Information

Residential &
Small Business



6

Hydro Ottawa Limited (Hydro Ottawa) is looking for your input on choices that will help shape the service you receive and the price you pay.

-  Hydro Ottawa is developing its business plan for 2021 to 2025. This plan will determine the level of spending and investments Hydro Ottawa makes in equipment and infrastructure and the services it provides, as well as the rates you pay.
-  Hydro Ottawa is accountable to the provincial regulator, the **Ontario Energy Board (OEB)**, both in terms of sharing what customers say and demonstrating how they considered those views when undertaking the planning process.
-  You don't need to be an electricity expert to participate in this consultation. This workbook is focused on basic choices and provides the background information you need to answer the questions.

Building on previous customer feedback, the goal of this consultation is to allow Hydro Ottawa to better understand the needs and preferences of customers like you, and help them align their plan with what you have shared.

While your view may not always align exactly with the available options, please select the one that is closest to your point of view.

Those who complete the questions that follow will be invited to enter a draw to win one of four (4) \$500 cash prizes.

Depending on how much feedback you wish to provide, this consultation should take approximately 30-45 minutes to complete. If you need to pause and return at a later time to finish your feedback, your completed answers will be saved

If you are reading this on a smaller mobile device, you may want to consider accessing the survey from a tablet, desktop or laptop instead so that it is easier for you to read.

Voluntary Workbook

Background Information

Residential &
Small Business



7

This consultation is about gathering your feedback on finding the right balance between the services you receive from Hydro Ottawa over the next five years and the price you pay.

Hydro Ottawa has important decisions to make about the pace and mix of expenditures it makes in equipment and infrastructure, the services it provides you as a customer, and the rates you pay.

Every five years, Hydro Ottawa submits a plan for its proposed rates and spending to the Ontario Energy Board for approval. They are now in the process of finalizing that plan.

- Earlier in 2019, Hydro Ottawa asked thousands of customers about their priorities and preferred outcomes for electricity distribution service.
- Using the feedback shared by customers, Hydro Ottawa built a plan that is intended to align with customer preferences. Want to learn more about how Hydro Ottawa plans? [Click here](#)
- Hydro Ottawa is now coming back to its customers with a series of expenditure options in order to finalize its draft plan for the next five years.

How will this customer consultation work?



Hydro Ottawa will ask for your feedback on a number of decisions it needs to make in order to finalize their plan. These decisions will impact both the services you receive, as well as the price you pay on the distribution portion of your electricity bill.



For each decision, Hydro Ottawa has identified the option that it feels balances customer feedback received to date to limit cost impacts, while prudently investing in the distribution system. These options have been included in the current plan, but may be influenced by your feedback.



Once you have finished sharing your thoughts on these decisions, you will have an opportunity to review your responses and the estimated total rate impact of those choices. You will be able to change your responses until you feel you have found the right mix of investments and estimated rate impact.

Voluntary Workbook

Background Information

Residential &
Small Business



8

How will your views impact Hydro Ottawa's plans and rates?

The Ontario Energy Board (OEB) sets electricity rates in Ontario.



Electricity distributors like Hydro Ottawa are funded by the distribution rates paid by its customers. Electricity distributors are required to file a rate application with the OEB to request a change in distribution rates based on its plans for capital and operating costs.

As a customer, how are my interests protected?

The OEB requires all electricity distributors in Ontario, like Hydro Ottawa, to consider customer needs and preferences as they develop their business plan and distribution system plan.

The OEB then reviews Hydro Ottawa's plan and proposed rates in an open and transparent public process known as a rate hearing. Any individual or group may participate during Hydro Ottawa's application to ask questions or seek more information about Hydro Ottawa's plan and application.

Hydro Ottawa will be held accountable for the way you were consulted, the information shared with you and the ways in which the plan considers what you say.

At the end of the process, the OEB will weigh the evidence and decide on the rates Hydro Ottawa can charge its customers.

Voluntary Workbook

Residential &
Small Business

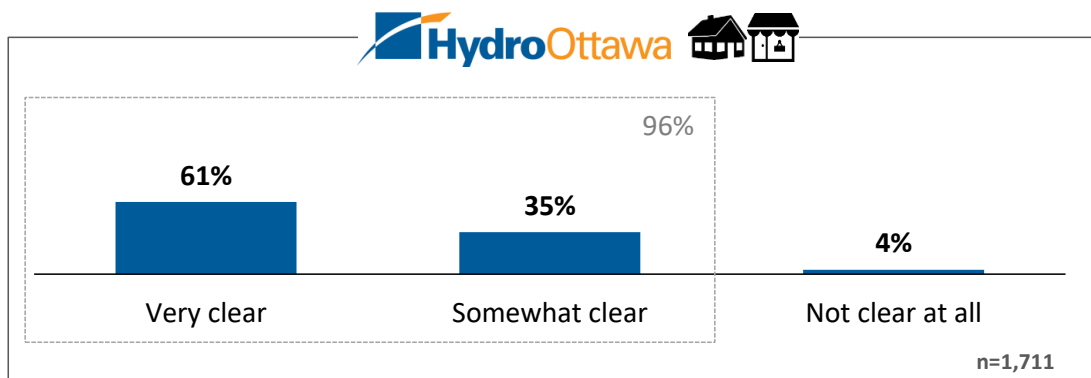


9

Purpose of Hydro Ottawa's customer consultation

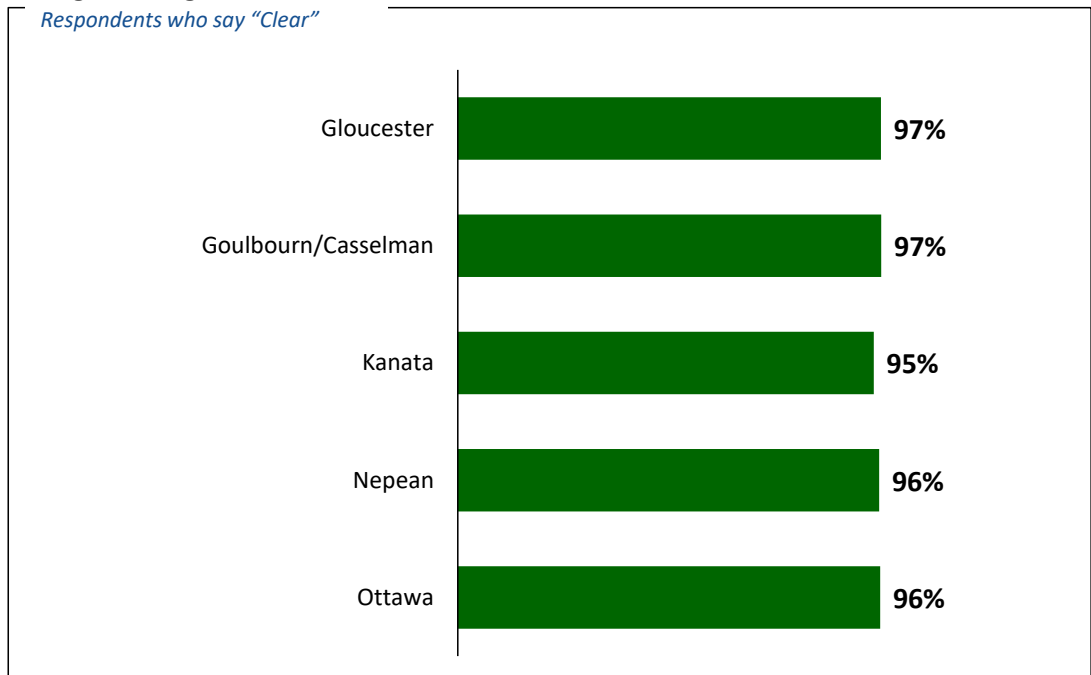
Q

Do you feel that the purpose of Hydro Ottawa's customer consultation is clear?



Regional Segmentation

Respondents who say "Clear"



Voluntary Workbook

Background Information

Residential &
Small Business



10

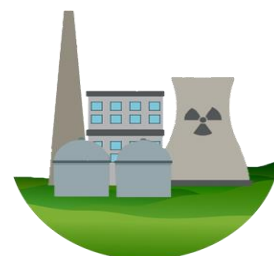
Understanding Ontario's electricity system and Hydro Ottawa's role

Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

Generation

Where electricity comes from

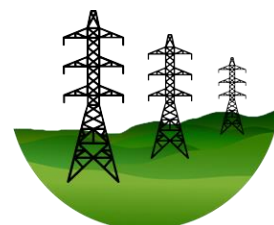
Ontario's electricity is generated using a mix of nuclear, gas-fired, and water power (hydro), as well as biomass and renewable sources such as wind and solar technology. In Ontario, a number of companies own these generating stations but approximately half of the electricity is generated by Ontario Power Generation. The Independent Electricity System Operator (IESO) balances the supply of, and demand for, electricity on a second-by-second basis and directs its flow across the high-voltage transmission lines.



Transmission

How electricity travels across Ontario

Once generated, electricity must be transported to electrical substations across the province. Due to the large amount of power and long distances, transmission normally takes place at high voltages with the lines suspended on large, steel towers. The province has more than 30,000 kilometres of 'electricity highway', most of which is owned and operated by Hydro One.



Local Distribution

How electricity is delivered to the end-consumer



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers. Its local distribution system is connected to the transmission grid through its distribution stations and transformers. This allows the voltage to be decreased so it can be distributed and safely used in homes and organizations across Hydro Ottawa's service territory.

Hydro Ottawa's distribution system is complex. It consists of approximately 50,000 poles, 2,700 km of overhead power lines, 3,000 km of underground cable, and 45,000 transformers.

Voluntary Workbook

Familiarity with Ontario's electricity system

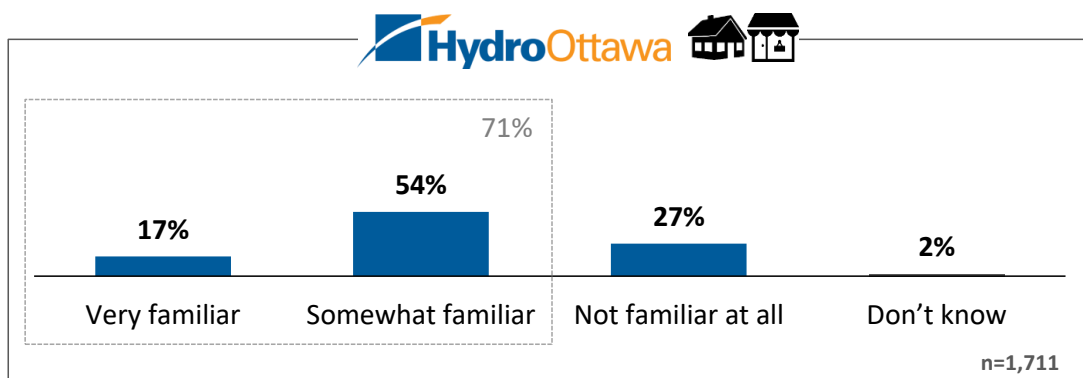
Residential &
Small Business



11

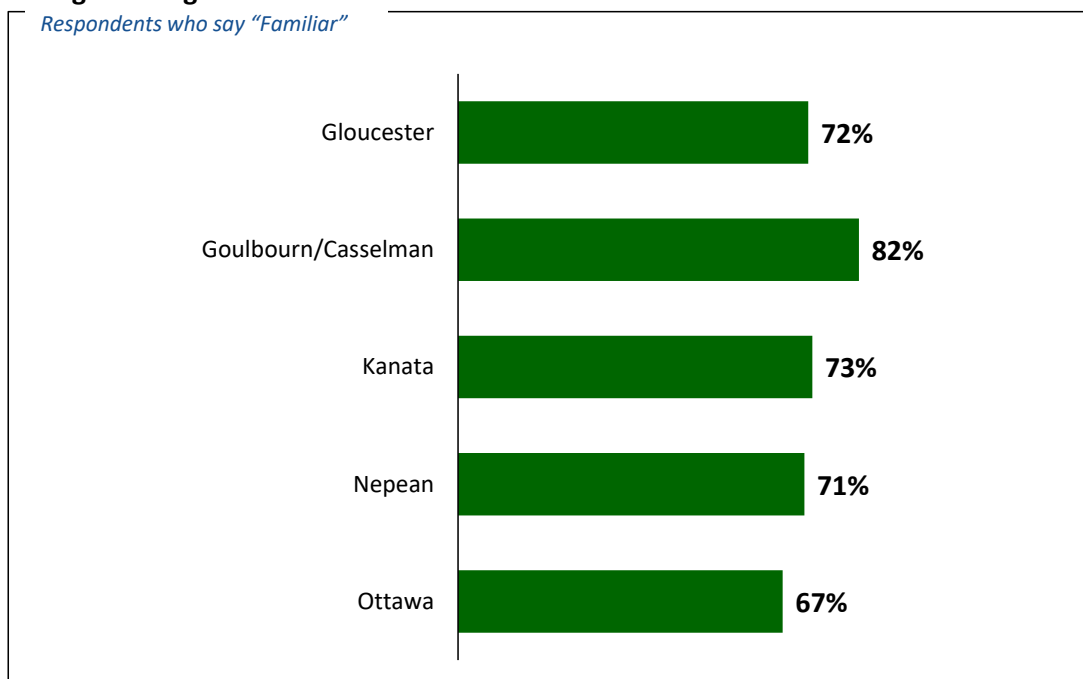
Q

Before this consultation, how familiar were you with various parts of the electricity system, how they work together, and for which services Hydro Ottawa is responsible?



Regional Segmentation

Respondents who say "Familiar"



Voluntary Workbook

Residential &
Small Business



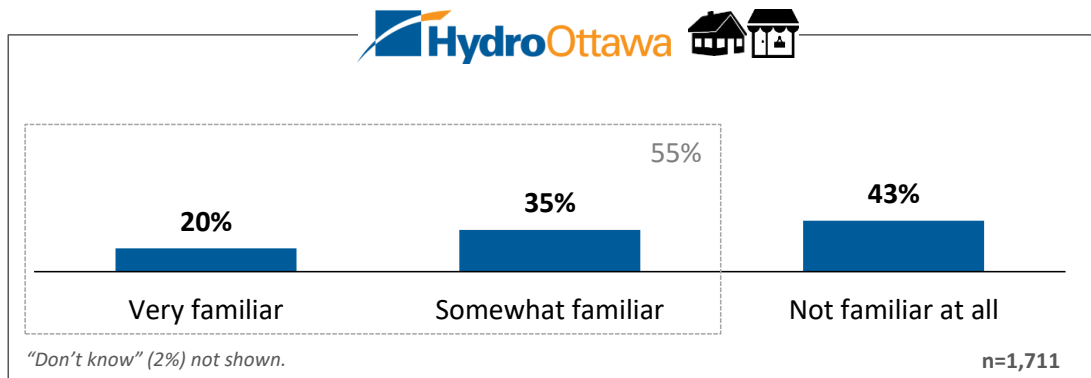
12

Familiarity with how Hydro Ottawa receives funding

Hydro Ottawa is entirely funded through the rates its customers pay and does not receive taxpayer money for its operations or investments.

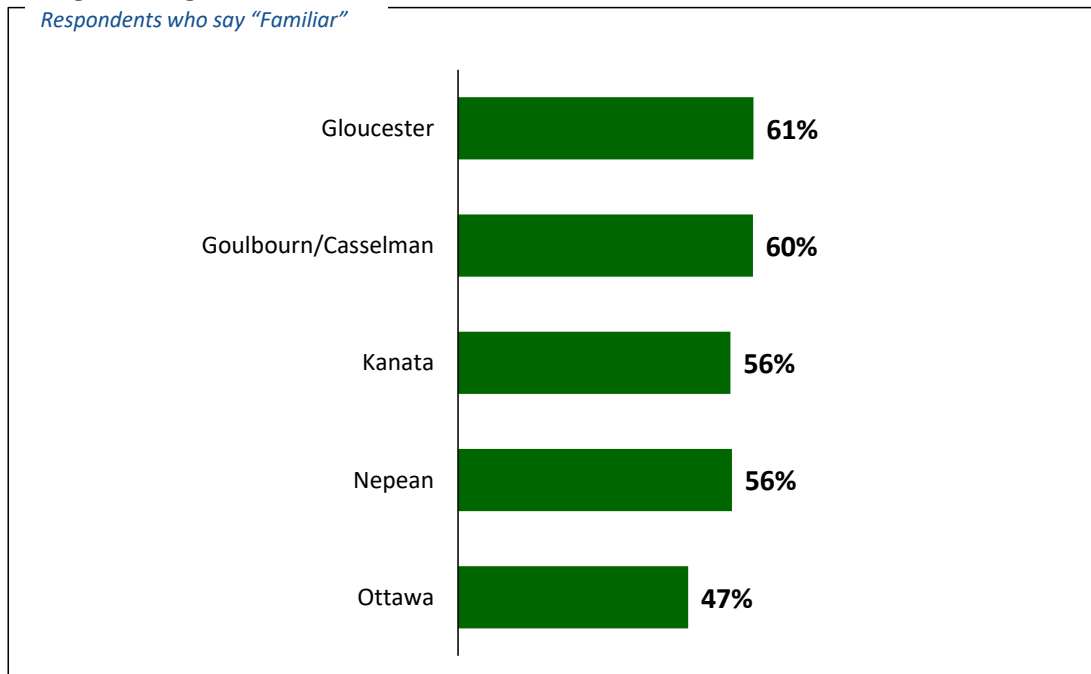
Q

Before this consultation, were you aware of how Hydro Ottawa received its funding?



Regional Segmentation

Respondents who say "Familiar"



Voluntary Workbook

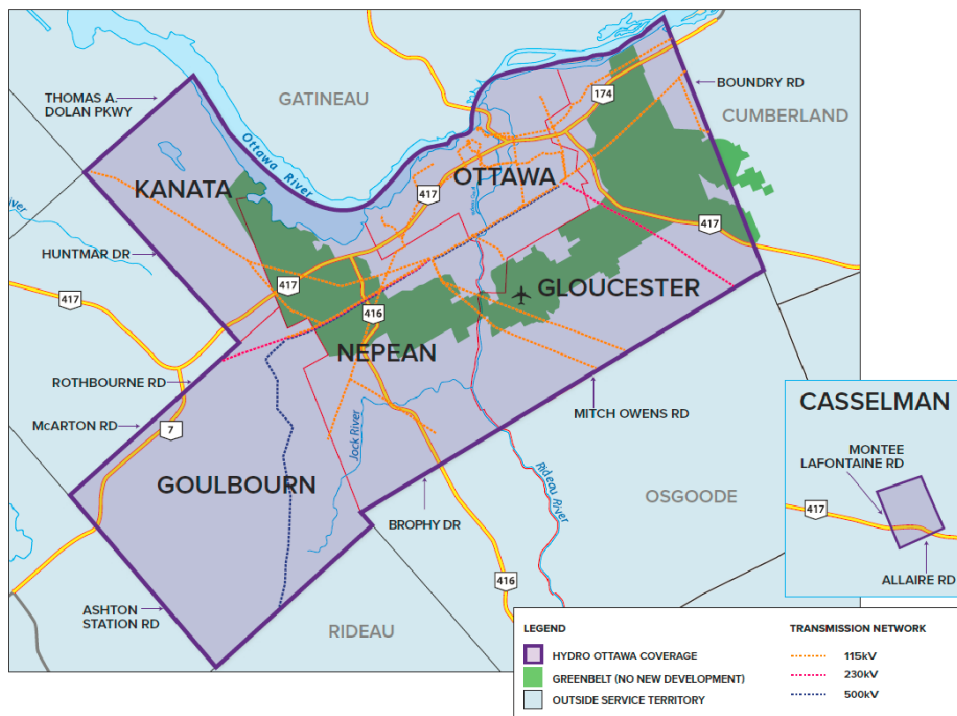
Background Information

Residential &
Small Business



Hydro Ottawa fast facts

- Private business corporation 100% owned by its shareholder, the City of Ottawa
- Third largest municipally-owned electricity distributor in Ontario
- Serves approximately 335,000 homes and businesses (more than one million consumers)
- Service territory of 1,116 square kilometers that includes most of the City of Ottawa and the Village of Casselman
- Over 600 employees
- Does not receive taxpayer money to fund its operations or its investments in the distribution system
- Entirely funded through the rates its customers pay



Voluntary Workbook

Overall Satisfaction with Hydro Ottawa

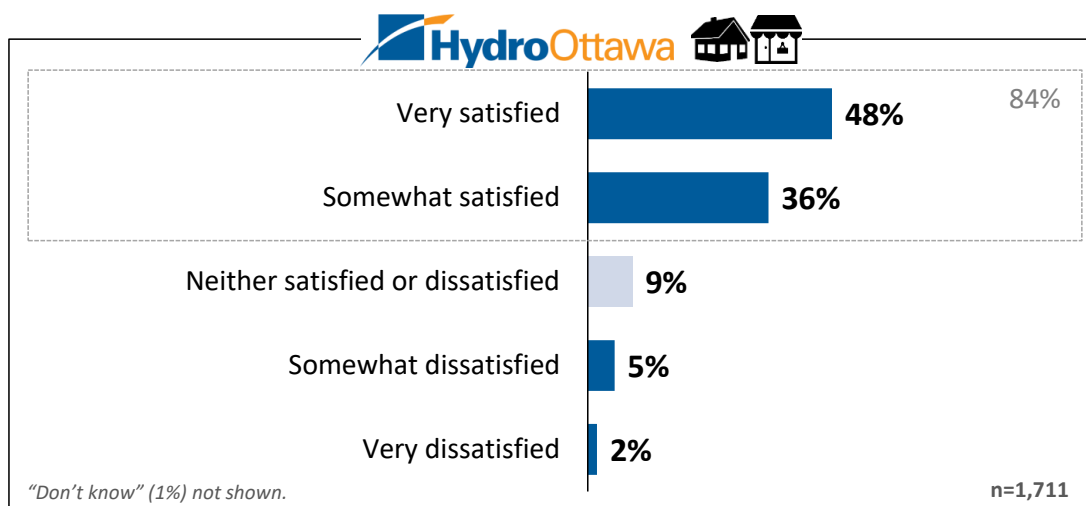
Residential &
Small Business



14

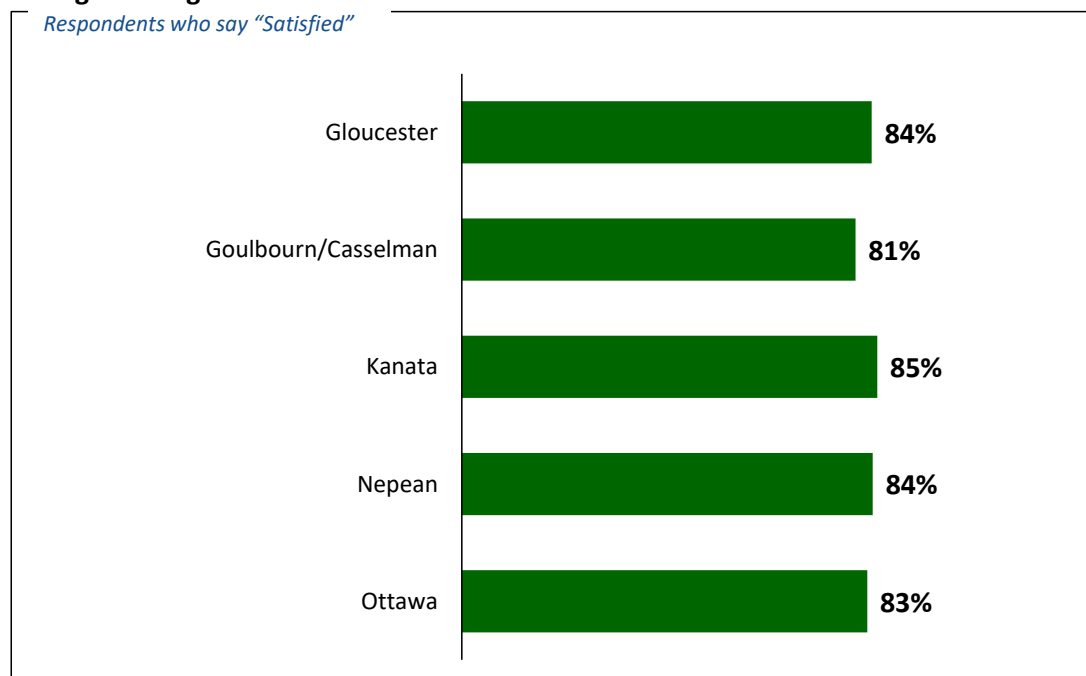
Q

Thinking specifically about the services provided to you and your community by Hydro Ottawa, how satisfied or dissatisfied are you with the services that you receive?



Regional Segmentation

Respondents who say "Satisfied"



Voluntary Workbook

How can Hydro Ottawa Improve services?

Residential &
Small Business



15

Q

Is there anything in particular that Hydro Ottawa can do to improve its services to you?

Improving Services (n=830)	%
51% of respondents did not provide additional feedback	
Reduce rates	21%
Nothing; happy with service	7%
Bill for usage; eliminate/reduce delivery charge/fixed service fees	5%
Adjust time of use/reduce/eliminate peak rates	4%
Reduce number of unplanned outages	3%
Move to green energy/renewables/encourage self generation	3%
Improve clarity of bills; explain charges and calculations	3%
Improve communication during outages	3%
Maintain/upgrade infrastructure/expand service	3%
More support for low/fixed income, seniors, differently abled	2%
More education on conservation/energy efficiency/peak time rates	2%
Do not increase rates/keep rates affordable/minimize increases	2%
Improve billing (e.g. timing, payment methods, notices, etc)	2%
Improve customer service/better access to CSR for complaints/outage reporting/online portal	2%
Better access to usage data online/reinstate usage emails/PeakSaver	2%
Move lines underground	2%
Better accountability/transparency/info on sources of energy/general communications	2%
Find internal efficiencies/lower operating costs/lower executive salaries	2%
Provide (more) incentives and rebates/rewards for energy saving	1%
Improve reliability and power quality	1%
Improve restoration times	1%
Against privatization/payment of dividends to city/profits should go to consumer savings	1%
Improve reliability during storms; harden system against weather	1%
Better tree maintenance	1%
Other	3%
None	17%
Don't Know	1%

Voluntary Workbook

Background Information

Residential &
Small Business

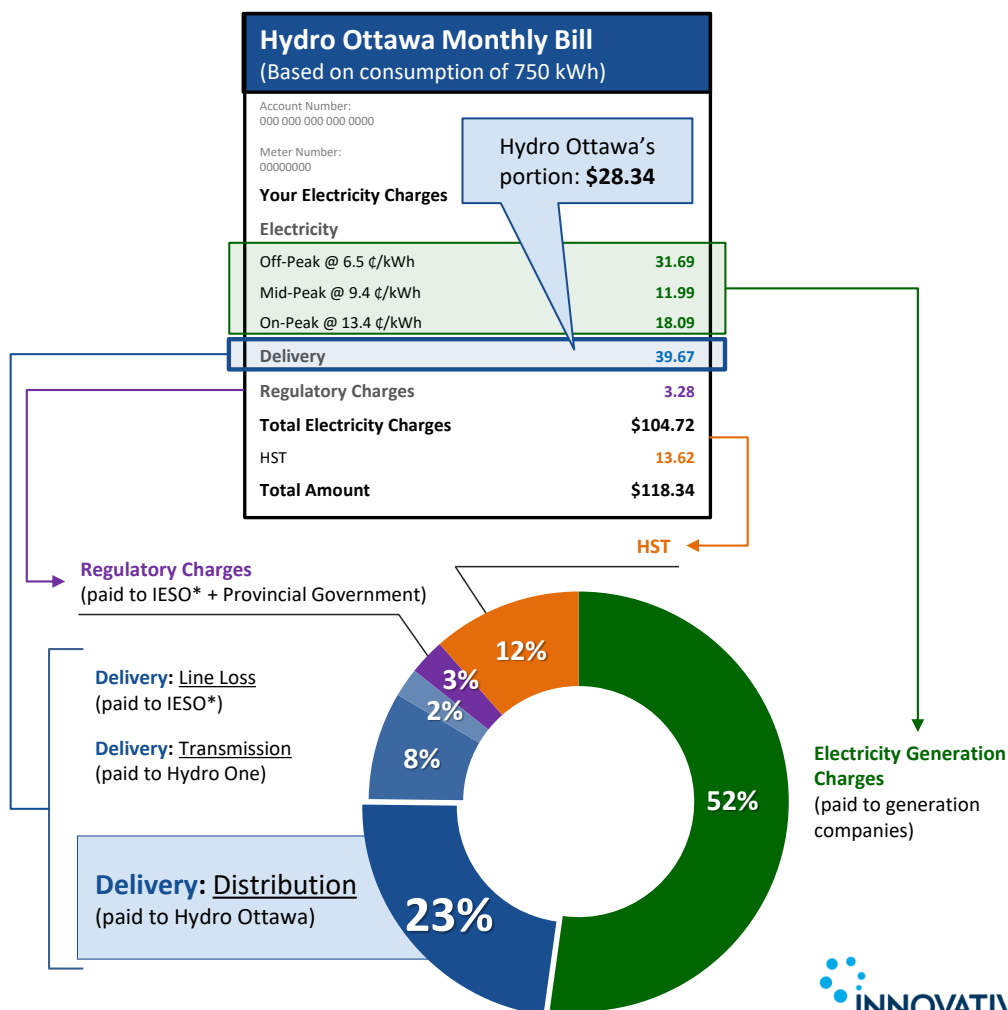


16

How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa's portion makes up about 23% of a typical residential customer's bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



* IESO = Independent Electricity System Operator.

Voluntary Workbook

Residential &
Small Business

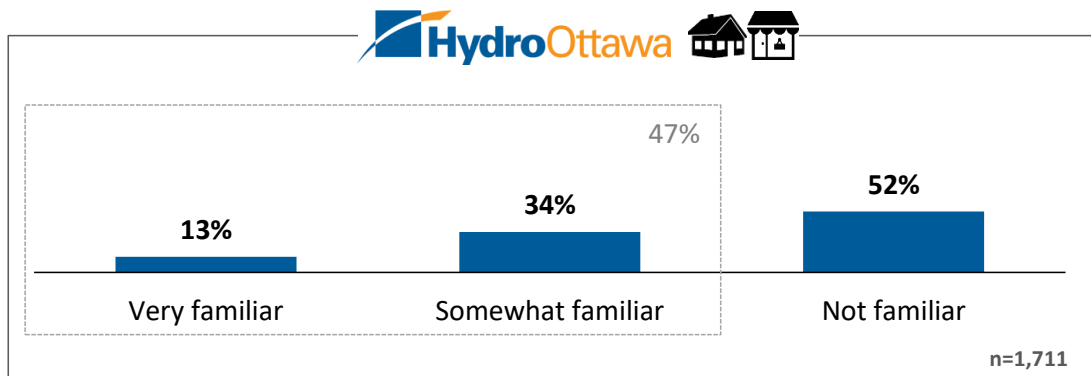


17

Familiarity with Portion of Bill Remitted to Hydro Ottawa

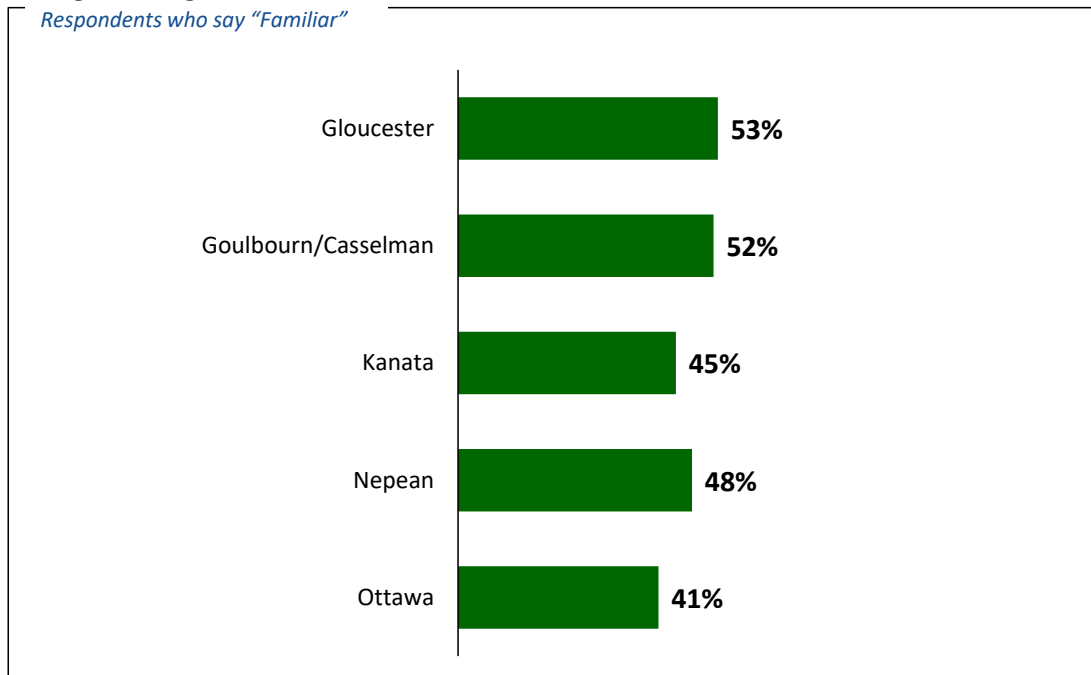
Q

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?



Regional Segmentation

Respondents who say "Familiar"



Voluntary Workbook

Background Information

Residential &
Small Business



18

How did customer feedback shape Hydro Ottawa's preliminary plan?

Hydro Ottawa engages with its customers both in day-to-day interactions and in a variety of customer engagement surveys. **However, this consultation is unique, as it focuses on Hydro Ottawa's business plan that will cover the five year period from 2021 to 2025.**

Preliminary customer engagement found that:

- The clear majority of residential and small business customers are satisfied with the current service they receive;
- Despite being the top priorities, customers don't just expect Hydro Ottawa to focus exclusively on price and reliability;
- Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers.

Understanding that many customers are satisfied with the level of service they receive from Hydro Ottawa, including with the reliability of the distribution system, and value minimizing price increases above all else, Hydro Ottawa has developed a business plan that emphasizes four core principles:

1. **Minimize rate increases;**
2. **Maintain reliability and service quality;**
3. **Address key pressures to the system, including;**
 - Aging infrastructure;
 - An expanding customer base and continued population growth, and;
 - The effects of severe weather events.
4. **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

Voluntary Workbook

Principles of Hydro Ottawa's Plan

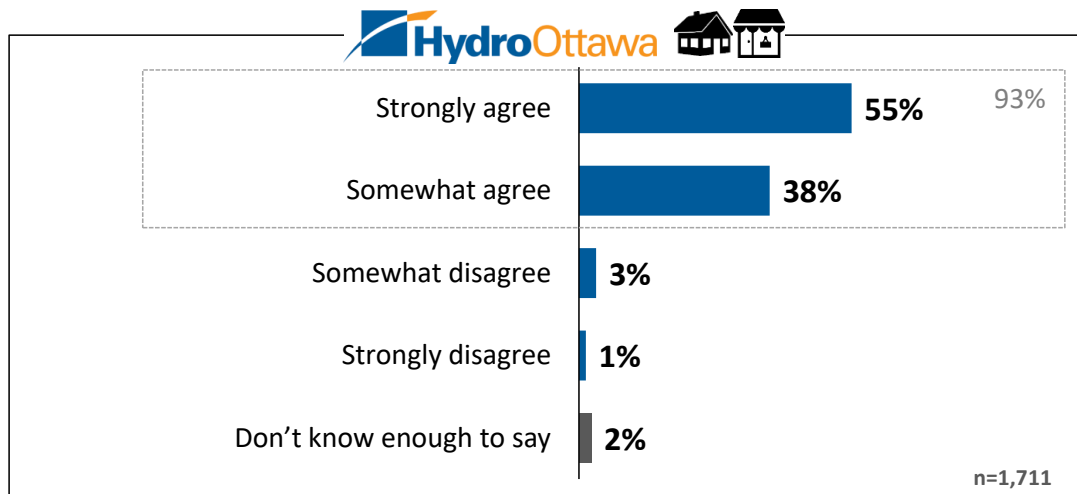
Residential &
Small Business



19

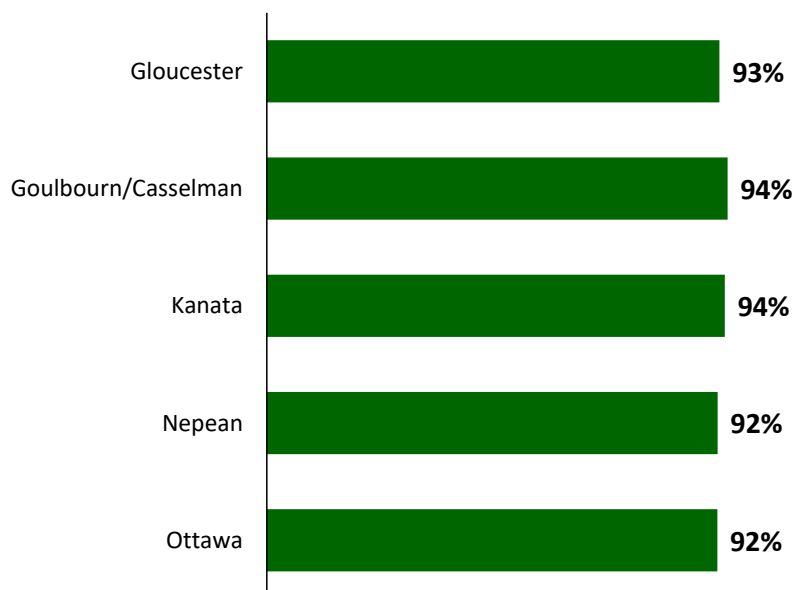
Q

Do you agree or disagree with the principles outlined above?



Regional Segmentation

Respondents who say "Agree"



Voluntary Workbook

Residential &
Small Business



Changes to Principles of Hydro Ottawa's Plan

Q

Is there anything that you would change about the four core principles outlined above? If yes, what would you change?

Additional Feedback (n=523)	
69% of respondents did not provide additional feedback	%
'Freeze'/'reduce' rate increase, as opposed to 'minimize'	7%
All principles are important	5%
Transition to green/renewables	5%
Environment should be a (top) priority	5%
Reducing rates/minimizing increases should be top priority	4%
Demo-based rates/supports - conservers, income brackets, seniors, urban vs. rural, usage, etc.	2%
Educate, incentivize, encourage conservation	2%
Prioritize transparency, accountability, fiscal responsibility	2%
Investing in emerging tech is important/escalate priority	2%
Maintaining reliability and service quality should be top priority	2%
New tech should be green focused	2%
Alternative financing (e.g. developers, gov't, dividend to City, etc.)	2%
Eliminate/reduce/clarify delivery charge; bill for usage	2%
Find internal efficiencies	2%
Encourage self-generation	2%
Prudence is key; mistrust 'emerging' tech	2%
Move lines underground	2%
Addressing key pressures should be top priority	1%
Critical of question/survey (biased, leading, skeptical results will have impact, etc.)	1%
Increasing rates is necessary for other three principles	1%
Improve customer service and communication	1%
Prioritize hardening system against worsening weather/climate change	1%
Encourage EV adoption and prepare the grid	1%
Eliminate/adjust Time of Use	1%
Need more information/have outstanding questions	1%
Investing in emerging tech is not a priority	1%
Managing aging infrastructure should be part of 'maintaining reliability and service quality'	1%
Other	8%
None	33%
Don't Know	2%

Voluntary Workbook

Background Information

Residential &
Small Business



21

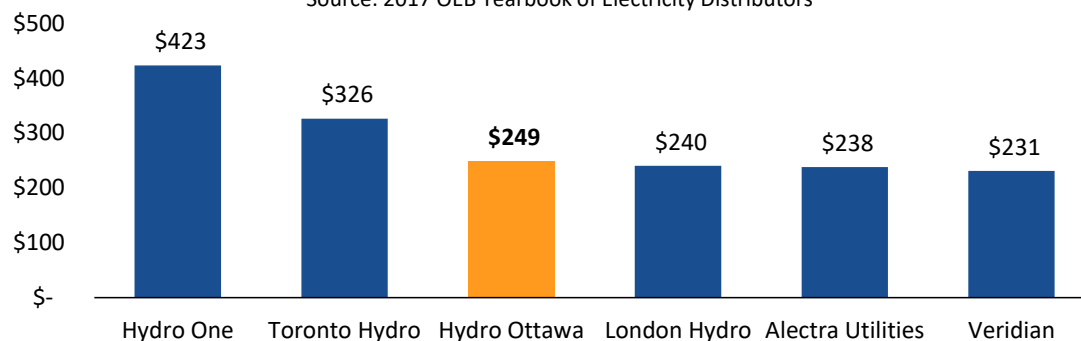
Finding efficiencies

Hydro Ottawa is continuing its focus on productivity and continuous improvement initiatives; which offset continuing costs and improves organizational effectiveness.

Hydro Ottawa's total operating costs are reported every year to the OEB and benchmarked against other distribution companies in Ontario. In the last year of publicly available data collected by the OEB, Hydro Ottawa's total operating cost per customer was **\$249**. This was, and historically has been, lower than the average Ontario distribution company cost of **\$304** per customer.

Six Largest Provincial Distributors: Operating Cost per Customer (\$)

Source: 2017 OEB Yearbook of Electricity Distributors



The choices Hydro Ottawa makes in its operating budget are primarily driven by technical analysis and expert assessments of best practices.

As promised earlier, this workbook does not ask questions that expect you to be an electricity expert.

The OEB runs an open and transparent review process where experts from the OEB and intervenor groups review and have the opportunity to question Hydro Ottawa's analyses and assessments. Anyone, including you are welcome to participate in the OEB process.

Voluntary Workbook

Residential &
Small Business

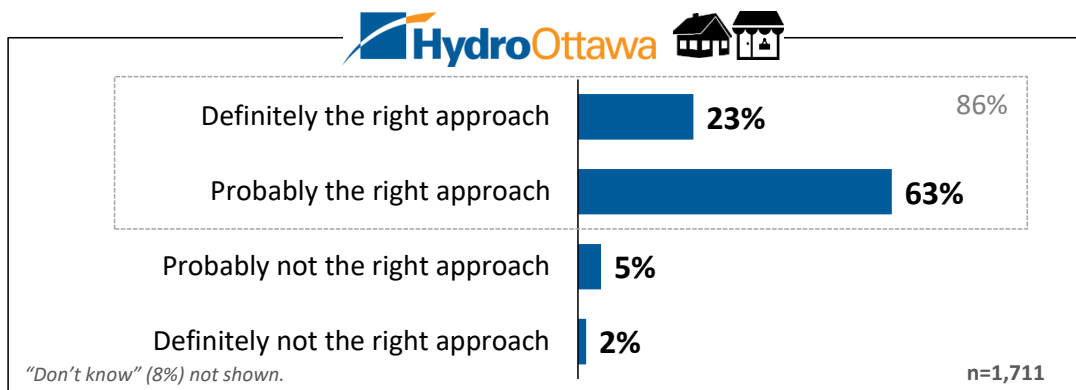


Approach to Bringing Customer Views into Plans

This workbook leaves detailed discussion of Hydro Ottawa's operating budget to experts from the OEB and intervenors in the formal OEB review; the workbook focuses on collecting your views on competing trade-offs in investments.

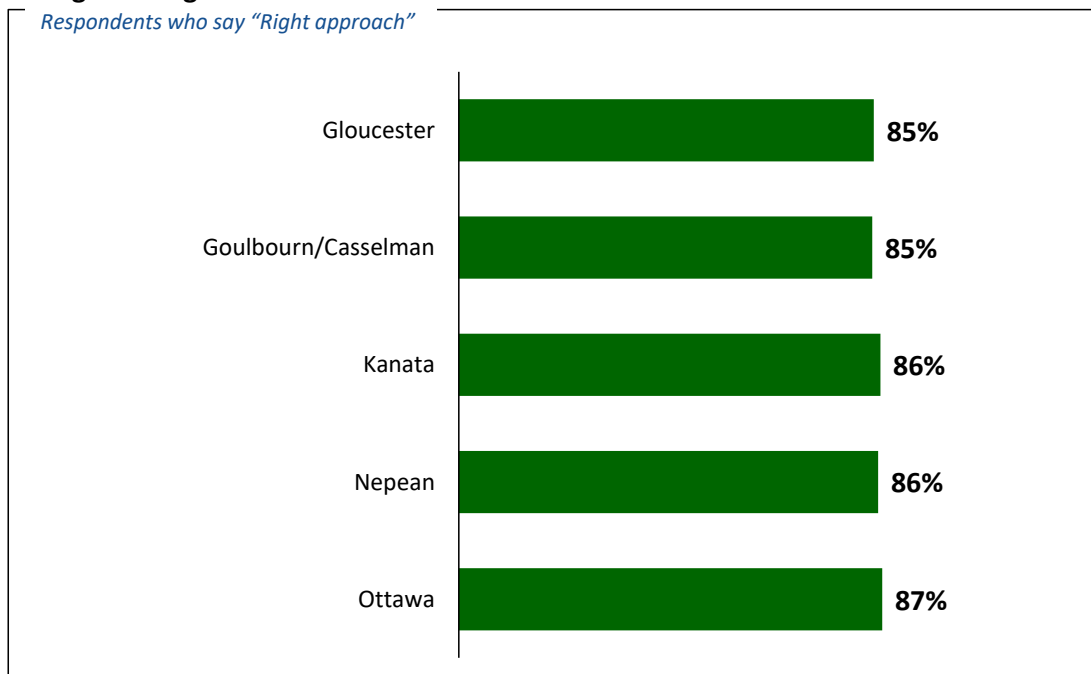


Does this customer engagement process seem like the right approach to bring customer needs and preferences into Hydro Ottawa's plan?



Regional Segmentation

Respondents who say "Right approach"



Voluntary Workbook

Residential &
Small Business



Changes to Approach to Bringing Customer Views into Plans

Q

Are there things that you would change about how Hydro Ottawa brings customer needs and preferences into Hydro Ottawa's plan? If so, what would you change?

Additional Feedback (n=371)	%
78% of respondents did not provide additional feedback	
Continue customer engagement; ensure accessibility and representation	12%
Reduce cost/cost too high/minimize increase	11%
Issue with rest of system (transmission, generation, policy, etc.)	4%
Demo-based rates/support - income brackets, seniors, big users, conservers, etc.	3%
Prioritize environment - alternatives, renewables, sustainability, carbon neutral operations, conservation	3%
Ensure accountability/transparency	3%
Happy with service; keep up good work	3%
Follow up on survey; share results; prove customers were listened to	3%
Customer education is important	3%
Critical of survey - too long/complex	2%
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	2%
Appreciated survey/opportunity to give feedback; informative	2%
Alternative financing - developers, gov't, profits, internal efficiencies, executive salaries, dividends to city	2%
Increase should not exceed inflation/cost of living	2%
Investment should be well thought out	1%
Ontario rates are highest; model off/compare to systems outside Ontario	1%
Reduce/eliminate delivery charge	1%
Need more information/have outstanding questions/defer to experts	1%
Prioritize reliability	1%
Eliminate/adjust Time of Use	1%
Other	4%
Nothing	34%
Don't Know	2%

Voluntary Workbook

Non-discretionary expenditures

Residential &
Small Business

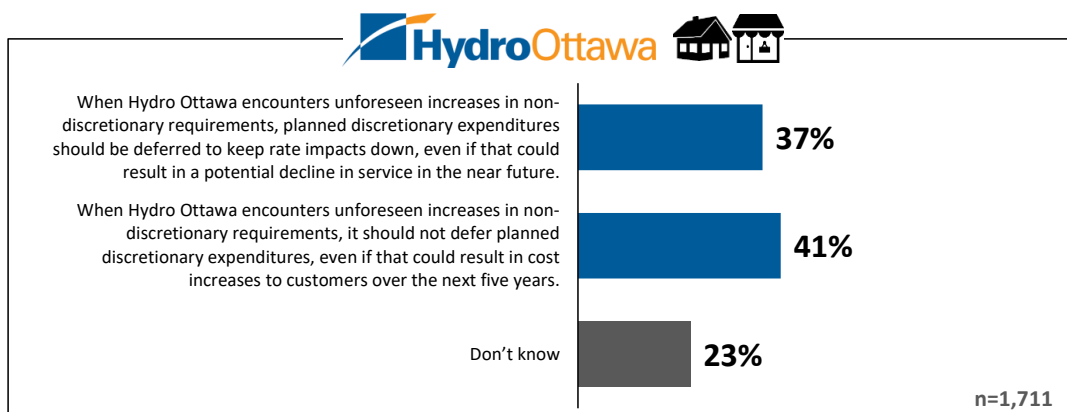


24

As federal, provincial and municipal demands change, Hydro Ottawa may need to implement unplanned, non-discretionary expenditures. It has a decision to make about how to accommodate unexpected non-discretionary spending which could impact other planned priorities.

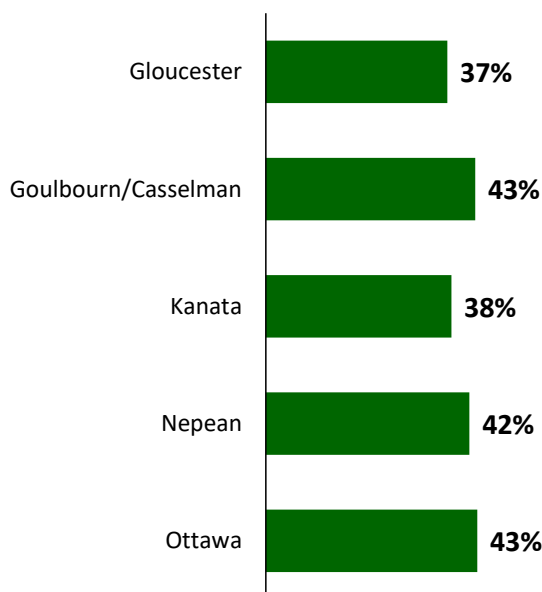
Q

Which of the following statements best represents your point of view regarding Hydro Ottawa's approach to discretionary and non-discretionary spending?



Regional Segmentation

Respondents who say "Do not defer planned discretionary expenditures"



Voluntary Workbook

Residential &
Small Business



Additional Feedback: Non-discretionary expenditures



Additional Feedback (Optional)

Additional Feedback (n=250)	%
85% of respondents did not provide additional feedback	
There should already be a contingency plan/budget; rates shouldn't be affected	11%
Alternative financing (eg. developers, new connects, gov't, cause of expenditure, etc.)	8%
Investing now leads to reduced future costs	8%
Service/reliability is more important than cost (within reason)	6%
Balance of options 1 and 2	6%
Plan better; there should be nothing 'unforeseen'	5%
Transparent communication/consultation in the event of increase/unforeseen expenditure	4%
Lower rates	4%
Depends on context; assess case-by-case	3%
More context required to answer	3%
Ensure impact of decisions are fully understood/justified (eg. cost vs benefit, short vs long-term, etc.)	2%
Manage better; make do without increase or decline in service	2%
Keeping rates low is priority #1/minimize increases	2%
Demo-based rates/supports - income brackets, seniors, usage, etc.	2%
Depends on the size of the increase	2%
Reduce salaries/employee bonuses/pay from profits	2%
Skeptical/critical (of question/options/survey)	1%
Prioritize environment - do not defer green investment	1%
Increase should not exceed inflation/cost of living	1%
Reduction in service is unacceptable	1%
Prioritize operational efficiency/minimize spending	1%
Short-term increases are fine, but should decrease in the long-term	1%
Survey/question too long/difficult to understand	1%
Bury lines to save in the long run	1%
Other	14%
Nothing	10%
Don't Know	1%

Voluntary Workbook

Pacing investments in the overhead distribution system

Residential &
Small Business



26

Hydro Ottawa is considering three options for continued investment in the overhead distribution system:

- 1. Accelerated Approach:** Increased replacement of aging overhead transformers, switches, and poles to catch up and get ahead of growing number of poles at, or beyond, their end-of-life.
- 2. Included in Draft Plan:** Defer catch up in aging infrastructure to manage rate impact. Modest decrease of approximately \$1M per year in renewal of overhead infrastructure from 2016 to 2020 levels. Move to more targeted renewals of specific poor condition assets and less full renewals of broad areas.
- 3. Reduced Approach:** Deferral of proactive switch renewal, and pole replacement. Move to replacement of only critical assets.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.04 per bill each year (\$0.20 more per bill by 2025)	<ul style="list-style-type: none"> Increasing the replacement levels to address higher-risk assets, such as poles, which are at or near end-of-life. Increasing investments in switches to enhance operational efficiency. Reducing requirement for emergency renewals.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Moderate slowing of asset replacement. Increased future costs to catch up on expected end-of-life infrastructure. Some increase in emergency renewal replacements, significant increase not expected for next five years. Minor increases in customer impact as targeted and emergency renewals will result in more piecemeal replacements.
Reduced Approach <u>Decrease</u> of \$0.03 per bill each year (\$0.15 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Degradation in system reliability due to lower switch renewal. Switch failures typically occur on operation, resulting in longer restoration times. Moderate increases in targeted and emergency renewal, possibly resulting in multiple service visits in certain areas.

Voluntary Workbook

Residential &
Small Business

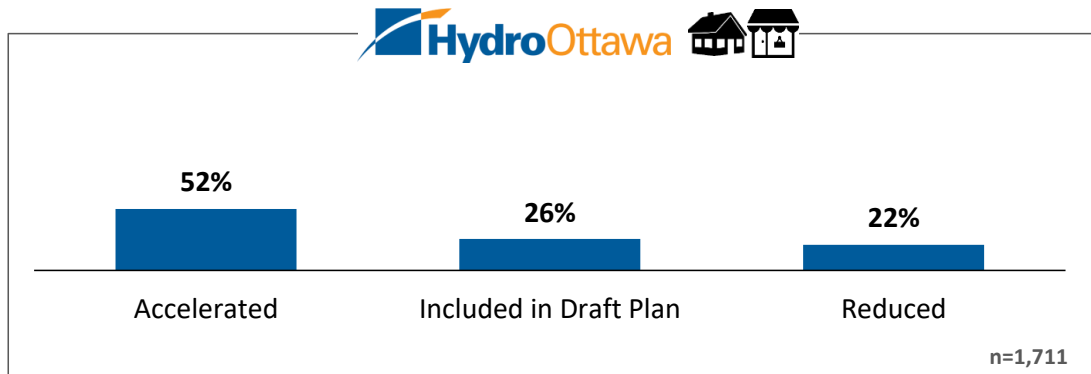


27

Pacing investments in the overhead distribution system

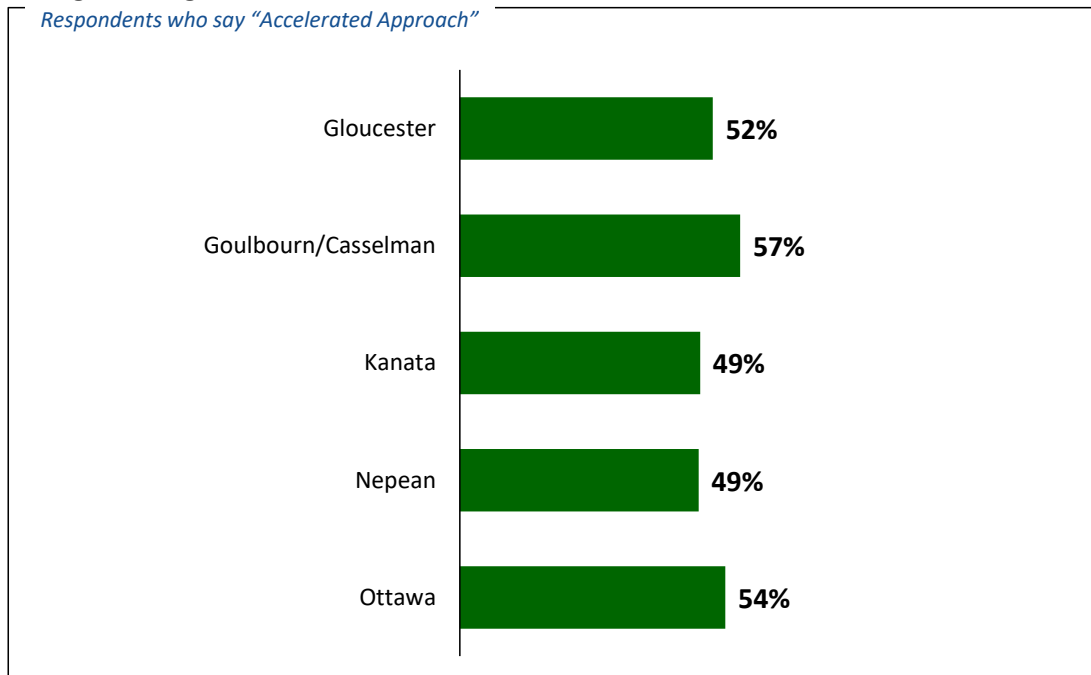
Q

Which of the following options do you prefer?



Regional Segmentation

Respondents who say "Accelerated Approach"



Voluntary Workbook

Additional Feedback: Overhead

Residential &
Small Business



28

Q

Additional Feedback (Optional)

Additional Feedback (n=203)	
88% of respondents did not provide additional feedback	
	%
Move lines underground	22%
Investing now leads to reduced future cost; proactive > reactive	9%
Maintaining/upgrading system is important	5%
Alternative financing (eg. developers, new builds, big businesses, partnerships, etc.)	5%
Increase nominal/worth it	5%
Critical of question/options presented	4%
Harden system against climate change/extreme weather	4%
Oppose any increase; cost too high already	4%
Prioritize finding efficiencies; minimize increase	3%
Need more information/have outstanding questions/defer to the experts	3%
Invest in pole/cable tech	3%
Safety/reliability is crucial	2%
Hydro Ottawa should have planned better	2%
Increase should not exceed inflation/cost of living	1%
Demo-based rates/supports - income brackets, seniors, urban vs rural, usage, etc.	1%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	1%
Other	10%
Nothing	11%

Voluntary Workbook

Residential &
Small Business



Pacing investments in the underground distribution system

Hydro Ottawa is considering four options when it comes to underground cable renewal:

- 1. Accelerated Approach:** Renewal of aging assets with increased spending directed to underground transformers and cables.
- 2. Enhanced Approach:** Renewal of aging assets with increased spending targeted for cable replacement.
- 3. Included in Draft Plan:** Balanced investment, defer catch up in replacement of aging infrastructure to manage rate impact. Continued and modest increases in proactive replacement of assets at higher risk of failure.
- 4. Reduced Approach:** Defer any increase in proactive asset replacement, moving to only critical repairs of the system.

Option	Outcome
Accelerated Approach Additional \$0.14 per bill each year (\$0.70 more per bill by 2025)	<ul style="list-style-type: none"> Increasing proactive replacement of aging infrastructure with a focus on transformer and cable replacement. Reduced asset risk and future investment to catch up. Accelerating asset renewal enabling rapid roll out of increased system capacity (EVs) and improved operations (faster restoration when outages occur). Reliability improvements reducing frequency and duration of outages. Reducing maintenance costs related to oil leaks.
Enhanced Approach Additional \$0.07 per bill each year (\$0.35 more per bill by 2025)	<ul style="list-style-type: none"> Replacing aging cables to reduce failure risk, with slowed investment in other underground infrastructure such as switches, and transformers. Manageable future investment will be required to catch-up. Increased rate of cable replacement will provide some improvements in asset failure and outage frequency.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Moderate rate of asset replacement, which is still higher than the 2016-2020 program Manageable level of future investment required to catch-up. Maintenance of system reliability with minor impact in service reliability.
Reduced Approach Decrease of \$0.07 per bill each year (\$0.35 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Potential reduction on system reliability with increasing outages in specific areas due to cable failures.

Voluntary Workbook

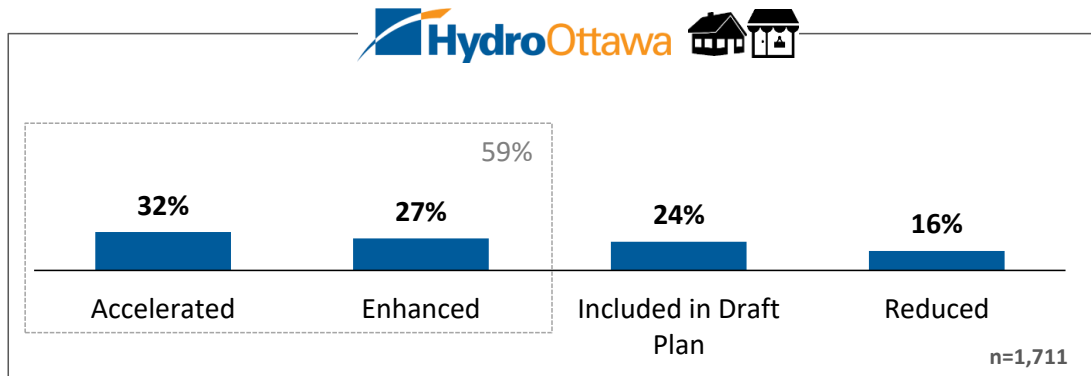
Residential &
Small Business



Pacing investments in the underground distribution system

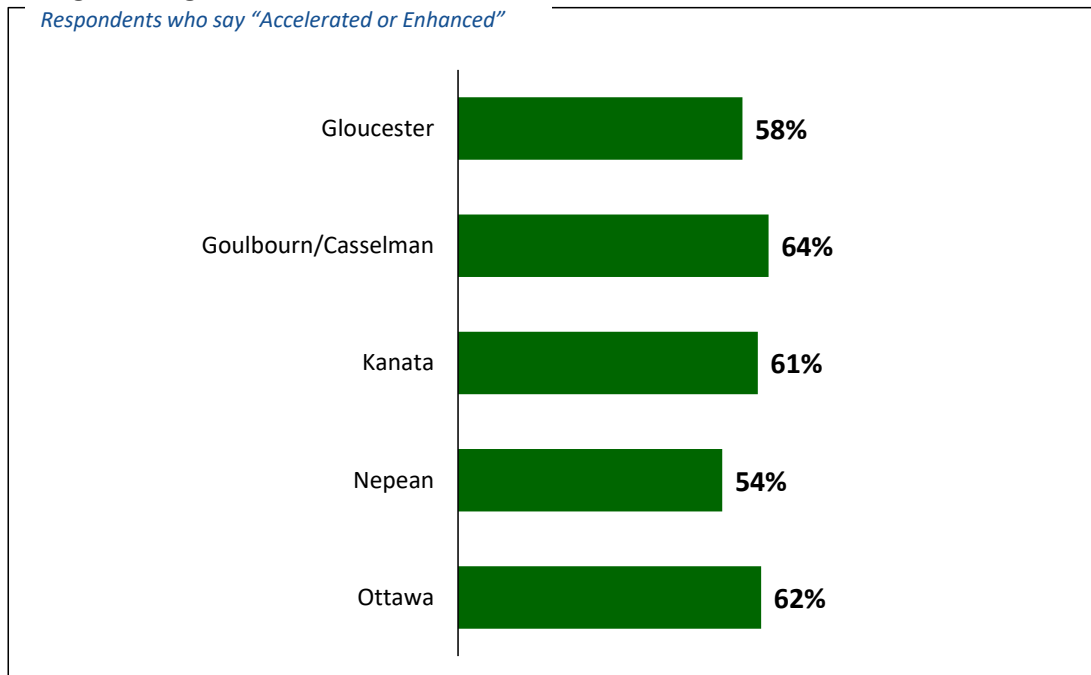
Q

Which of the following options do you prefer?



Regional Segmentation

Respondents who say "Accelerated or Enhanced"



Voluntary Workbook

Additional Feedback: Underground

Residential &
Small Business



31



Additional Feedback (Optional)

Additional Feedback (n=139)	%
92% of respondents did not provide additional feedback	
Investing now leads/should lead to reduced future cost; proactive > reactive	9%
Research/investment in cabling technology necessary	6%
Increase nominal/worth it	5%
Critical of question (eg. insufficient options, leading, biased, etc.)	5%
Move lines underground	4%
Decide based on positive ROI/cost-benefit analysis	4%
Harden system against worsening weather by burying cables	4%
Reliability/safety is priority	4%
Moderate/gradual approach preferred/target critical areas first/as they fail	4%
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	3%
Oppose any increase; cost too high already	3%
Consider environment/risk assessment necessary	3%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Prioritize finding efficiencies; minimize increase	2%
Maintenance/replacement planning should have been done/lack of foresight	2%
Make do with less than 2.5%	2%
Not qualified to respond/defer to experts	2%
Lower rates should be a priority	2%
Only those affected should pay	2%
Demo-based rates/supports - income brackets, seniors, urban vs rural, usage, EV adopters, etc.	1%
Need more information/have outstanding questions	1%
Maintaining/upgrading the system is important	1%
Plan for future (eg. EV adoption, urban development, future demands, emerging tech, etc.)	1%
Pay from profits/savings/not from customers	1%
Too expensive/unnecessary/defer for now	1%
Coordinate with other companies/utilities to share costs	1%
Other	7%
Nothing	16%

Voluntary Workbook

Residential &
Small Business

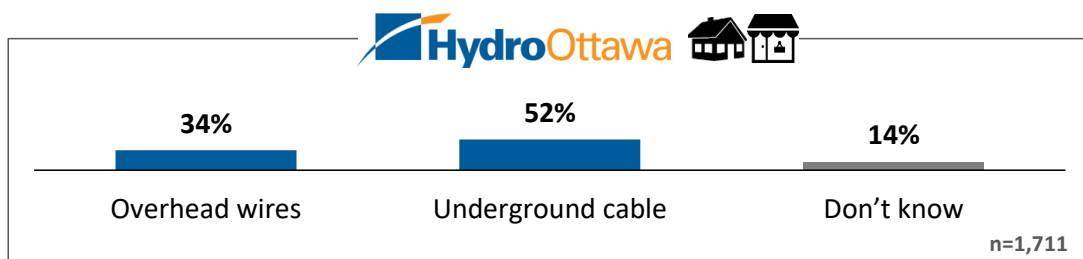


32

Overhead/Underground Investments by Service Type

Q

To the best of your knowledge, how does your home receive electrical service?



Q

Pacing investments in the overhead distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	52%	56%	52%
Included in Draft Plan	26%	26%	28%
Reduced Approach	22%	19%	20%

Q

Pacing investments in the underground distribution system

Investment Option	Total	Overhead	Underground
Accelerated Approach	32%	34%	33%
Enhanced Approach	27%	28%	27%
Included in Draft Plan	24%	25%	24%
Reduced Approach	16%	13%	16%

Voluntary Workbook

Background Information

Residential &
Small Business



33

Reliability experience

In order to provide feedback on Hydro Ottawa's plans, it's important to understand how the distribution system has performed in the past, as well as what's expected in the future.

A core objective of Hydro Ottawa's 2021-2025 rate application is to maintain current levels of reliability, while making targeted improvements to those areas experiencing below average service.

- The five-year average number of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.02 to 0.84 (total number of annual outages).
- The five year average duration of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.17 to 1.14 (total annual hours).

What is most likely to cause an outage?

Although both the number and duration of outages have decreased compared to the previous five-year average, defective equipment remains the top cause of outages within Hydro Ottawa's control.

That said, in 2018, severe weather presented a unique set of challenges for Hydro Ottawa's distribution system. One section of this consultation will focus on the impacts of severe weather, and the options for preparing the distribution system for more frequent and extreme weather.

Causes of Unscheduled Power Outages (five-year average: 2014 to 2018)



10%

Animal Contact: outages caused by animals such as birds and squirrels coming in contact with overhead power lines or transformers.



27%

Equipment Failure: unscheduled power outages from equipment failure usually occur with distribution assets that are beyond or approaching the end of their expected useful lives.



24%

Weather Related Events: adverse weather such as heavy rain, lightening, ice, snow, wind, extreme temperatures, freezing rain and frost can disrupt the distribution system.



39%

Other: includes tree contact (10%), and human interference (11%) (such as construction workers accidentally cutting power lines or motor vehicle accidents involving contact with distribution assets). 9% of outages are unknown, but most likely caused by animal contact.

Note: statistics do not include loss of supply from Hydro One.

Voluntary Workbook

Reliability Experience

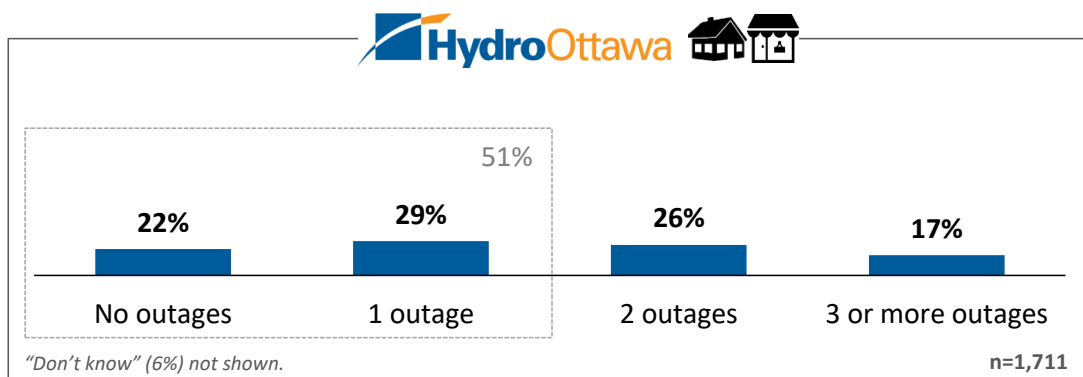
Residential &
Small Business



34

Q

Have you experienced any power outages at your home or at your business in the past 12 months which lasted longer than one minute?



Number of Outages	Gloucester	Goulbourn/ Casselman	Kanata	Nepean	Ottawa
No outages	21%	7%	19%	12%	36%
1 outage	29%	19%	25%	32%	30%
2 outages	25%	39%	32%	28%	20%
3 or more outages	20%	28%	14%	22%	9%
Don't know	5%	6%	9%	6%	6%
One or fewer outages	50%	27%	45%	43%	66%

Voluntary Workbook

Reliability Investments

Residential &
Small Business



35

Hydro Ottawa is considering four options when it comes to reliability investments:

- 1. Accelerated Approach:** Build power lines/new connections between substations to improve reliability. Enhance monitoring of substation and distribution equipment.
- 2. Included in Draft Plan:** Only build critical connections between substations. Enhance monitoring of station and distribution equipment.
- 3. Limited Approach:** Improve reliability for neighbourhoods experiencing the most frequent number of power outages. Enhance monitoring of substation and distribution equipment.
- 4. Reduced Approach:** Only improve reliability for neighbourhoods experiencing the most frequent number of power outages.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.02 per bill each year (\$0.10 more per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Increase system resilience and performance through addition of connections on distribution network. Supports reduction in outage duration. Target investments to areas that have below average reliability.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Maintain system resilience and performance through addition of connections on distribution network. Maintains outage duration at current levels. Target investments to areas that have below average reliability.
Limited Approach <u>Decrease</u> of \$0.04 per bill each year (\$0.20 less per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Target investments to areas that have below average reliability.
Reduced Approach <u>Decrease</u> of \$0.05 per bill each year (\$0.25 less per bill by 2025)	<ul style="list-style-type: none"> Target investments to areas that have below average reliability. No investment to improve/enhance reliability.

Voluntary Workbook

Reliability Investments

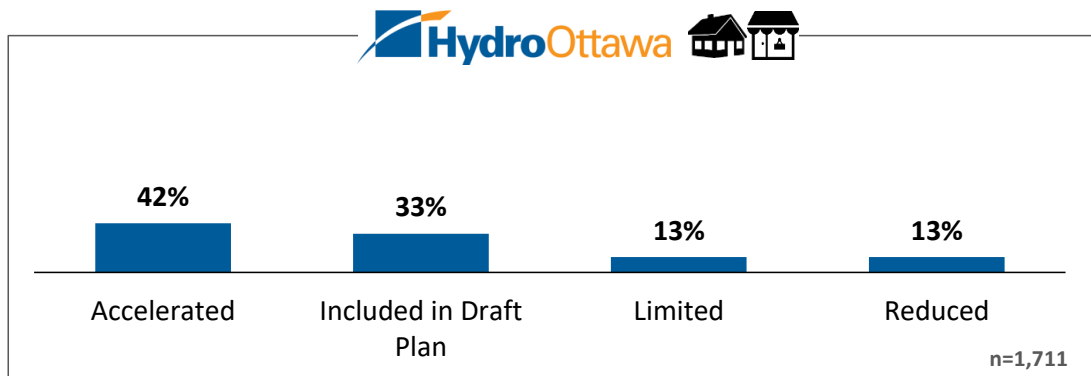
Residential &
Small Business



36

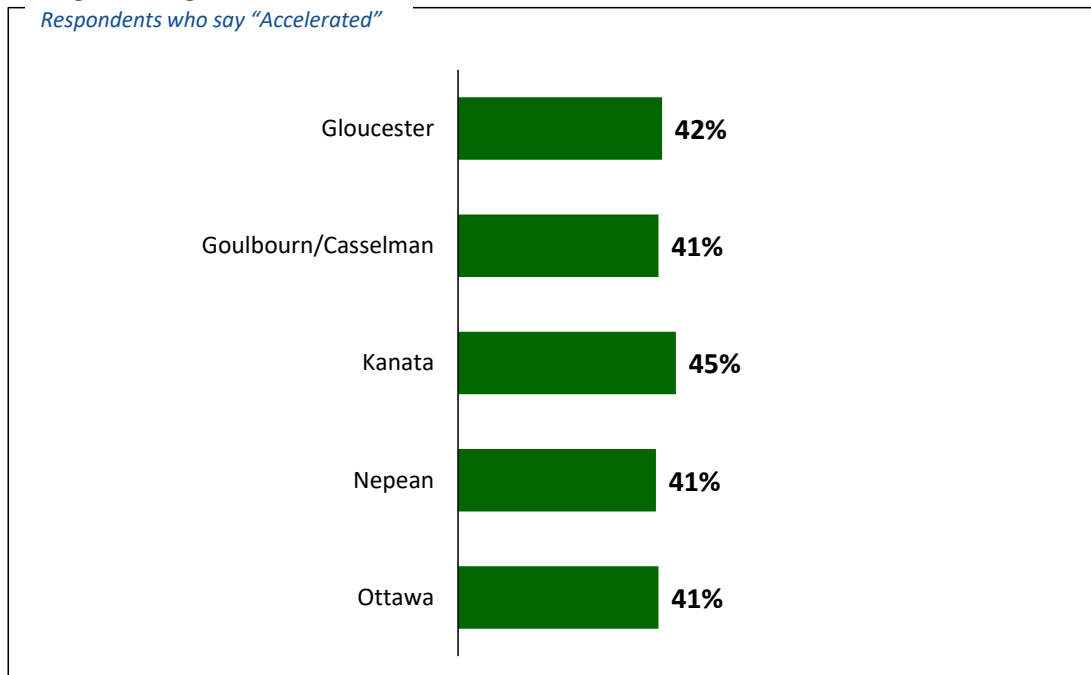
Q

Which of the following options do you prefer?



Regional Segmentation

Respondents who say "Accelerated"



Voluntary Workbook

Additional Feedback: Reliability Investments

Residential &
Small Business



37

Q

Additional Feedback (Optional)

Additional Feedback (n=97) 94% of respondents did not provide additional feedback	%
Oppose any increase; cost too high already	13%
Reliability/short outage duration is priority #1	10%
Investing now leads to reduced future cost; proactive > reactive	6%
Critical of question/options presented/biased/leading question	6%
Increase nominal/worth it	5%
Current reliability is adequate	5%
Move lines underground	3%
Prioritize hardening system against worsening weather	3%
Prioritize finding efficiencies; minimize increase	3%
Maintaining/upgrading system is important	3%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
Alternative financing (eg. developers, new builds, big businesses, partnerships, etc.)	1%
Maintenance/replacement planning should have already been done/lack of foresight	1%
Need more information/have outstanding questions	1%
Plan for future needs (eg. increasing demand, EV adoption, etc.)	1%
Other	12%
Nothing	19%
Don't Know	4%

Voluntary Workbook

Background Information

Residential &
Small Business



38

Preparing for potential increases in severe weather

Hydro Ottawa's distribution system is designed to withstand environmental stresses and impacts, however, weather-related outages have been increasing in terms of frequency and severity over recent years. During 2018 there were three major events which, combined, resulted in system asset replacements of approximately \$4M.

In addition to impacting Hydro Ottawa's equipment, these events increase the resources required to safely and quickly respond to the storm damage and coordinate and communicate restoration efforts to customers.

Hydro Ottawa is currently in the process of completing a climate change vulnerability assessment to determine what steps should be taken to mitigate the impacts of changing climates. While the recommendations from this assessment have not yet been finalized, there are a number of steps Hydro Ottawa could consider taking to prepare for an increasing frequency of severe weather events. For example, changing pole replacement practices and standards would increase overhead structure strength and provide greater clearances from trees and vegetation.

Hydro Ottawa wants to know what your preferences are with respect to making investments in system resilience for severe weather that may or may not materialize over this rate period.



Voluntary Workbook

Preparing for potential increases in severe weather

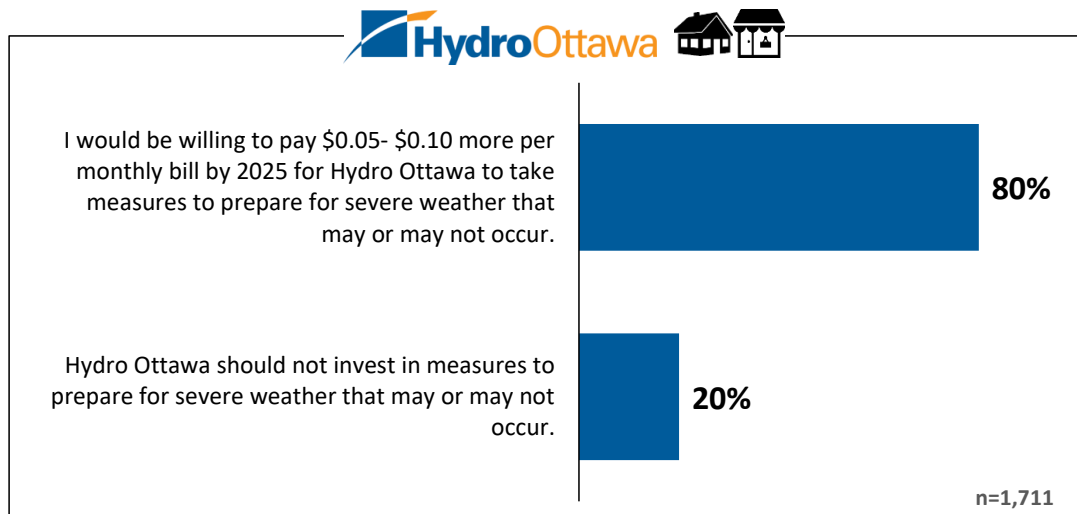
Residential &
Small Business



39

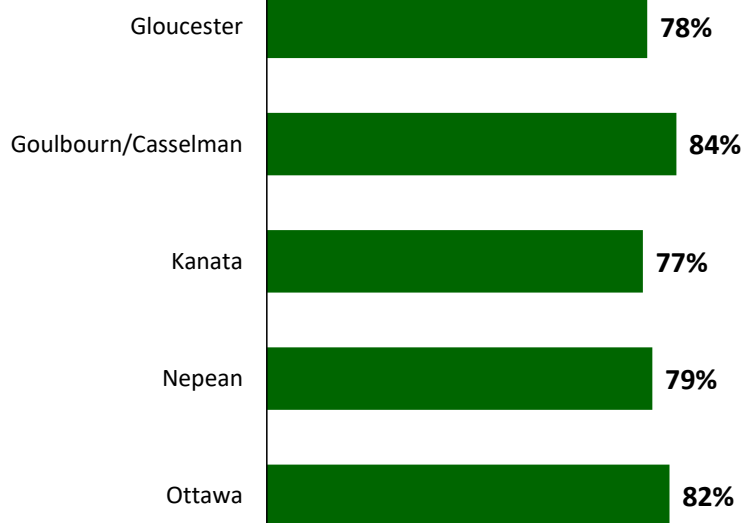
Q

Which of the following options do you prefer?



Regional Segmentation

Respondents who say "Willing to pay more to take measures to prepare for severe weather"



Voluntary Workbook

Additional Feedback: Severe Weather

Residential &
Small Business



40

Q

Additional Feedback (Optional)

Additional Feedback (n=207)	%
88% of respondents did not provide additional feedback	
Preparing for severe weather is important/worth the cost	14%
Worsening weather is inevitable AND we must be prepared	8%
Move lines underground	8%
Alternative financing - salaries, profits, City dividend, etc.	7%
Critical of question - insufficient options	4%
Manage/prepare without increase	4%
Investing now leads to reduced future costs; proactive > reactive	3%
HO should have already been preparing/ customer already paying for this	3%
Worsening weather is inevitable	3%
Demand transparency/accountability in spending of this fund	3%
Unused funds should go back to customer/into the system	2%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	2%
No use/unable to predict and/or prepare for worsening weather	2%
Need more information/ have outstanding questions/defer to experts	2%
Reliability is crucial; need outweighs cost	2%
Increase is nominal/worth it	2%
Smaller/minimize increase	2%
Fund must be untouchable/carried over year-year until needed	1%
Demo-based rates - income bracket, seniors, consumption, region, etc.	1%
Gov't/City should step in and pay for severe weather events	1%
Reduce cost	1%
Ensure fiscal responsibility and good management	1%
Invest in alternative energy sources	1%
Worsening weather is not a problem	1%
Focus on tree maintenance	1%
Other	9%
None	10%

Voluntary Workbook

Background Information

Residential &
Small Business



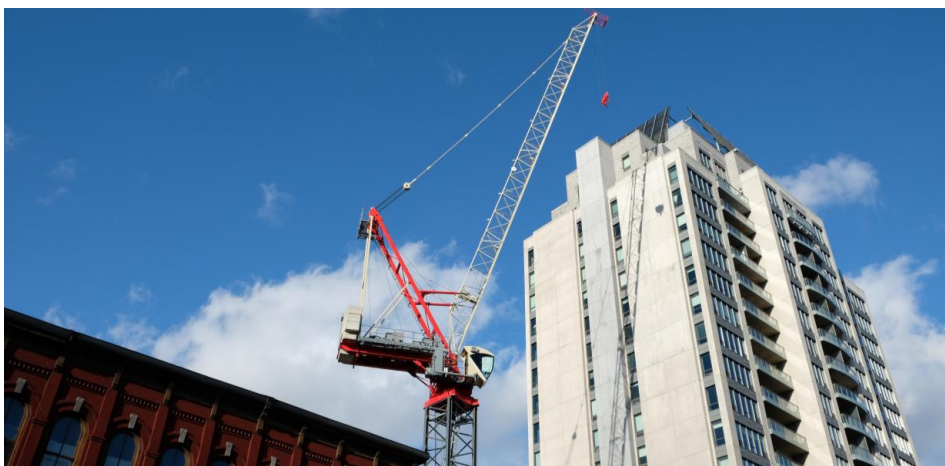
41

Serving a growing city

The population in Hydro Ottawa's service territory continues to grow. Hydro Ottawa must be prepared to serve new customers, while maintaining acceptable levels of service for existing customers. This means regularly assessing the capacity and reliability of its distribution system and its resilience to extreme weather events, and taking action when gaps are found.

A number of Hydro Ottawa's substations are approaching capacity and cannot accommodate future customer growth. Delaying planned investments could result in a decline in reliability for existing customers.

Hydro Ottawa's current plan only includes critical capacity investments; however, there is also an option to make further investments to get ahead of the growing demand for electricity supply.



Option	Outcome
Accelerated Approach <u>Additional</u> \$0.09 per bill each year (\$0.45 more per bill by 2025)	<ul style="list-style-type: none"> • Increase distribution system capacity investment to meet and exceed growing demand for electricity supply. • Distribution system capacity is moved ahead of the demand for electricity, eliminating reliability risk during peak demand days.
Included in Draft Plan <i>Within 2.5% annual increase</i>	<ul style="list-style-type: none"> • Slow distribution system capacity to critical investment only. • Distribution system capacity maintains pace with demand for electricity, or slightly lagging. No impact on ability to connect customers. • Results in modest increase to risk in reliability to areas of growth and increased risk of longer outages or inability to restore power to some customers if outages occur on peak demand days.

Voluntary Workbook

Serving a growing city

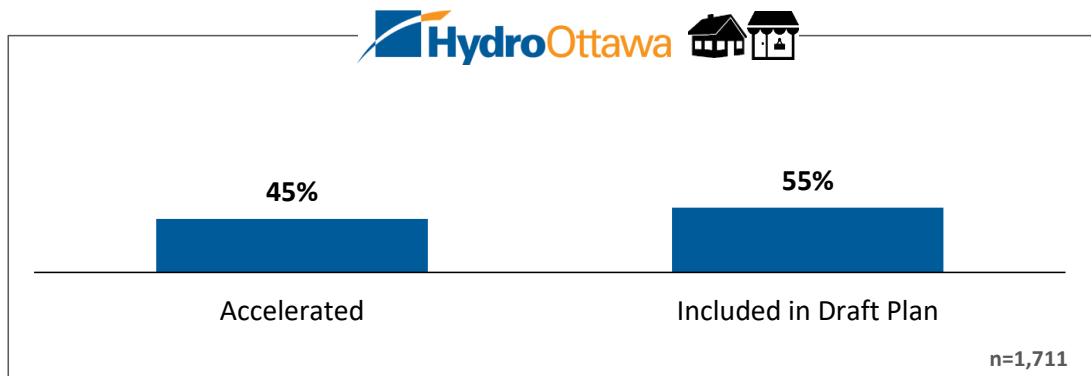
Residential &
Small Business



42

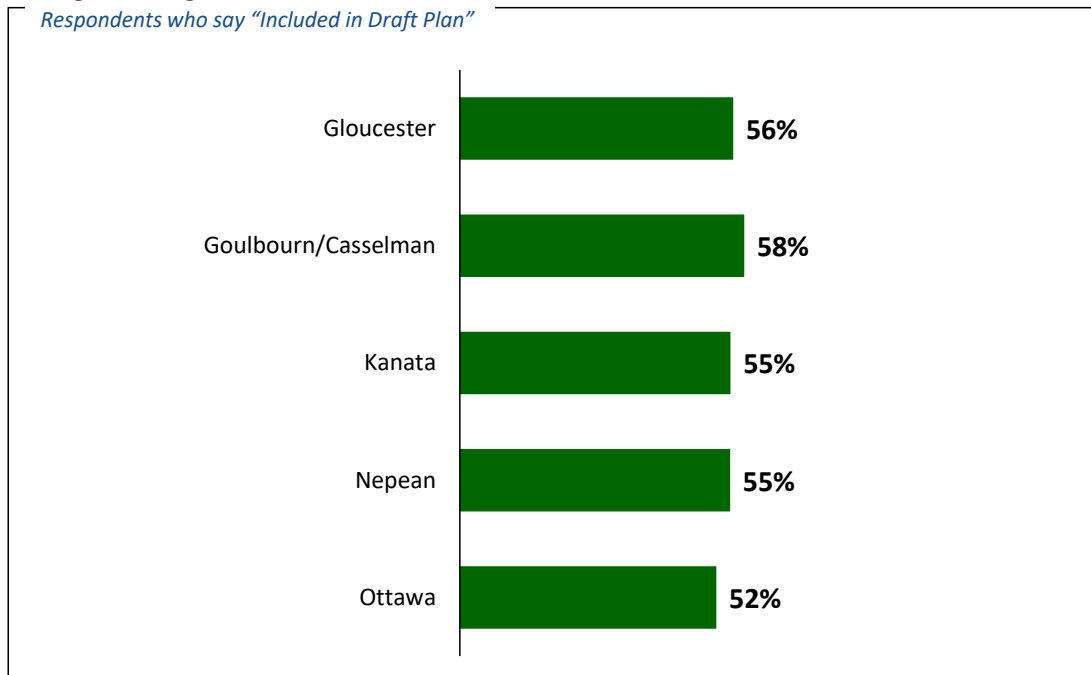
Q

Which of the following options do you prefer?



Regional Segmentation

Respondents who say "Included in Draft Plan"



Voluntary Workbook

Additional Feedback: Serving a growing city

Residential &
Small Business



43

Q

Additional Feedback (Optional)

Additional Feedback (n=154) 91% of respondents did not provide additional feedback	%
Alternative financing (eg. developers, new builds, big businesses, government, etc.)	21%
Plan for the future (including EVs, urban growth/densification, emergency preparedness, etc.)	15%
Oppose any increase; cost too high already	10%
Critical of question (insufficient options, biased, leading, etc.)	7%
Demo-based rates/supports - income brackets, seniors, urban vs rural, usage, etc.	7%
Focus on conservation/energy efficiency vs. increased supply	4%
Need more information/have outstanding questions	4%
Increase nominal/worth it	3%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	3%
Safety/reliability is crucial	3%
Research/Invest in methods of distribution/self-generation/decentralisation	2%
Investing now leads to reduced future cost; proactive > reactive	1%
Prioritize finding efficiencies; minimize increase	1%
Concerned about all these increases/costs adding up	1%
Other	6%
None	6%
Don't Know	5%

Online Workbook

Background Information

Residential &
Small Business



44

Innovation: Investing for the future

Electricity distribution service is in the midst of unprecedented change – evolving towards a more decentralized, customer-centric, technologically-advanced and environmentally sustainable model.

Hydro Ottawa plans to continue engaging in research and development activities which offer value to its customers. This includes supporting the connection of Distributed Energy Resources (DERs). This small scale generation is connected to the grid close to the communities they serve. Hydro Ottawa's Great DR – phase two project (currently known as MiGen), where customers generate their own power and store what's not immediately used, is an example of innovation that is incorporated into the 2021-2025 plan.

Hydro Ottawa has also been actively involved in assessing and addressing customer needs within the emerging electric vehicle market, as well as, participating in a Battery Energy Storage Project, as part of the Smart Grid Program.

Looking forward, opportunities to develop new rate models and explore new energy services will offer customers more choice and control over their electricity needs.



Voluntary Workbook

Innovation: Investing for the future

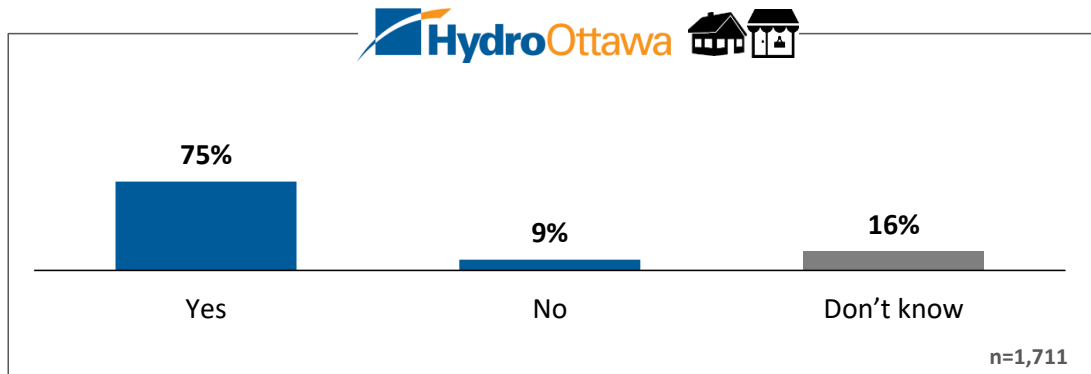
Residential &
Small Business



45

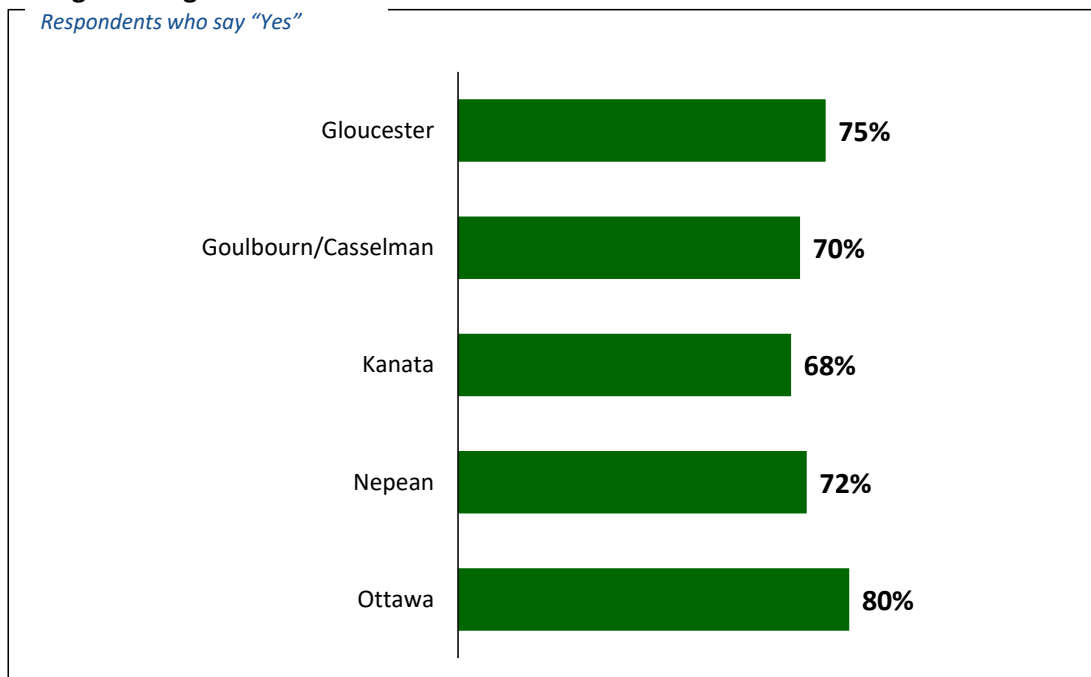
Q

Do you support Hydro Ottawa's strategy of leading change and engaging in industry projects that could shape the future of the energy marketplace?



Regional Segmentation

Respondents who say "Yes"



Voluntary Workbook

Innovation: Investing for the future

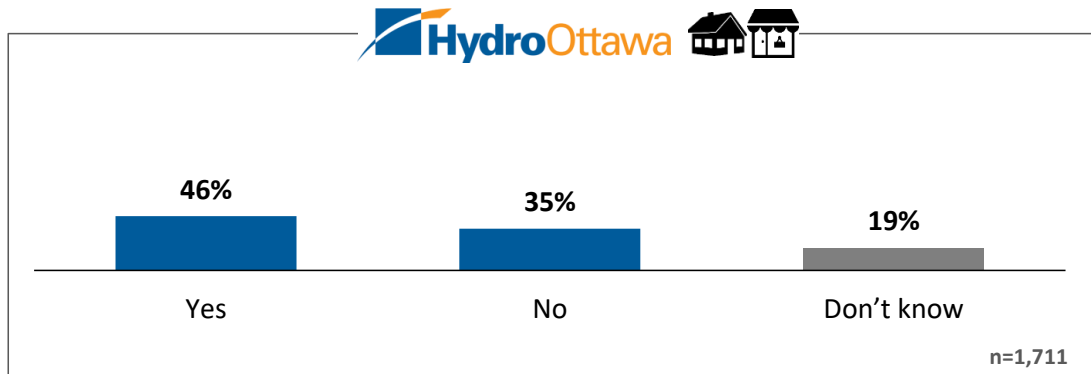
Residential &
Small Business



46

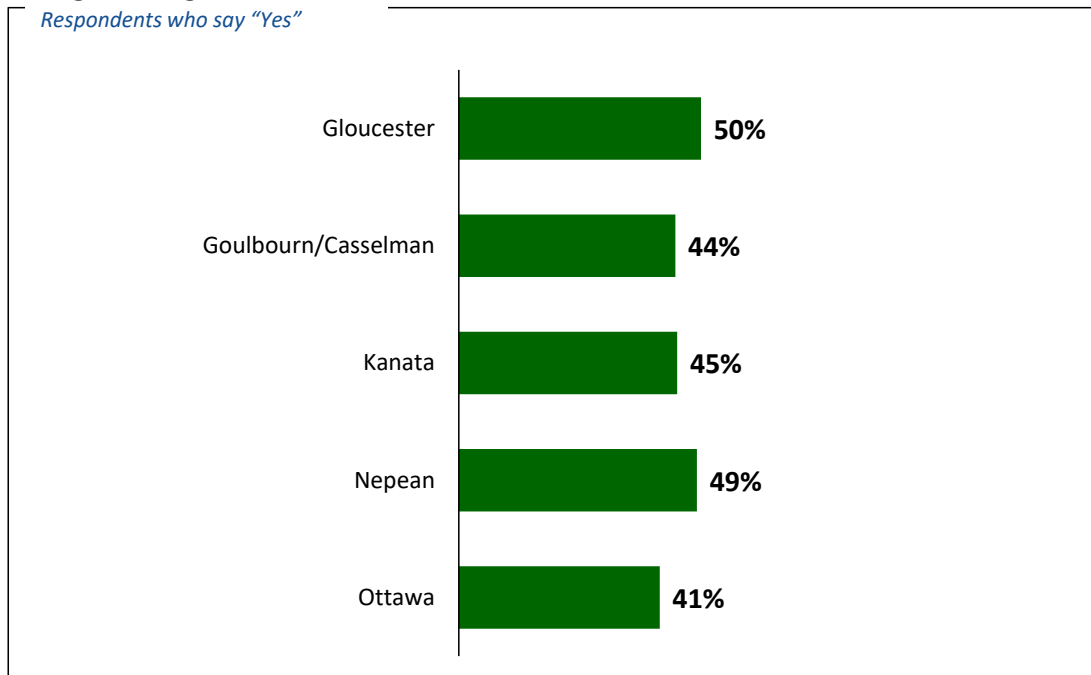
Q

Do you believe Hydro Ottawa should limit expenditures to those necessary to serve today's customers and existing needs, if this option could lower rate impacts in the short term?



Regional Segmentation

Respondents who say "Yes"



Voluntary Workbook

Additional Feedback: Innovation: Investing for the future

Residential &
Small Business



47

Q

Additional Feedback (Optional)

Additional Feedback (n=164)	%
90% of respondents did not provide additional feedback	
Plan for future (urban growth, EV adoption, future demand, etc.)	15%
R&D, innovation is important/worth it	9%
Support alternative/renewable energy	7%
Reduce rates; keep costs low	7%
Need more information/have outstanding questions	7%
Allow opt-in funding/those interested should pay	5%
Support local generation and/or storage (decentralization, MiGen)	5%
Critical of question (insufficient options, confusing, contradictory, biased, etc.)	4%
Skeptical of/opposed to 'green' tech/EVs	4%
Find a balance - neither lead nor lag; prudence	3%
Support investment IF it results in reduced cost	2%
Stay in your lane (distribution); others more qualified to research	2%
Decide after thorough assessment (priorities, value, impact, etc.)	2%
Support EVs	2%
Alternative financing - partnerships, developers, gov't, dividends, etc.	2%
Not worth increased rates	2%
Be a leader; stay ahead/on the cusp	1%
Investing now will reduce future costs; proactive > reactive	1%
Focus on present needs	1%
Demo-based rates - income brackets, business vs residential, those affected, etc.	1%
Respond to markets (EVs, emerging tech/innovations, etc.)	1%
Other	7%
None	9%

Online Workbook

Background Information

Residential &
Small Business



48

Keeping the business running

Hydro Ottawa is more than just poles and wires – it's a business that needs to invest in tools, trucks, equipment, and facilities to maintain the distribution system and service its customers.

The types of expenditures in this category are:

- **Information Technology:** Systems required to securely operate the distribution system, manage customer information and privacy, and keep employees working effectively and efficiently.
- **Vehicles:** Bucket trucks and other vehicles used to move employees, equipment, and supplies throughout Hydro Ottawa's service territory to support the safe and reliable operation of the grid.
- **Facilities:** Warehouse, operations centres and administrative office.
- **Tools and Equipment:** Specialized safety tools and equipment to mitigate the risks associated with maintaining electricity distribution infrastructure.

When deciding whether to continue to maintain existing tools or replace them, Hydro Ottawa considers whether the risks and costs of continuing to use them outweighs the benefits of waiting longer to replace them. Hydro Ottawa must also consider the lead times required to replace some utility vehicles, such as bucket trucks, which can be as long as 18 months.



Voluntary Workbook

Keeping the business running

Residential &
Small Business

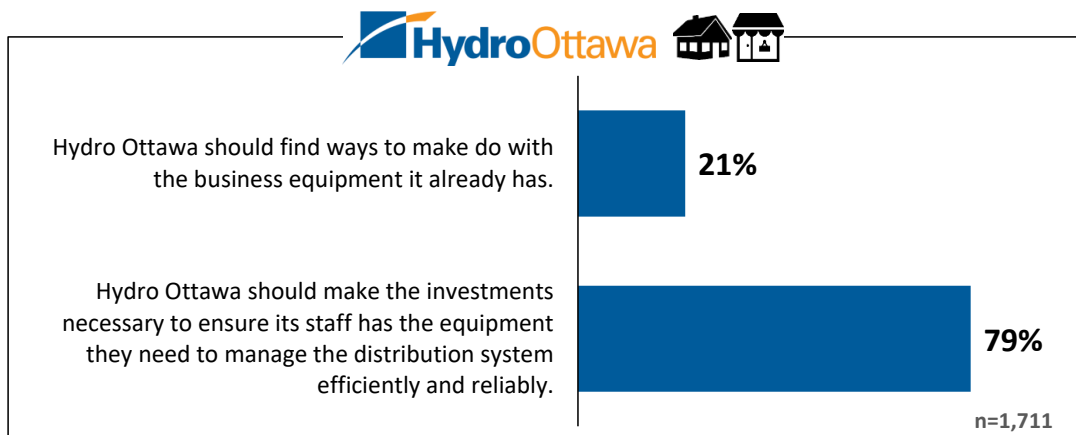


49

As a company, Hydro Ottawa needs equipment to maintain its distribution system and IT systems to manage the distribution system and customer information.

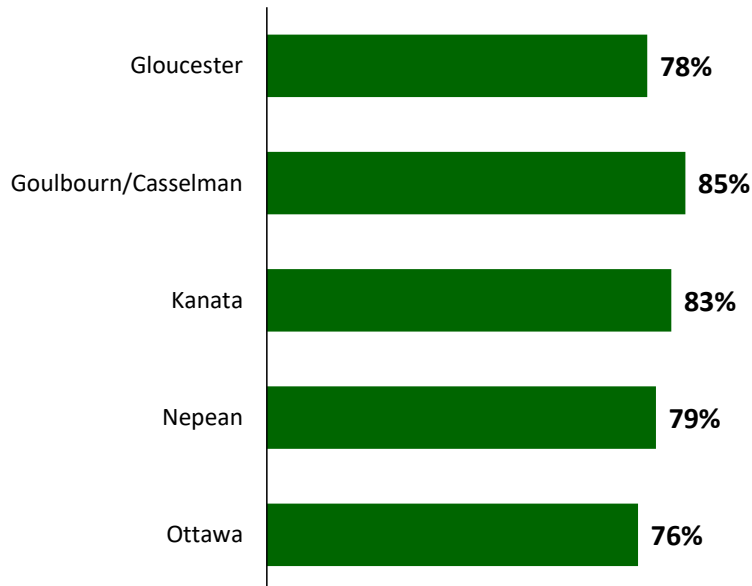
Q

Which of the following statements best represents your point of view?



Regional Segmentation

Respondents who say "Hydro Ottawa should make the investments necessary..."



Voluntary Workbook

Additional Feedback: Keeping the business running

Residential &
Small Business



50

Q

Additional Feedback (Optional)

Additional Feedback (n=164)	%
90% of respondents did not provide additional feedback	
Proper/efficient/up-to-date equipment is important	16%
Alternative financing - asset sharing, salaries, profits, internal efficiencies, etc.	12%
Safety (of work crews) is priority #1	7%
Critical of question (insufficient/misleading options)	5%
Invest when necessary/what's truly needed (need > want)	5%
Current service is adequate; make do with what's in budget	4%
Find balance between the two options (discretion, prudence, 'within reason')	4%
Prioritize thorough assessment	4%
Ensure transparency/accountability of these expenditures	4%
This should already be part of the budget/business plan/paid for	3%
Ensure operational efficiency	3%
Make decisions based on positive ROI/cost-benefit	3%
Prioritize environment - alternatives, renewables, carbon neutral operations, sustainability	3%
Investing now leads to reduced future costs; proactive > reactive	2%
Maximize asset life (regular maintenance, quality products)	2%
Manage without increasing rates	2%
Reduce rates/cost	2%
Ensure cyber security	2%
Need more information/have outstanding questions	1%
Minimize increases	1%
Other	6%
None	5%
Don't Know	5%

Voluntary Workbook

Vehicle replacement

Residential &
Small Business



51

Q

Which of the following vehicle replacement options do you prefer?



Option 1: Using a run-to-failure approach, replace vehicles only when they can no longer operate, knowing that some larger vehicles require an 18 month lead time to replace. This approach may impact restoration times and efficiency.

12%

Option 2: Make investments in the fleet on a vehicle-by-vehicle basis weighing age, kilometers driven, engine hours, repair history, availability of parts and internal mechanic assessments of the general vehicle condition.

78%

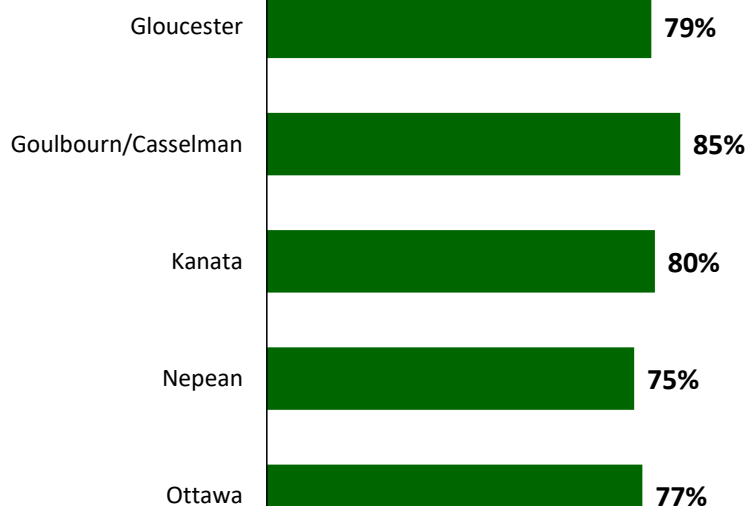
Option 3: Replace vehicles once they have reached the end of their recommended age, regardless of their condition, which is the most expensive and lowest risk option.

10%

n=1,711

Regional Segmentation

Respondents who say "Option 2"



Voluntary Workbook

Additional Feedback: Vehicle Replacement

Residential &
Small Business



52



Additional Feedback (Optional)

Additional Feedback (n=121)	
93% of respondents did not provide additional feedback	%
Maximize asset life (eg. no idling, rust protection, regular maintenance, skilled mechanics on staff, etc.)	16%
Transition to EV/hybrid/alternative fuel/greener fleet	13%
Critical of life cycle estimates (too low, arbitrary, etc.)	6%
Have spare assets ready	5%
Prioritize safety/risk management	5%
Sell retired assets	4%
Prioritize thorough assessment	3%
Support run-to-failure	3%
Find balance between options 1 and 2	2%
Ensure fiscal responsibility - eliminate waste, efficient spending, need > want, etc.	2%
Make do with current fleet/spending here is low priority/limit spending	2%
Need more information/have outstanding questions	2%
Reduce rates/minimize increases	2%
Alternative financing - salaries, profits, asset sharing, etc.	2%
Critical of question/survey (insufficient options, biased, leading etc.)	2%
Underground lines mean fewer trucks needed	1%
Ensure effective management/planning ahead/budgeting	1%
Explore more options (none quite right)	1%
Make decisions based on cost-benefit /ROI	1%
Find balance between options 2 and 3	1%
Lease/rent/share the fleet/outsource	1%
Increase should be paid for by Hydro Ottawa/should have planned better/already budgeted	1%
Other	11%
None	13%

Voluntary Workbook

Residential &
Small Business

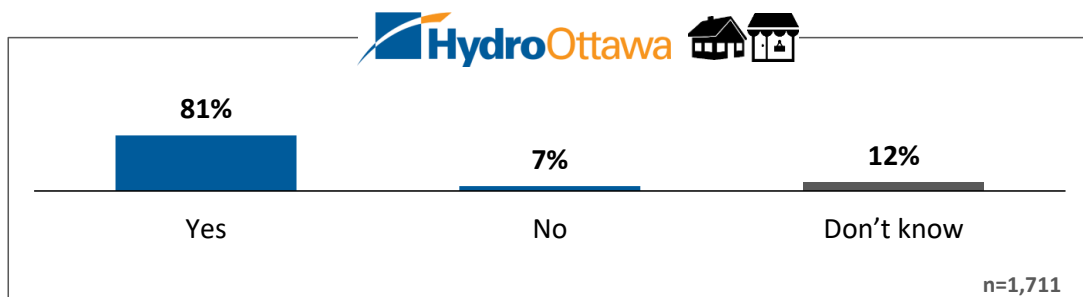


53

Finding efficiencies through technology investments

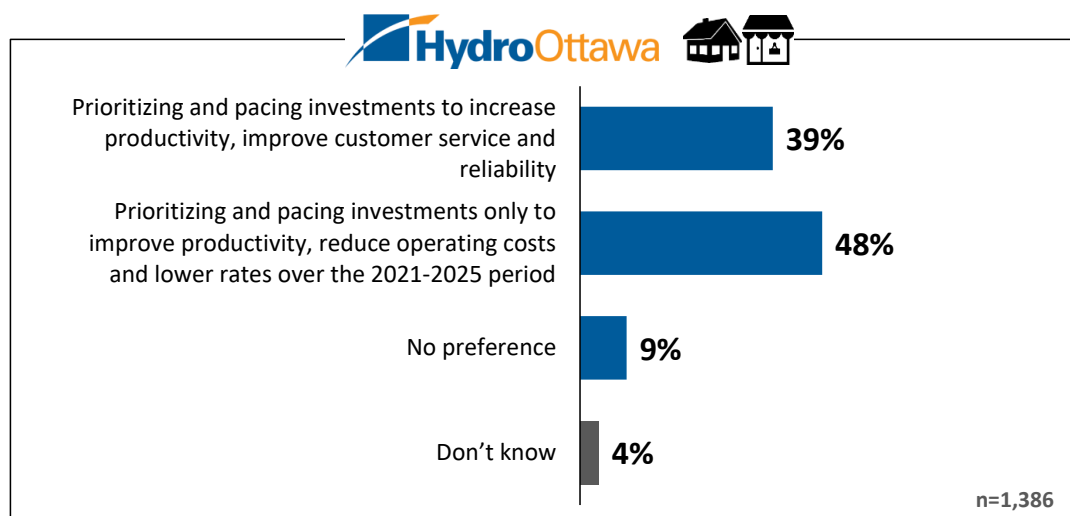
Q

Do you support Hydro Ottawa's view that prudent technological investments are necessary in order to meet its ongoing business and customer needs?



Q

[If yes to above] And which of the following options do you prefer?



Voluntary Workbook

Residential &
Small Business



Additional Feedback: Finding efficiencies through technology



Additional Feedback (Optional)

Additional Feedback (n=99)	%
94% of respondents did not provide additional feedback	
Support this investment - general	17%
Prudence is key; thoughtful investment	6%
Ensure cyber security	6%
Make do without increase; find efficiencies	5%
Source alternative, renewable energy or providers; be environment/climate conscientious	5%
Ensure effective managing/planning/budgeting	5%
Keep rates low/minimize increase	4%
Prioritize reliability	4%
'Personalized experience' unnecessary/wasteful/no value	4%
Find a balance between options; assess case-by-case	3%
Invest IF it leads to reduction in bills/increase in efficiency/productivity	3%
Low priority/limit spending/service is fine	3%
Invest in personnel; don't cut jobs	2%
Prioritize a 'green' service', e.g. self-gen	2%
Support self-usage-monitoring	2%
Critical of question (insufficient options, confusing, misleading, etc.)	2%
Alternative financing (e.g.. developers, new builds, big businesses, partnerships, etc.)	2%
Need more information	2%
Customers service already adequate	1%
No frills on bills - focus simplicity, clarity, predictability	1%
Use of 'prudence' here is problematic; creates questions	1%
Lack confidence in survey design, questions, or Ottawa Hydro to use the data	1%
Hydro Ottawa should pay cost/make cuts from within	1%
Plan needs to be more strategic, longer than 5 years	1%
Only purchase and implement proven systems to avoid poor technology	1%
Make decisions based on positive ROI/cost-benefit analysis	1%
Other	1%
None	13%

Voluntary Workbook

Investment Alternative Summary

Residential &
Small Business



55

Investment Alternative Summary

Throughout this workbook, you have been asked about some key choices that could impact your rates. Below is a summary of your answers to the questions that could impact your rates.

At the bottom of this page you will find the total bill impact of all the answers.

Having seen the total bill impact, please review your answers and change your responses if you desire; your potential rate impact will be re-calculated. You will have the opportunity to adjust your answers again until you feel you've reached the best balance for you.

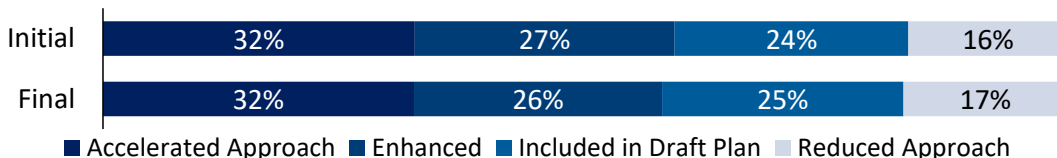
Q

Pacing Investments in the Overhead Distribution System



Q

Pacing Investments in the Underground Distribution System



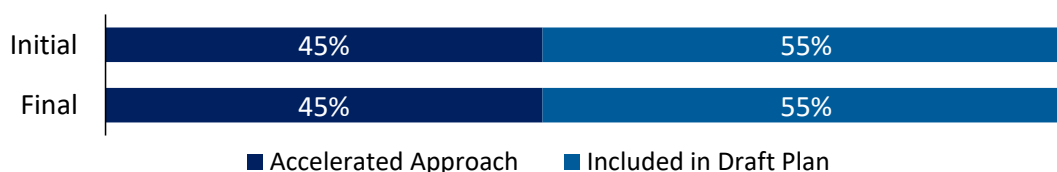
Q

Reliability Investments



Q

Serving a Growing City



Voluntary Workbook

Impact of Choices on Rates | Preamble

Residential &
Small Business



56

Impact of Hydro Ottawa's Plan

Hydro Ottawa has calculated the rate impact of implementing the options recommended by its planners and included it in its draft plans.

These priorities may change based on your input but Hydro Ottawa is looking for an investment program that aims to:

- **Minimize rate increases;**
- **Maintain reliability and service quality;**
- **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth; and**
 - **The effects of severe weather events.**
- **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **2.5% per year for the period 2021-2025.**

At the end of the 5-year plan, the typical residential customer would see the distribution portion of their electricity bill increase by **\$3.74**. As a result, the distribution charges on the typical residential customer's monthly bill would increase from **\$28.47 in 2020** to **\$32.21 by 2025**.

Voluntary Workbook

Impact of Hydro Ottawa's Plan

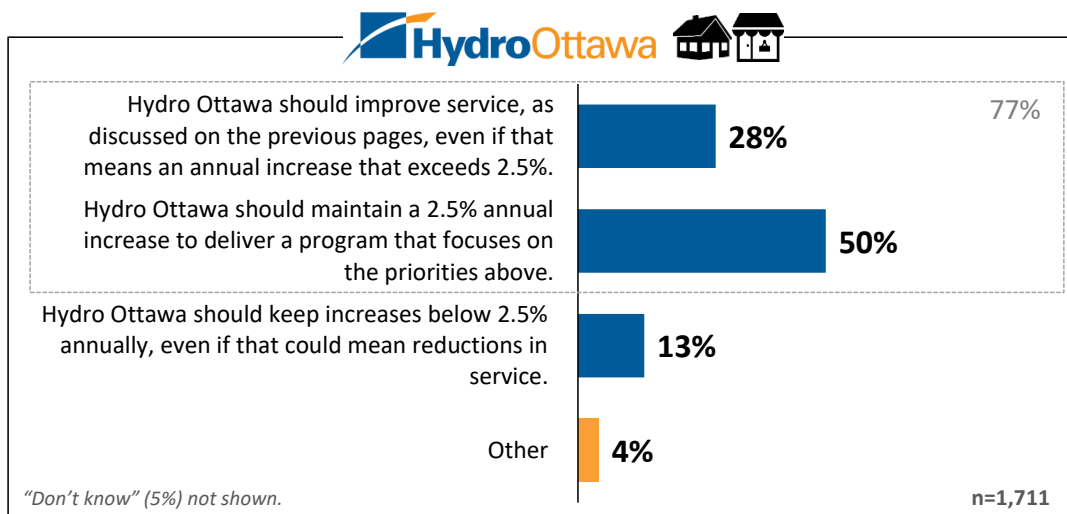
Residential &
Small Business



57

Q

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?



View of Hydro Ottawa's plan	Gloucester	Goulbourn/Casselman	Kanata	Nepean	Ottawa
Hydro Ottawa should improve service	27%	23%	24%	26%	31%
Maintain 2.5% increase	48%	58%	53%	49%	49%
Keep increases below 2.5%	15%	9%	9%	16%	11%
Other	5%	6%	5%	3%	3%
Don't know	5%	3%	8%	5%	5%
Improve services or stick with 2.5% increase	74%	81%	78%	75%	80%

Voluntary Workbook

Final Comments

Residential &
Small Business



58

Q

Now that you have considered the various choices Hydro Ottawa has to make and the cost implications of those choices, do you have any final comments for Hydro Ottawa?

Final Comments (n=324)	%
81% of respondents did not provide additional feedback	
Reduce cost/cost too high/ minimize increase	7%
Ensure fiscal responsibility - eliminate waste, plan long-term, find efficiencies, etc.	7%
Happy with service; keep up good work	6%
Demo-based rates/support - income brackets, seniors, big users, conservers, etc.	6%
Appreciated survey/opportunity to give feedback; informative	6%
Adjust (exec) salaries to cover increase	4%
Prioritize environment - alternatives, renewables, carbon neutral operations	4%
More communication/transparency (planned projects, operations, bill breakdown, etc.)	4%
Strong infrastructure is worth paying more; do what it takes	4%
Maintaining/upgrading system is important	3%
Skeptical/critical of survey	3%
Investing now leads to/should lead to reduced future costs	3%
Issue with rest of system (transmission, generation, policy, etc.)	2%
Support the plan - general	2%
Decision making should be long-term/future oriented	2%
Alternative financing - developers, gov't, profits, internal efficiencies, dividends to city, etc.	2%
Increase should not exceed inflation/cost of living	2%
Investment should be well thought out	1%
Reduce/eliminate delivery charge	1%
Encourage/incentivize conservation	1%
Harden system against worsening weather	1%
Aim for 2.5% but adjust within reason	1%
Move lines underground	1%
Encourage self-generation	1%
Support accelerated/aggressive approach (within reason)	1%
Eliminate/adjust Time of Use	1%
Other	8%
None	14%
Don't Know	1%

Voluntary Workbook

Final Thoughts: Workbook Diagnostics

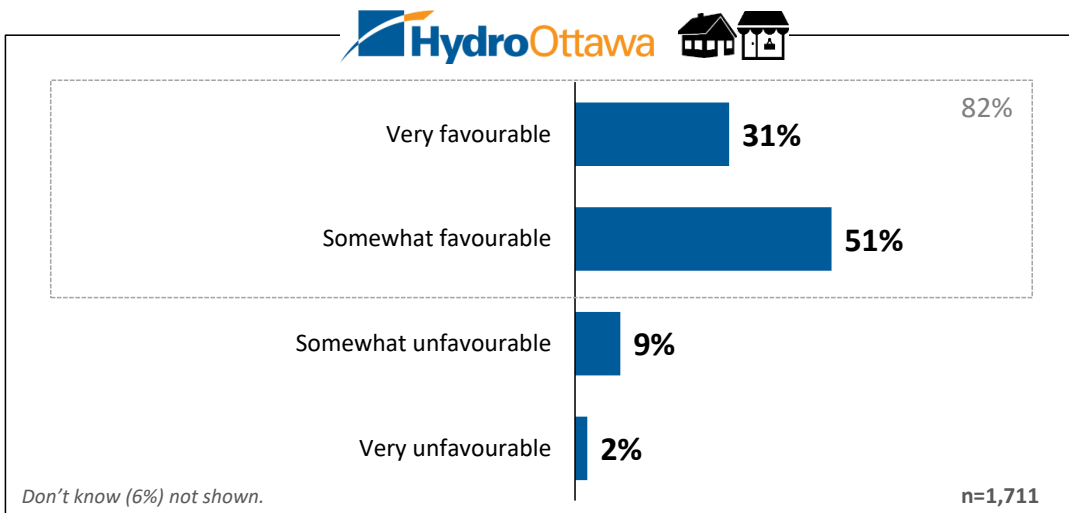
Residential &
Small Business



59

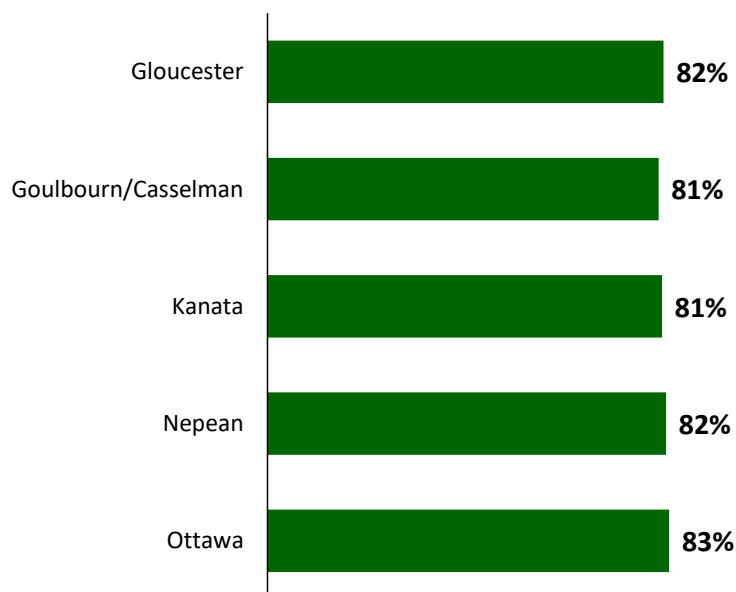
Q

Overall Impression: Did you have a favourable or unfavourable impression of the workbook you just completed?



Regional Segmentation

Respondents who say "Favourable"



Voluntary Workbook

Final Thoughts: Workbook Diagnostics

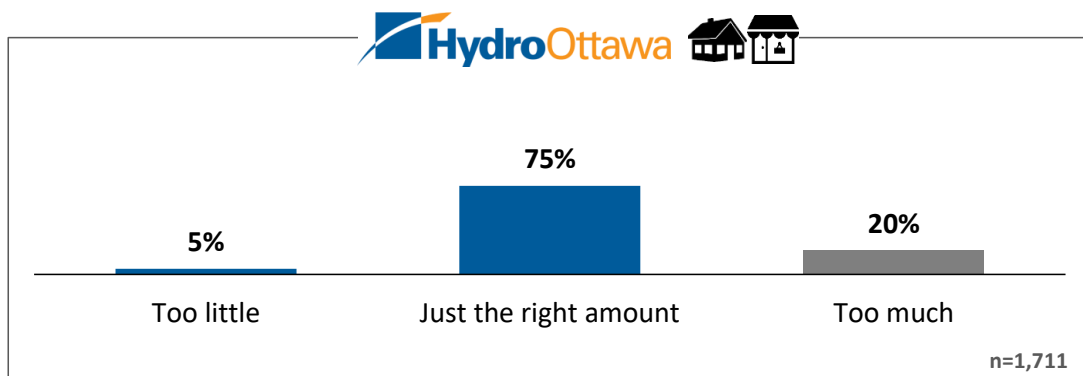
Residential &
Small Business



60

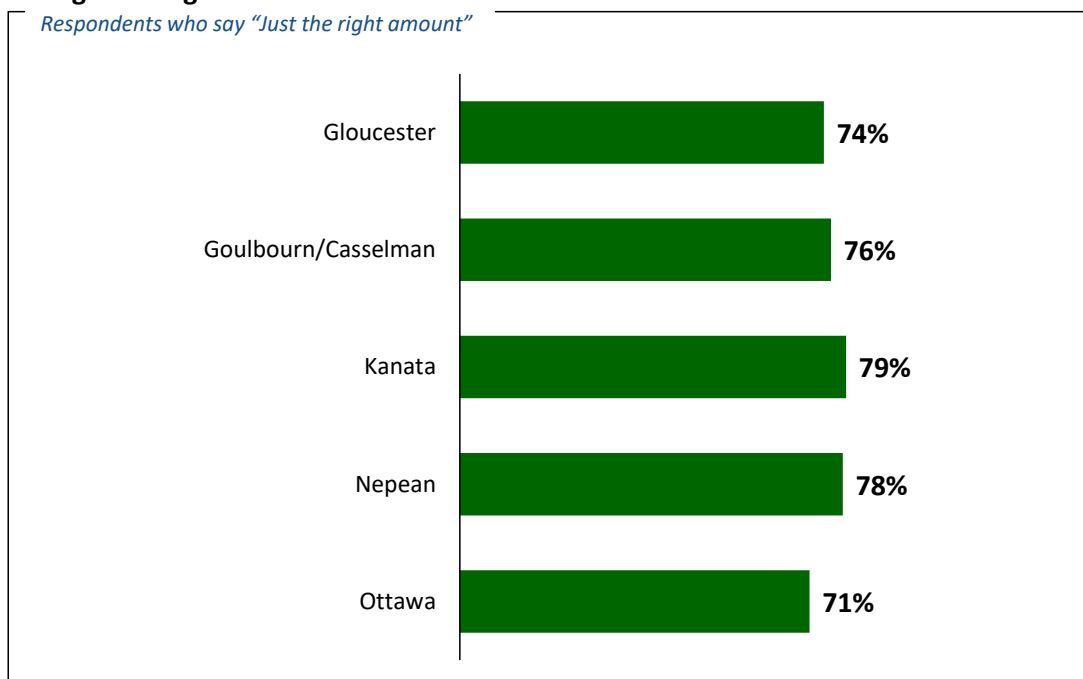
Q

Volume of Information: Did Hydro Ottawa provide too much information, not enough, or just the right amount?



Regional Segmentation

Respondents who say "Just the right amount"





Building Understanding.

Personalized research to connect you and your audiences.

For more information, please contact:

Julian Garas

Senior Consultant

(t) 416-640-4133

(e) jgaras@innovativeresearch.ca

Jason Lockhart

Vice President

(t) 416-642-7177

(e) jlockhart@innovativeresearch.ca

Appendix 7.0



2021-2025 Rate Application

Mid-Market and Commercial Report



This report and all of the information and data contained within it may not be released, shared or otherwise disclosed to any other party, without the prior, written consent of Hydro Ottawa Limited.

November 2019

STRICTLY PRIVILEGED AND CONFIDENTIAL

Introduction

Mid-Market and Commercial Engagement

Mid-Market &
Commercial



2

Innovative Research Group Inc. (INNOVATIVE) was engaged by Hydro Ottawa to assist in meeting the utility's customer engagement commitments with mid-market (GS > 50 kW – 999) and commercial (1MW+) customers under the Renewed Regulatory Framework for Electricity Distributors.

To effectively engage with these customers, INNOVATIVE designed a two-staged approach which employed both qualitative and quantitative research methods. This two-staged approach was designed to allow these larger business customers multiple opportunities to provide feedback, both in-person, and as part of a broadly distributed online workbook.

Understanding that mid-sized and commercial business customers are often reluctant to take the time to provide feedback in such engagements, this approach was designed to ensure that all efforts were made to engage with these groups of customers. In addition to efforts to engage with all types of customers, this approach also ensured that customers had the opportunity to provide feedback using multiple methods, at their convenience. This report documents the efforts made to engage with this customer group, including what is considered to be *best efforts* to hear from all types of customers using multiple modes and methods.

This two-staged approach included:

- 1. In-person Customer Engagement Workshops:** By leveraging existing customer relationships, in-person workshops are an effective way of bringing together business customers to both provide information, as well as gather feedback. This approach allowed Hydro Ottawa "key account" staff to connect with their customers, provide a short overview of the utility's plans, as well as solicit feedback on specific investments and spending decisions. Using both random-recruitment techniques (for mid-market customers) and broad invites (for commercial and key account customers) ensures that a diverse set of views is gathered, while also providing all customers an opportunity to provide feedback.
- 2. Mid-Market and Commercial Online Workbook:** The second stage of this mid-market and commercial engagement focused on allowing customers to provide feedback through an online "workbook". An online workbook was deployed to all Hydro Ottawa mid-market and commercial customers who have previously provided the utility with an email address through a unique URL. Over the course of nearly one month, customers were repeatedly encouraged to complete the workbook, both through email reminders, as well as direct outbound calls from Hydro Ottawa staff.

Customer Workshops

Mid-Market and Commercial Engagement

Mid-Market &
Commercial



3

Workshop Methodology

Two workshops were conducted in Ottawa on **Tuesday, September 17, 2019**. Key Account customers were engaged in the morning, and mid-market customers in the afternoon.

All Key Account customers were invited to attend the workshop sessions by Hydro Ottawa Key Account representatives. Ten of the 65 invited Key Account customers attended the workshop.

Mid-market customers were randomly recruited by telephone, and screened for eligibility based on whether they are in charge of managing or overseeing their organization's electricity bill. 23 Hydro Ottawa mid-market customers were recruited and confirmed attendance at the workshop. A total of 13 customers actually attended and fully-participated in the session.

Workshop Structure

INNOVATIVE and Hydro Ottawa worked together to develop a "high-level" presentation. Given by senior Hydro Ottawa staff, the presentation explained the challenges facing the system, the utility's investment plan, and the impact on business customers. The presentation lasted approximately one hour, and included a brief Q&A period with customers in the audience.

Following Hydro Ottawa's delivery of the presentation and the Q&A session, customers were separated into breakout groups to begin the next step of the engagement.

A guided discussion was then led by an INNOVATIVE moderator. Hydro Ottawa and INNOVATIVE developed a workbook that was used to guide the discussion.

The facilitators led participants through the workbook section by section to ensure they understood the information and answered any questions they had about the content.

Participants were then asked to independently respond to the questions within the workbook. The facilitators led a group discussion on the answers participants provided, what the various issues meant for their organization, and a broad discussion on what impact Hydro Ottawa's rate application will have for their businesses.

The questions in the workbook served primarily to guide the discussion and were not strictly completed by all participants.

Each breakout session lasted approximately 90 minutes.

Customer Workshops

Key Account Customer Feedback

Mid-Market &
Commercial



4

Initial Discussion

Reliability is the critical top-priority for almost all customers, and they are willing to pay what is required to ensure a constant supply of electricity. All things considered, most acknowledge rising prices to be a reality, and that 0.3% of the entire bill is *“nothing to lose sleep over.”* For most participants, Hydro Ottawa’s estimated bill increase of 4.2% wasn’t perceived to represent a material impact on the distribution portion of customers’ bills.

That said, taking a step back and considering the whole of their electricity expenditure beyond just distribution, many customers report that it is not an insignificant cost, and has an impact on their competitiveness. This is a concern shared by customers across all sectors. Affordability is particularly concerning for those who rent space to their customers, stating *“tenants get hit by big increases.”*

Many customers are actively engaged with their electricity usage and spending, and pursue conservation initiatives to reduce costs.

There was some discussion that weather should be an important consideration when budgeting electricity costs. Among those who are concerned with sustainability, there should be a focus placed on greenhouse gas emissions.

Satisfaction with Hydro Ottawa

Overall, customers are very satisfied with the services they receive from Hydro Ottawa. A common anchor of this sentiment is the relationship customers have cultivated with the utility. They feel that Hydro Ottawa is responsive and communicative, and many customers consider the relationship to be a partnership. Further, there is a sense of trust in the utility’s ethics and *“good stewardship.”* Finally, most customers feel that Hydro Ottawa excels when compared to other utilities such as water or gas, and in comparison to another utility in particular, one customer felt the difference to be *“like night and day.”*

One unique complaint was the difficulty in navigating Hydro Ottawa’s bureaucratic process around customers’ attempts to install co-generation assets. They feel that better coordination to meet customer deadlines could avoid delays. One customer advised, *“don’t wait for the ESA approval before you move.”*

Key Account Customer Feedback

Hydro Ottawa’s customer energy management portal is an important tool, but does not require any further investment or development. According to one customer, *“the current version is a huge timesaver, as it avoids manual data entry.”* Further, most customers already have their own uniquely tailored programs in place, some of which combine data from other utilities.

Customer Workshops

Key Account Customer Feedback

Mid-Market &
Commercial



5

Some customers (*Industrial Conservation Initiative (ICI)* participants) are interested in tools and applications that can assist in accessing real-time data to inform their own energy management strategies. One noted that access from the *MyAccount* portal would be useful to develop direct engagement with their own tenants. Others are not in agreement, stating that many big businesses already have these tools.

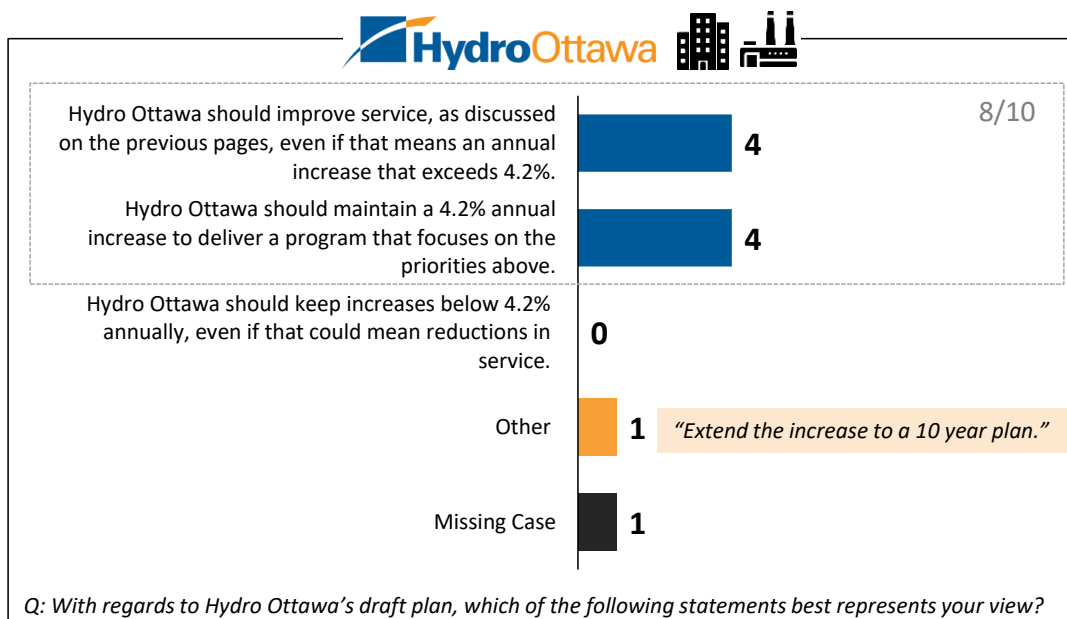
There are mixed feelings regarding the proactive vs reactive infrastructure investment debate. Customers favour an approach that mixes proactive and reactive responses. Reliability is crucial, so critical infrastructure should be maintained without risk, however run-to-failure is acceptable for non-critical equipment, and when there is no impact to safety.

Most customers are interested in looking at Hydro Ottawa's longer-term plan; they want more information to assist them in understanding what comes after the five-year plan. They want to ensure Hydro Ottawa is thoughtfully managing its system, setting priorities, and not just continuing to increase prices year over year.

For those in healthcare, the price is simply what you need to pay to be in business.

Impact of Hydro Ottawa's Plan

At the conclusion of the session, customers were asked to provide their overall feedback on Hydro Ottawa's preliminary plans. A summary of customer responses is included below, in which 8/10 customers either support Hydro Ottawa's current plan (4) or believe they should improve services beyond the current proposal (4).



Customer Workshops

Key Account Customer Feedback

Mid-Market &
Commercial



6

Outstanding Questions and Comments

Overall, this customer engagement was perceived to be constructive and relevant. Key Account customers trust Hydro Ottawa, and this process, however they would like to see more details; more explanation of how the 4.2% figure was reached, and particularly why it is double the Consumer Price Index (CPI). Longer-term, they want a better understanding of the scope of this impact in five years and beyond.

There was also some question about the validity of the forecasting model: How accurate are these predictions? How do they prepare for severe weather? What models are used to make these predictions?

Some customers wanted to understand labour costs - where it is going, and specific details about the productivity gain.

Outstanding questions include:

- Who should pay for new developments?
- Will the increase remain at 4.2% from 2025-2030, or will it continue to increase?
- Some wanted additional information about Hydro Ottawa's cost allocation model. For example - Is part of the increase related to increasing demands from the city? If so, that seems unfair to some given how difficult it is for customers to install co-gen assets.

Additional Commentary (Verbatim responses from workbooks)

"How did we come to 4.2%? Details of expected cost?"

"It appears we have no choice."

"Historical data and 10 year planning information would help."

Customer Workshops

Mid-Market Customer Feedback

Mid-Market &
Commercial



7

Satisfaction with Hydro Ottawa

Overall, mid-market customers are very satisfied with the service they receive from Hydro Ottawa, in terms of reliability and power quality, and when compared to other distributors they receive services from or have dealt with in the past.

Top-notch service always. The workers we see are always polite, professional and very knowledgeable. Service is fine – please maintain it.

However, mid-market customers are much more likely than Key Account customers to say they are frustrated with the overall price of electricity. Regardless of the figure, these customers are already feeling squeezed, and it's the concept of increasing expenses itself that cause alarm. They acknowledge that distribution is just a portion of their bill, and are expecting increases to also be coming from the other players in the system.

Furthermore, the fact that Hydro Ottawa requires an increase of this size, and what is perceived to be so suddenly, is an indicator of poor planning. They feel that the utility “should be operating as any other business;” planning well-ahead, working within their means, and not foisting their shortfall onto customers. Mid-market customers cannot reflect such an increase in their own prices, and are increasingly stretched to mitigate the impact of their expenses; further, a few feel this ask to be an abuse of power, given that Hydro Ottawa is a monopoly.

I think it's important that Hydro Ottawa manage itself the same way we all manage our businesses. We cannot get 4.5% more yet we manage. If everything keeps going up at a higher rate than we can afford, the consumer at the end (our customers) will get poorer and poorer and spend less and less at our businesses.

The perception of high start-up and deposit costs for small businesses is also a point of contention. Being responsible for financing their own equipment, and the fees and deposit required by Hydro Ottawa are considerable obstacles when a business is just starting out, and the process is felt to be a “bad business practice.”

Business start-up costs to create infrastructure are exorbitant (way too high). This needs to be better managed. This is a Hydro Ottawa cost. Also, retaining \$14K of my money for 5 years hurts start-up businesses.

There should be some format for current customers to hear about the problems that new businesses are facing in the start-up phase. I suspect that many established business owners would agree to pay a little more so that new business connection fees were not so extreme.

Customer Workshops

Mid-Market Customer Feedback

Mid-Market &
Commercial



8

Mid-Market Customer Feedback

The figures in the workbook gave the impression that Hydro Ottawa “has done their homework,” with particular appreciation of the accuracy of the numbers. That said, there was some interest in showing more details about specific costs, such as that for labour.

Many customers were unaware of how much of their bill was allocated to Hydro Ottawa. One customer had this to say:

I had no clue. This information is a must to be clearly indicated on our monthly invoices. Every Hydro Ottawa customer needs to know this.

Lots of confusion with overall billing being only 7% of the total.

Minimizing rate increases is the resounding number one priority.

Minimizing rate increase is well above the others. Service is a close second.

Overall, customers are more in favour of a proactive approach than a reactive approach; run-to-failure is perceived to be a more costly approach, and an unacceptable strategy for running a distribution system. That said, some feel that this is not a black and white issue; the approach should be flexible and take into consideration how crucial a given piece of equipment is, in tandem with budget management.

Hydro Ottawa must take a proactive approach in delivering power in Ottawa. If not, costs will be greater once power outages occur.

As a business owner I am concerned about the increase in electric vehicles and how much the infrastructure is going to have to increase to support this method of transportation.

Many feel that cost savings that have been realized through conservation efforts have largely been offset by increases in the commodity portion of their electricity bills.

While most customers acknowledge the value in having access to consumption data, spending on a personal energy management portal is felt to be unnecessary. Customers are struggling as is, and for the most part do not feel the benefits outweigh the cost of improving what is already available.

We need tools on how to save. I cannot affect my busy times...

I'm not sure we would use such a portal. If this going to cause a high expense, scratch this. I prefer paying less as we are almost over our heads with electricity costs.

I would prefer getting efficient service over having such a portal.

Existing billing shows kW/month history – this is sufficient for our needs.

Customer Workshops

Mid-Market Customer Feedback

Mid-Market &
Commercial



9

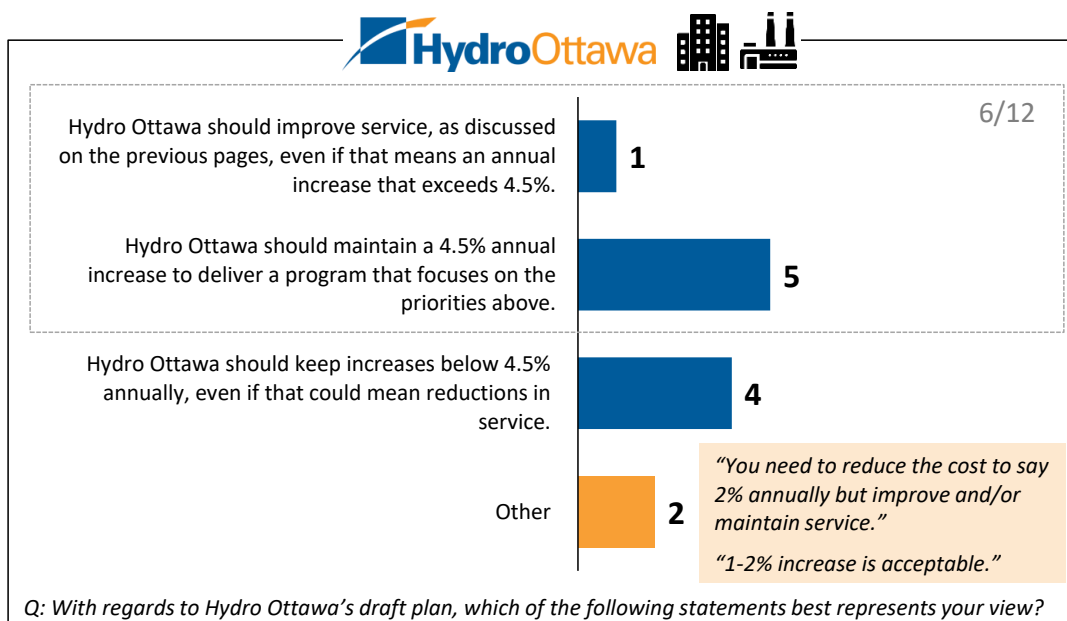
Reaction to Overall Preliminary Plan

Much more so than Key Account customers, mid-market customers take issue with the increase in the distribution portion of the bill. Many feel that it is too high, and that businesses are already struggling to remain competitive due to the cost of electricity. For some, this sentiment is exacerbated by the recent construction of Hydro Ottawa's new facility, which is seen to be a luxury, and evokes feelings of anger and suspicions of wasteful spending. There is a common desire among mid-market customers for Hydro Ottawa to find efficiencies, before raising rates or reducing services.

More specifically, resistance to the proposed increase presented itself in several different forms. Many could not reconcile an increase higher than the CPI. Others felt that Hydro Ottawa's rising costs are their own responsibility, and they should be budgeting within their means. Landlords in particular, who include utilities in the cost of their rent struggle to reconcile the increase with their inability to fully recover their own costs and are increasingly stretched to manage the cost of hydro – put simply by one, "Hydro is killing landlords with long-term tenants."

Impact of Hydro Ottawa's Plan

At the conclusion of the session, customers were asked to provide their overall feedback on Hydro Ottawa's preliminary plans. A summary of customer responses is included below, in which 6/12 customers either support Hydro Ottawa's current plan (5) or believe they should improve services beyond the current proposal (1).



Customer Workshops

Mid-Market Customer Feedback

Mid-Market &
Commercial



10

Outstanding Questions and Comments

Regarding the customer engagement process itself, the majority felt this consultation to be the “right approach.” They felt it clarified Hydro Ottawa’s planning process and how rates are set, however not all were entirely satisfied. While some acknowledged that Hydro Ottawa has “very broadly made their case for the rate increase,” others were frustrated by the “narrow scope” of the engagement. This frustration is a product of the difficulty customers have separating distribution specifically, from the entirety of their electricity bill. Many of the questions and concerns they bring are outside Hydro Ottawa’s control, and cannot be incorporated into Hydro Ottawa’s plans as a result of this engagement exercise.

Most found the amount of information presented in the workbook to be sufficient, however for a few respondents the decisions they were being asked to comment on felt to be better suited to the engineers.

Additional Commentary (Verbatim responses from workbooks)

“Electricity distributors need to have more influence/‘power’ over the electricity generation charges and who controls this. Distributors need to help their customers by representing them to the electricity generation ‘people’.”

“I prefer replacing old poles with underground. System should not be allowed to get to a decrepit condition such as Quebec’s.”

“Hydro Ottawa should not invest in measures to prepare for sever weather: I think the way it is dealing with severe weather presently is adequate.”

“Individual customers need to be included. Online survey? Also, if we were all better informed maybe electricity generation management would be higher up on peoples’ minds when elections come around.”

“Follow CPI or change management. Services should not fall!”

Online Workbook

Background and Methodology

Mid-Market &
Commercial



12



INNOVATIVE was engaged by Hydro Ottawa to gather input among mid-market and commercial customers on preferences on program timing and balancing outcomes. **Pages 13 to 51** show the actual pages of the workbook that was sent and completed by customers. The only additions are the actual results.

Field Dates & Workbook Delivery

The **Mid-Market and Commercial Online Workbook** was sent to all Hydro Ottawa mid-market and commercial customers who were not able to attend the September 17th Workshops and had provided the utility with an email address. Customers had an opportunity to complete the workbook between **September 27th and October 24th, 2019**.

Beyond the initial invite on **September 27th**, customers were sent two reminder emails on **October 2nd** and **October 10th, 2019** to encourage participation. Additionally, Hydro Ottawa staff placed follow-up telephone calls to encourage participation, particularly amongst Key Accounts with whom a more personal relationship exists.

Each customer received a unique URL that could be linked back to their annual consumption, region and rate class.

In total, the workbook was sent to **1,206 mid-market** and **71 commercial** customers by-way-of e-blast from INNOVATIVE.

Mid-Market and Commercial Online Workbook Completes

A total of **13** (unweighted) Hydro Ottawa mid-market and commercial customers completed the online workbook through a unique URL.

Individual mid-market and commercial customer responses were anonymous and no identifiable respondent information was shared with Hydro Ottawa. Responses were combined to protect the confidentiality of individual customers.

Sample Distribution

Due to sample size this data has not been weighted, and is presented in n-sizes rather than percentages. Results should be treated as directional only.

The table below summarizes the sample breakdown by rate class.

Rate Class	Eligible Sample (Unique accounts with email addresses)	Completed Workbooks
Mid-Market	1,206	n=7
Commercial	71	n=6
Total	1,277	n=13

Voluntary Workbook

Environmental Controls

Mid-Market &
Commercial

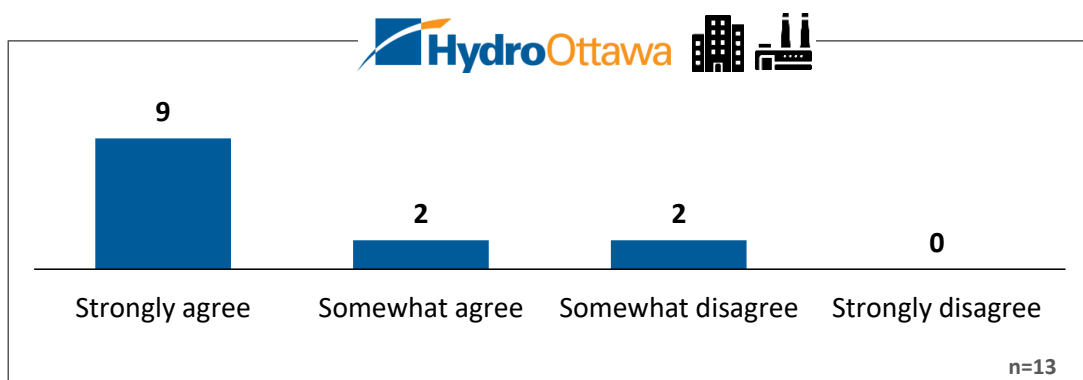


13

Thinking generally about the electricity system in Ontario, including generation, transmission and local distribution, do you agree or disagree with the following statements?

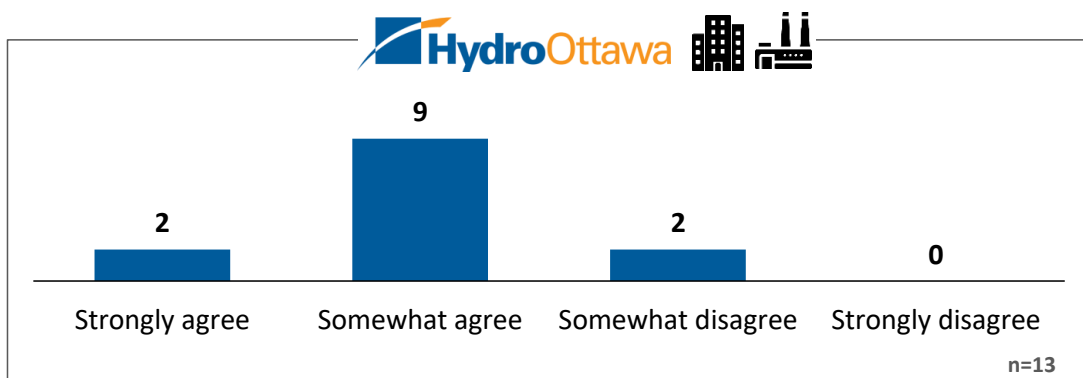
Q

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.



Q

Customers are well served by the electricity system in Ontario.



Online Workbook

Background Information

Mid-Market &
Commercial



14

Hydro Ottawa Limited (Hydro Ottawa) is looking for your input on choices that will help shape the service you receive and the price you pay.



Hydro Ottawa is developing its business plan for 2021 to 2025. This plan will determine the level of spending and investments Hydro Ottawa makes in equipment and infrastructure and the services it provides, as well as the rates you pay.



Hydro Ottawa is accountable to the provincial regulator, the **Ontario Energy Board (OEB)**, both in terms of sharing what customers say and demonstrating how they considered those views when undertaking the planning process.



You don't need to be an electricity expert to participate in this consultation. This workbook is focused on basic choices and provides the background information you need to answer the questions.

Building on previous customer feedback, the goal of this consultation is to allow Hydro Ottawa to better understand the needs and preferences of customers like you, and help them align their plan with what you have shared.

While your view may not always align exactly with the available options, please select the one that is closest to your point of view.

Depending on how much feedback you wish to provide, this consultation should take approximately 30-45 minutes to complete. If you need to pause and return at a later time to finish your feedback, your completed answers will be saved

If you are reading this on a smaller mobile device, you may want to consider accessing the survey from a tablet, desktop or laptop instead so that it is easier for you to read.

Online Workbook

Background Information

Mid-Market &
Commercial



15

This consultation is about gathering your feedback on finding the right balance between the services you receive from Hydro Ottawa over the next five years and the price you pay.

Hydro Ottawa has important decisions to make about the pace and mix of expenditures it makes in equipment and infrastructure, the services it provides you as a customer, and the rates you pay.

Every five years, Hydro Ottawa submits a plan for its proposed rates and spending to the Ontario Energy Board for approval. They are now in the process of finalizing that plan.

- Earlier in 2019, Hydro Ottawa asked thousands of customers about their priorities and preferred outcomes for electricity distribution service.
- Using the feedback shared by customers, Hydro Ottawa built a plan that is intended to align with customer preferences. Want to learn more about how Hydro Ottawa plans? [Click here](#)
- Hydro Ottawa is now coming back to its customers with a series of expenditure options in order to finalize its draft plan for the next five years.

How will this customer consultation work?



Hydro Ottawa will ask for your feedback on a number of decisions it needs to make in order to finalize their plan. These decisions will impact both the services you receive, as well as the price you pay on the distribution portion of your electricity bill.



For each decision, Hydro Ottawa has identified the option that it feels balances customer feedback received to date to limit cost impacts, while prudently investing in the distribution system. These options have been included in the current plan, but may be influenced by your feedback.



Once you have finished sharing your thoughts on these decisions, you will have an opportunity to review your responses and the estimated total rate impact of those choices. You will be able to change your responses until you feel you have found the right mix of investments and estimated rate impact.

Online Workbook

Background Information

Mid-Market &
Commercial



16

How will your views impact Hydro Ottawa's plans and rates?

The Ontario Energy Board (OEB) sets electricity rates in Ontario.



Electricity distributors like Hydro Ottawa are funded by the distribution rates paid by its customers. Electricity distributors are required to file a rate application with the OEB to request a change in distribution rates based on its plans for capital and operating costs.

As a customer, how are my interests protected?

The OEB requires all electricity distributors in Ontario, like Hydro Ottawa, to consider customer needs and preferences as they develop their business plan and distribution system plan.

The OEB then reviews Hydro Ottawa's plan and proposed rates in an open and transparent public process known as a rate hearing. Any individual or group may participate during Hydro Ottawa's application to ask questions or seek more information about Hydro Ottawa's plan and application.

Hydro Ottawa will be held accountable for the way you were consulted, the information shared with you and the ways in which the plan considers what you say.

At the end of the process, the OEB will weigh the evidence and decide on the rates Hydro Ottawa can charge its customers.

Online Workbook

Mid-Market &
Commercial

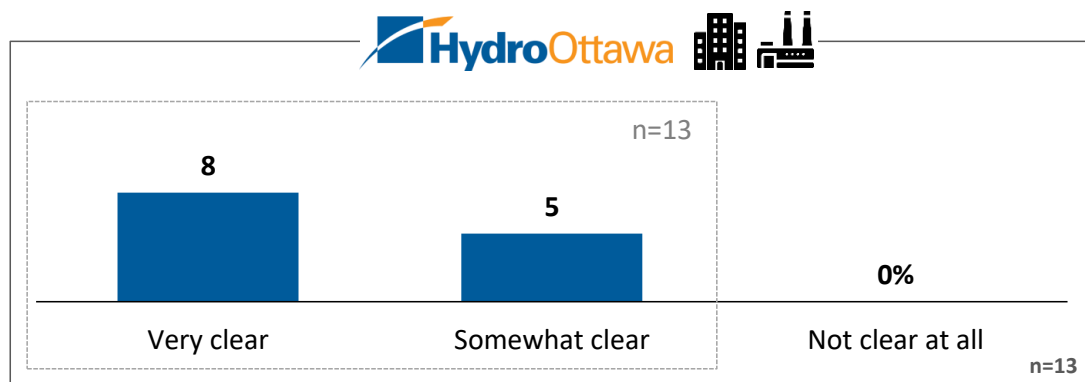


17

Purpose of Hydro Ottawa's customer consultation

Q

Do you feel that the purpose of Hydro Ottawa's customer consultation is clear?



Online Workbook

Background Information

Mid-Market &
Commercial



18

Understanding Ontario's electricity system and Hydro Ottawa's role

Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

Generation

Where electricity comes from

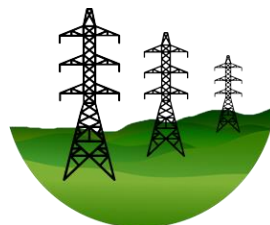
Ontario's electricity is generated using a mix of nuclear, gas-fired, and water power (hydro), as well as biomass and renewable sources such as wind and solar technology. In Ontario, a number of companies own these generating stations but approximately half of the electricity is generated by Ontario Power Generation. The Independent Electricity System Operator (IESO) balances the supply of, and demand for, electricity on a second-by-second basis and directs its flow across the high-voltage transmission lines.



Transmission

How electricity travels across Ontario

Once generated, electricity must be transported to electrical substations across the province. Due to the large amount of power and long distances, transmission normally takes place at high voltages with the lines suspended on large, steel towers. The province has more than 30,000 kilometres of 'electricity highway', most of which is owned and operated by Hydro One.



Local Distribution

How electricity is delivered to the end-consumer



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers. Its local distribution system is connected to the transmission grid through its distribution stations and transformers. This allows the voltage to be decreased so it can be distributed and safely used in homes and organizations across Hydro Ottawa's service territory.

Hydro Ottawa's distribution system is complex. It consists of approximately 50,000 poles, 2,700 km of overhead power lines, 3,000 km of underground cable, and 45,000 transformers.

Online Workbook

Familiarity with Ontario's electricity system

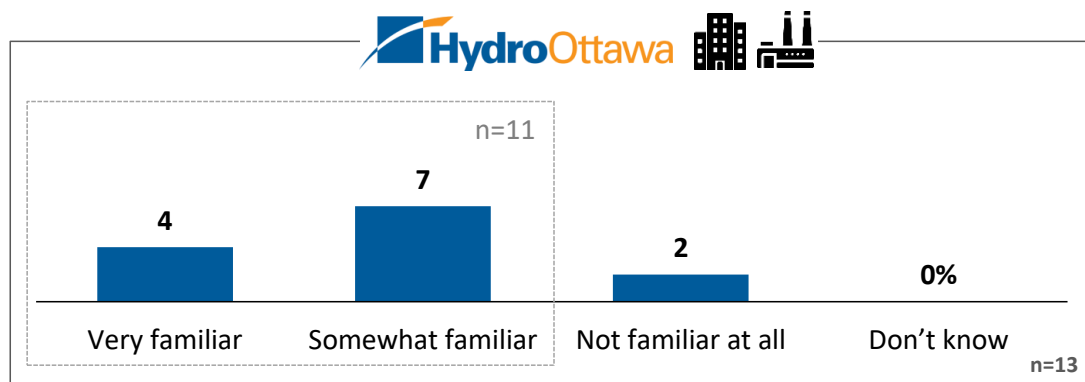
Mid-Market &
Commercial



19

Q

Before this consultation, how familiar were you with various parts of the electricity system, how they work together, and for which services Hydro Ottawa is responsible?



Online Workbook

Mid-Market &
Commercial



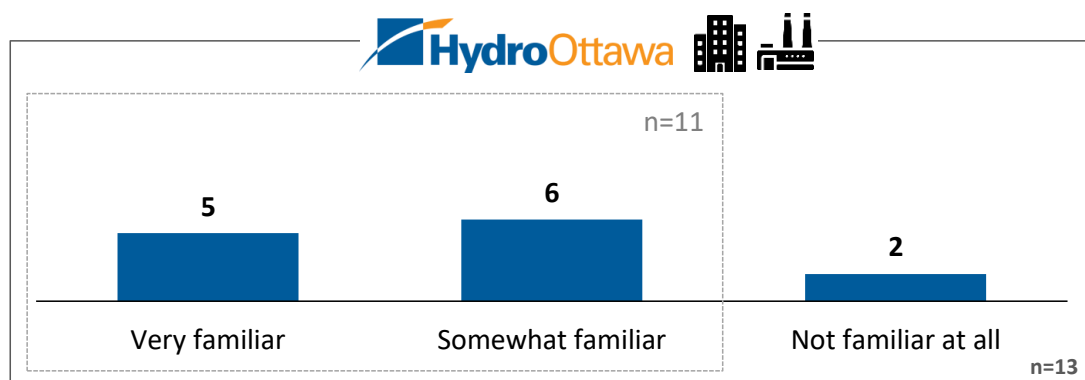
20

Familiarity with how Hydro Ottawa receives funding

Hydro Ottawa is entirely funded through the rates its customers pay and does not receive taxpayer money for its operations or investments.

Q

Before this consultation, were you aware of how Hydro Ottawa received its funding?



Online Workbook

Background Information

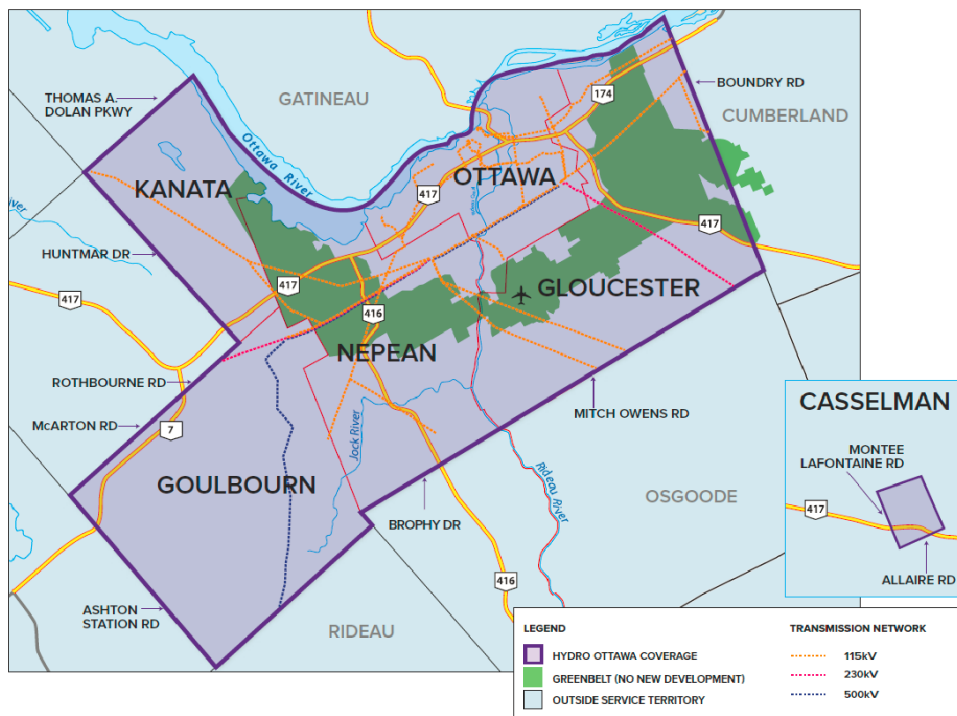
Mid-Market &
Commercial



21

Hydro Ottawa fast facts

- Private business corporation 100% owned by its shareholder, the City of Ottawa
- Third largest municipally-owned electricity distributor in Ontario
- Serves approximately 335,000 homes and businesses (more than one million consumers)
- Service territory of 1,116 square kilometers that includes most of the City of Ottawa and the Village of Casselman
- Over 600 employees
- Does not receive taxpayer money to fund its operations or its investments in the distribution system
- Entirely funded through the rates its customers pay



Online Workbook

Overall Satisfaction with Hydro Ottawa

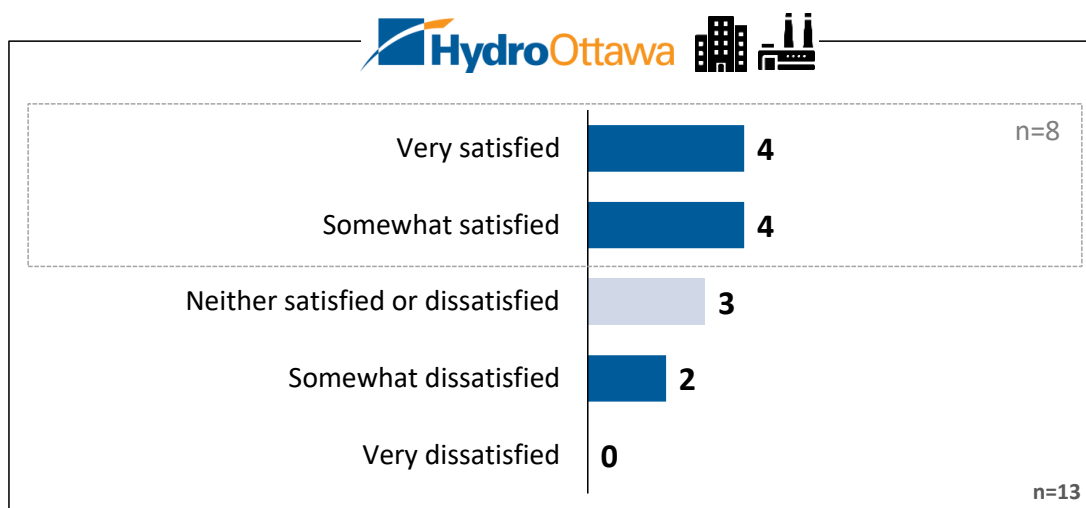
Mid-Market &
Commercial



22

Q

Thinking specifically about the services provided to you and your community by Hydro Ottawa, how satisfied or dissatisfied are you with the services that you receive?



Q

Is there anything in particular that Hydro Ottawa can do to improve its services to you?

Verbatim Responses (n=6)

7/13 of respondents did not provide additional feedback

This survey seems very self serving. Not sure where my opinion comes in.

Hydro rates are too high. Investigate the cheapest hydro possible (i.e. buy cheap from Quebec).

Lower our bills

Prevent power surges downtown.

I work for [REDACTED] Hydro Ottawa should be providing more incentives to building/home owners who install localized renewable energy generation systems. Whether the intent is to feed into the grid or just to use locally on-site, this reduces the load capacity requirement for Hydro Ottawa, thus reducing its need for infrastructure. Ultimately, Hydro Ottawa would be able to permanently lower operating costs for a 1-time incentive fee... Plus it is better for the environment.

Focus on customer service needs to improve and stick to electricity delivery

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial

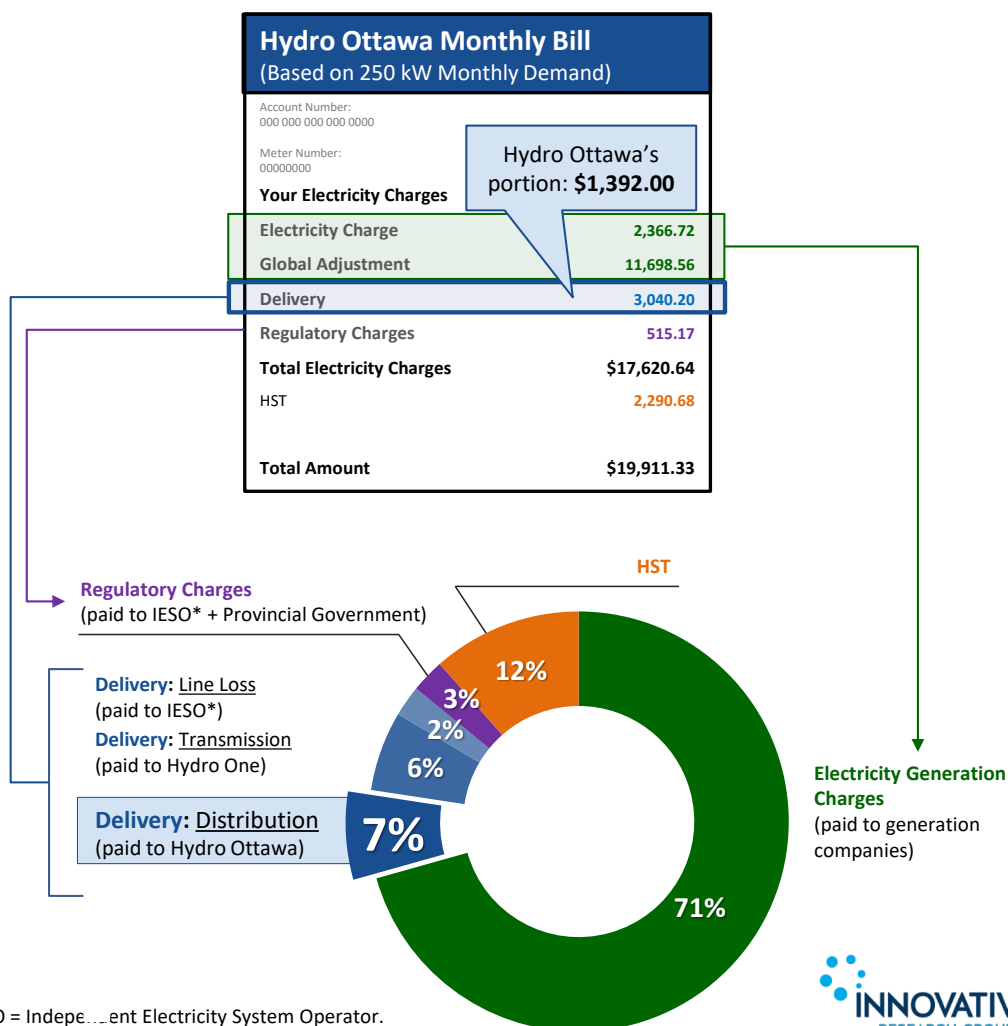


23

How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa's portion makes up about **7%** of a typical mid-sized business customer's bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



* IESO = Independent Electricity System Operator.

Online Workbook

Familiarity with Portion of Bill Remitted to Hydro Ottawa

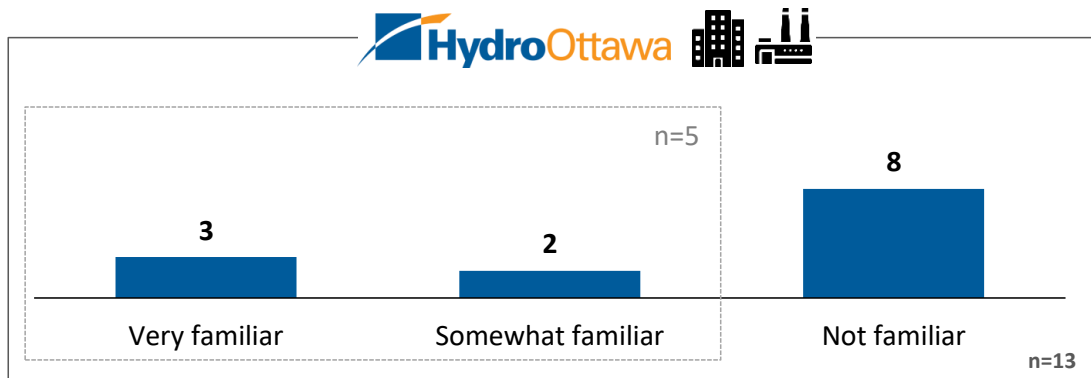
Mid-Market &
Commercial



24

Q

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?



Online Workbook

Background Information

Mid-Market &
Commercial



25

How did customer feedback shape Hydro Ottawa's preliminary plan?

Hydro Ottawa engages with its customers both in day-to-day interactions and in a variety of customer engagement surveys. **However, this consultation is unique, as it focuses on Hydro Ottawa's business plan that will cover the five year period from 2021 to 2025.**

Preliminary customer engagement found that:

- The clear majority of residential and small business customers are satisfied with the current service they receive;
- Despite being the top priorities, customers don't just expect Hydro Ottawa to focus exclusively on price and reliability;
- Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers.

Understanding that many customers are satisfied with the level of service they receive from Hydro Ottawa, including with the reliability of the distribution system, and value minimizing price increases above all else, Hydro Ottawa has developed a business plan that emphasizes four core principles:

1. **Minimize rate increases;**
2. **Maintain reliability and service quality;**
3. **Address key pressures to the system, including;**
 - Aging infrastructure;
 - An expanding customer base and continued population growth, and;
 - The effects of severe weather events.
4. **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

Online Workbook

Principles of Hydro Ottawa's Plan

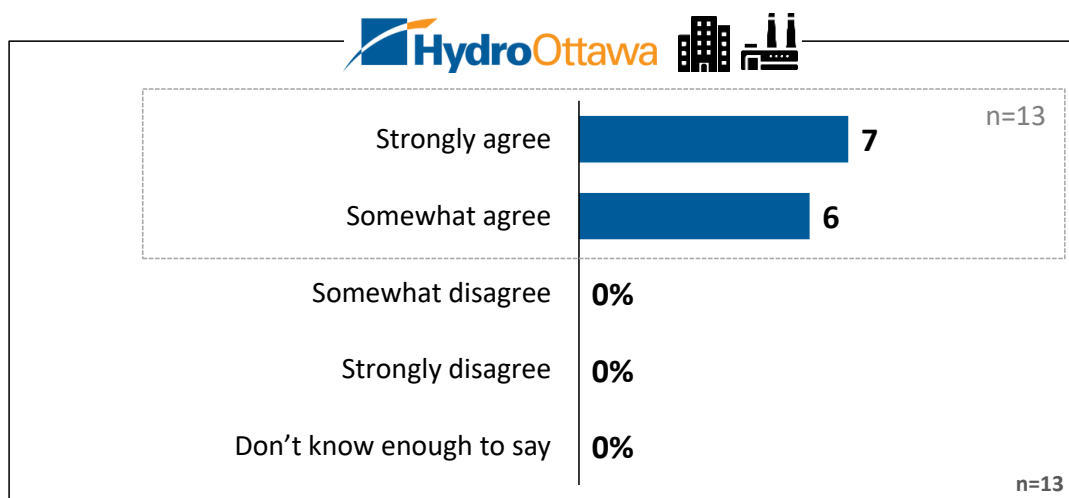
Mid-Market &
Commercial



26

Q

Do you agree or disagree with the principles outlined above?



Q

Is there anything that you would change about the four core principles outlined above? If yes, what would you change?

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

Investigate buying cheaper hydro not only minimizing rate increases.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



27

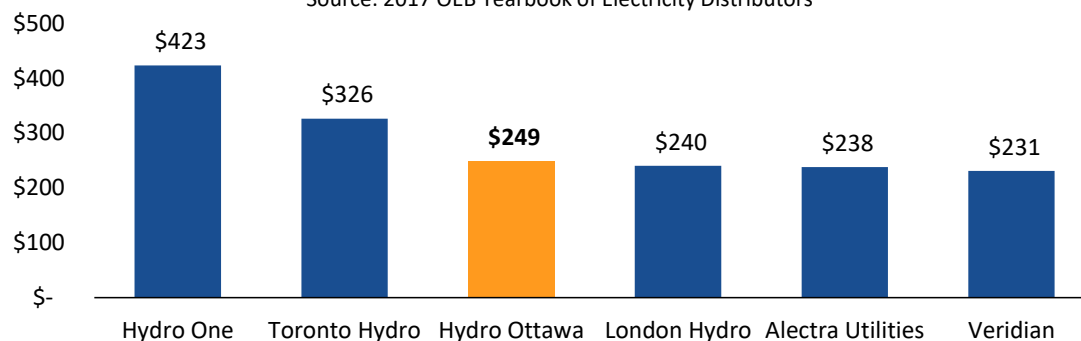
Finding efficiencies

Hydro Ottawa is continuing its focus on productivity and continuous improvement initiatives; which offset continuing costs and improves organizational effectiveness.

Hydro Ottawa's total operating costs are reported every year to the OEB and benchmarked against other distribution companies in Ontario. In the last year of publicly available data collected by the OEB, Hydro Ottawa's total operating cost per customer was **\$249**. This was, and historically has been, lower than the average Ontario distribution company cost of **\$304** per customer.

Six Largest Provincial Distributors: Operating Cost per Customer (\$)

Source: 2017 OEB Yearbook of Electricity Distributors



The choices Hydro Ottawa makes in its operating budget are primarily driven by technical analysis and expert assessments of best practices.

As promised earlier, this workbook does not ask questions that expect you to be an electricity expert.

The OEB runs an open and transparent review process where experts from the OEB and intervenor groups review and have the opportunity to question Hydro Ottawa's analyses and assessments. Anyone, including you are welcome to participate in the OEB process.

Online Workbook

Approach to Bringing Customer Views into Plans

Mid-Market &
Commercial

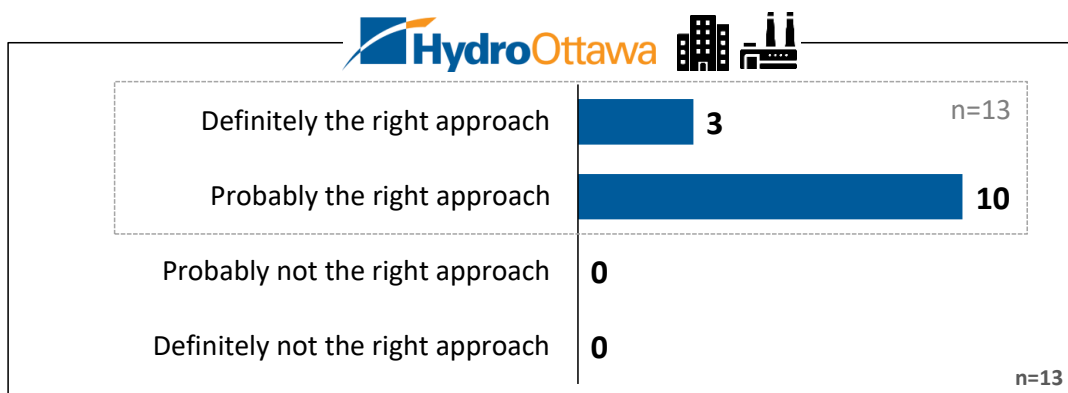


28

This workbook leaves detailed discussion of Hydro Ottawa's operating budget to experts from the OEB and intervenors in the formal OEB review; the workbook focuses on collecting your views on competing trade-offs in investments.

Q

Does this customer engagement process seem like the right approach to bring customer needs and preferences into Hydro Ottawa's plan?



Q

Are there things that you would change about how Hydro Ottawa brings customer needs and preferences into Hydro Ottawa's plan? If so, what would you change?

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Non-discretionary expenditures

Mid-Market &
Commercial

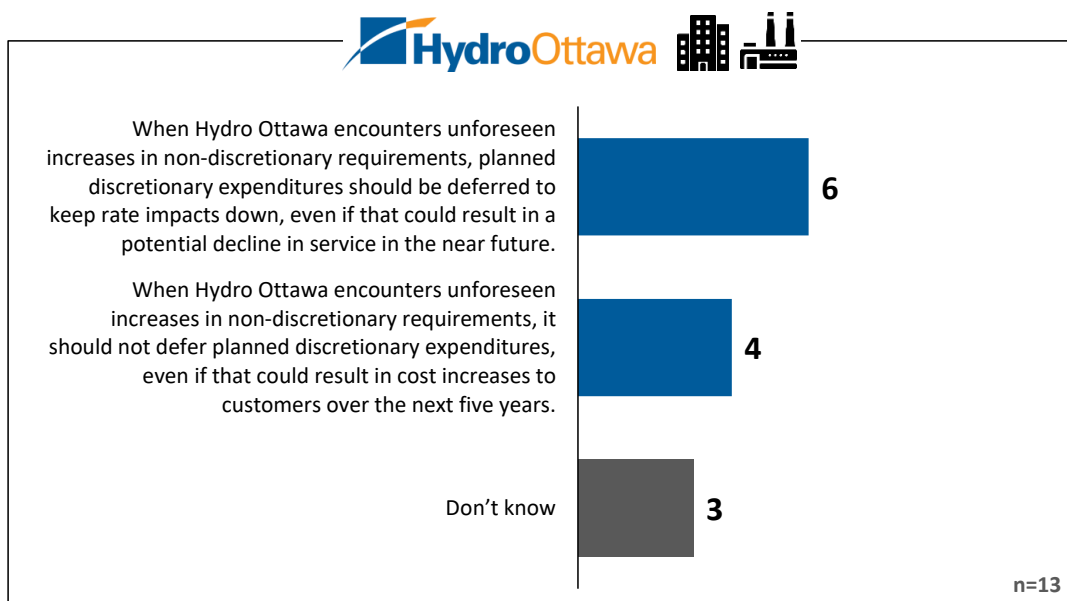


29

As federal, provincial and municipal demands change, Hydro Ottawa may need to implement unplanned, non-discretionary expenditures. It has a decision to make about how to accommodate unexpected non-discretionary spending which could impact other planned priorities.

Q

Which of the following statements best represents your point of view regarding Hydro Ottawa's approach to discretionary and non-discretionary spending?



Q

Additional Feedback (Optional)

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

Proper planning and allocation is far cheaper than trying to fix something that you encounter that is unforeseen...I would much rather you plan properly and forecast the cost increase proportional. You will get a better product with less investment

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Pacing investments in the overhead distribution system

Mid-Market &
Commercial



30

Hydro Ottawa is considering three options for continued investment in the overhead distribution system:

- 1. Accelerated Approach:** Increased replacement of aging overhead transformers, switches, and poles to catch up and get ahead of growing number of poles at, or beyond, their end-of-life.
- 2. Included in Draft Plan:** Defer catch up in aging infrastructure to manage rate impact. Modest decrease of approximately \$1M per year in renewal of overhead infrastructure from 2016 to 2020 levels. Move to more targeted renewals of specific poor condition assets and less full renewals of broad areas.
- 3. Reduced Approach:** Deferral of proactive switch renewal, and pole replacement. Move to replacement of only critical assets.

Option	Outcome
Accelerated Approach <u>Additional</u> \$2.48 per bill each year (\$12.41 more per bill by 2025)	<ul style="list-style-type: none"> Increasing the replacement levels to address higher-risk assets, such as poles, which are at or near end-of-life. Increasing investments in switches to enhance operational efficiency. Reducing requirement for emergency renewals.
Included in Draft Plan <i>Within 4.5% annual increase</i>	<ul style="list-style-type: none"> Moderate slowing of asset replacement. Increased future costs to catch up on expected end-of-life infrastructure. Some increase in emergency renewal replacements, significant increase not expected for next five years. Minor increases in customer impact as targeted and emergency renewals will result in more piecemeal replacements.
Reduced Approach <u>Decrease</u> of \$1.49 per bill each year (\$7.45 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Degradation in system reliability due to lower switch renewal. Switch failures typically occur on operation, resulting in longer restoration times. Moderate increases in targeted and emergency renewal, possibly resulting in multiple service visits in certain areas.

* Note: Mid-market bill impacts shown.

Online Workbook

Mid-Market &
Commercial

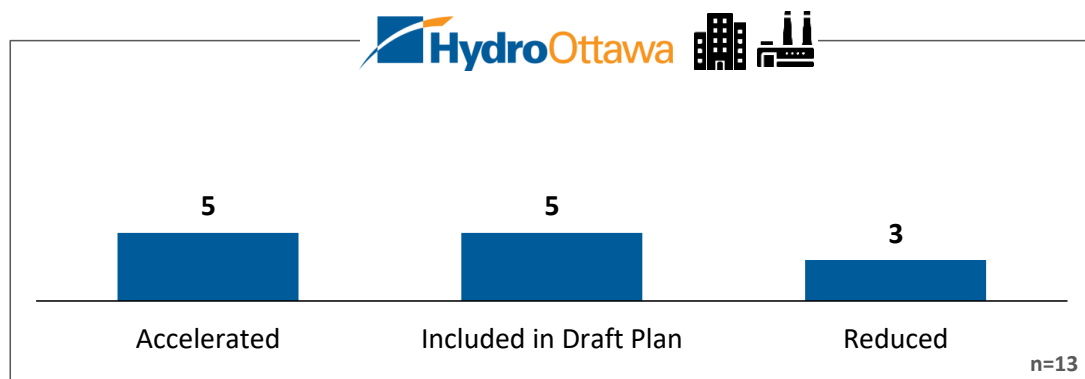


31

Pacing investments in the overhead distribution system

Q

Which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

End of life estimates are just that " estimates " is there a better way to determine their useful life i.e technology, A.I, predictive analytics etc.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Pacing investments in the underground distribution system

Mid-Market &
Commercial



32

Hydro Ottawa is considering four options when it comes to underground cable renewal:

- 1. Accelerated Approach:** Renewal of aging assets with increased spending directed to underground transformers and cables.
- 2. Enhanced Approach:** Renewal of aging assets with increased spending targeted for cable replacement.
- 3. Included in Draft Plan:** Balanced investment, defer catch up in replacement of aging infrastructure to manage rate impact. Continued and modest increases in proactive replacement of assets at higher risk of failure.
- 4. Reduced Approach:** Defer any increase in proactive asset replacement, moving to only critical repairs of the system.

Option	Outcome
Accelerated Approach Additional \$7.94 per bill each year (\$39.72 more per bill by 2025)	<ul style="list-style-type: none"> Increasing proactive replacement of aging infrastructure with a focus on transformer and cable replacement. Reduced asset risk and future investment to catch up. Accelerating asset renewal enabling rapid roll out of increased system capacity (EVs) and improved operations (faster restoration when outages occur). Reliability improvements reducing frequency and duration of outages. Reducing maintenance costs related to oil leaks.
Enhanced Approach Additional \$3.97 per bill each year (\$19.86 more per bill by 2025)	<ul style="list-style-type: none"> Replacing aging cables to reduce failure risk, with slowed investment in other underground infrastructure such as switches, and transformers. Manageable future investment will be required to catch-up. Increased rate of cable replacement will provide some improvements in asset failure and outage frequency.
Included in Draft Plan <i>Within 4.5% annual increase</i>	<ul style="list-style-type: none"> Moderate rate of asset replacement, which is still higher than the 2016-2020 program Manageable level of future investment required to catch-up. Maintenance of system reliability with minor impact in service reliability.
Reduced Approach Decrease of \$3.97 per bill each year (\$19.86 less per bill by 2025)	<ul style="list-style-type: none"> Need for catch up in future years, requiring significant levels of investment. Potential reduction on system reliability with increasing outages in specific areas due to cable failures.

* Note: Mid-market bill impacts shown.

Online Workbook

Mid-Market &
Commercial

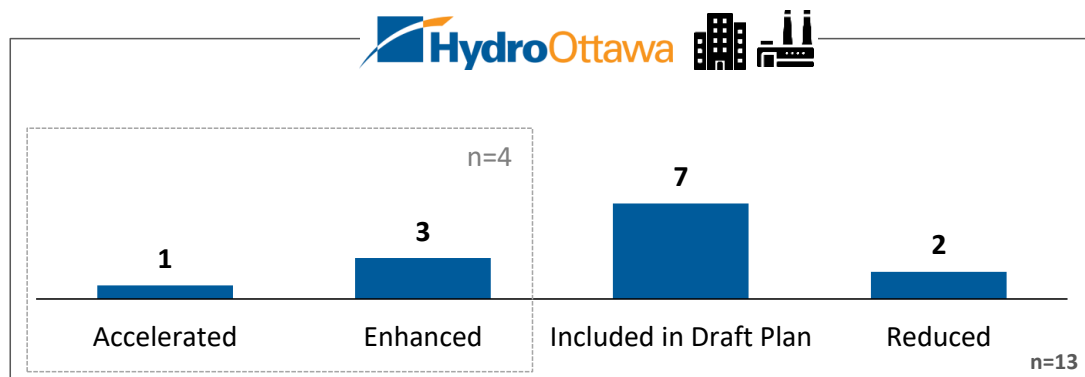


33

Pacing investments in the underground distribution system

Q

Which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

Same as last answer. End of life estimates are just that " estimates " is there a better way to determine their useful life i.e technology, A.I, predictive analytics etc.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



34

Reliability experience

In order to provide feedback on Hydro Ottawa's plans, it's important to understand how the distribution system has performed in the past, as well as what's expected in the future.

A core objective of Hydro Ottawa's 2021-2025 rate application is to maintain current levels of reliability, while making targeted improvements to those areas experiencing below average service.

- The five-year average number of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.02 to 0.84 (total number of annual outages).
- The five year average duration of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.17 to 1.14 (total annual hours).

What is most likely to cause an outage?

Although both the number and duration of outages have decreased compared to the previous five-year average, defective equipment remains the top cause of outages within Hydro Ottawa's control.

That said, in 2018, severe weather presented a unique set of challenges for Hydro Ottawa's distribution system. One section of this consultation will focus on the impacts of severe weather, and the options for preparing the distribution system for more frequent and extreme weather.

Causes of Unscheduled Power Outages (five-year average: 2014 to 2018)



10%

Animal Contact: outages caused by animals such as birds and squirrels coming in contact with overhead power lines or transformers.



27%

Equipment Failure: unscheduled power outages from equipment failure usually occur with distribution assets that are beyond or approaching the end of their expected useful lives.



24%

Weather Related Events: adverse weather such as heavy rain, lightening, ice, snow, wind, extreme temperatures, freezing rain and frost can disrupt the distribution system.



39%

Other: includes tree contact (10%), and human interference (11%) (such as construction workers accidentally cutting power lines or motor vehicle accidents involving contact with distribution assets). 9% of outages are unknown, but most likely caused by animal contact.

Note: statistics do not include loss of supply from Hydro One.

Online Workbook

Reliability Experience

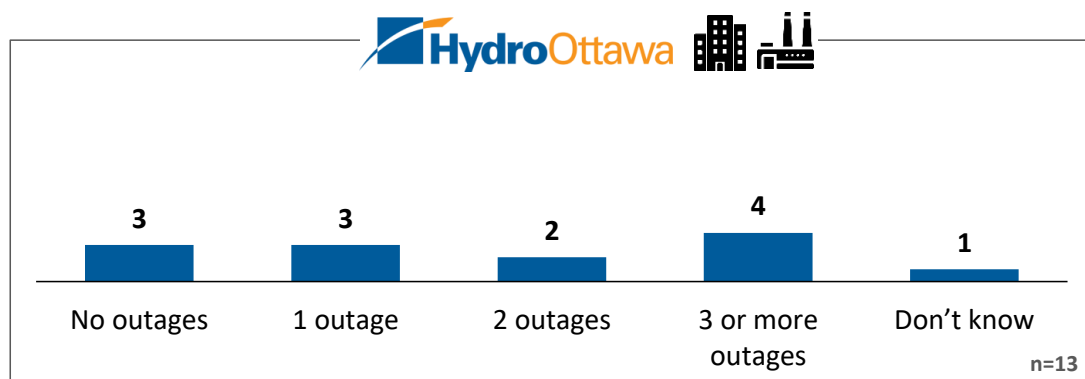
Mid-Market &
Commercial



35

Q

Have you experienced any power outages at your organization in the past 12 months which lasted longer than one minute? If so, approximately how many of these power outages did you experience?



Online Workbook

Reliability Investments

Mid-Market &
Commercial



36

Hydro Ottawa is considering four options when it comes to reliability investments:

- 1. Accelerated Approach:** Build power lines/new connections between substations to improve reliability. Enhance monitoring of substation and distribution equipment.
- 2. Included in Draft Plan:** Only build critical connections between substations. Enhance monitoring of station and distribution equipment.
- 3. Limited Approach:** Improve reliability for neighbourhoods experiencing the most frequent number of power outages. Enhance monitoring of substation and distribution equipment.
- 4. Reduced Approach:** Only improve reliability for neighbourhoods experiencing the most frequent number of power outages.

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.99 per bill each year (\$4.97 more per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Increase system resilience and performance through addition of connections on distribution network. Supports reduction in outage duration. Target investments to areas that have below average reliability.
Included in Draft Plan <i>Within 4.5% annual increase</i>	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Maintain system resilience and performance through addition of connections on distribution network. Maintains outage duration at current levels. Target investments to areas that have below average reliability.
Limited Approach <u>Decrease</u> of \$1.99 per bill each year (\$9.93 less per bill by 2025)	<ul style="list-style-type: none"> Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral. Target investments to areas that have below average reliability.
Reduced Approach <u>Decrease</u> of \$2.98 per bill each year (\$14.89 less per bill by 2025)	<ul style="list-style-type: none"> Target investments to areas that have below average reliability. No investment to improve/enhance reliability.

* Note: Mid-market bill impacts shown.

Online Workbook

Reliability Investments

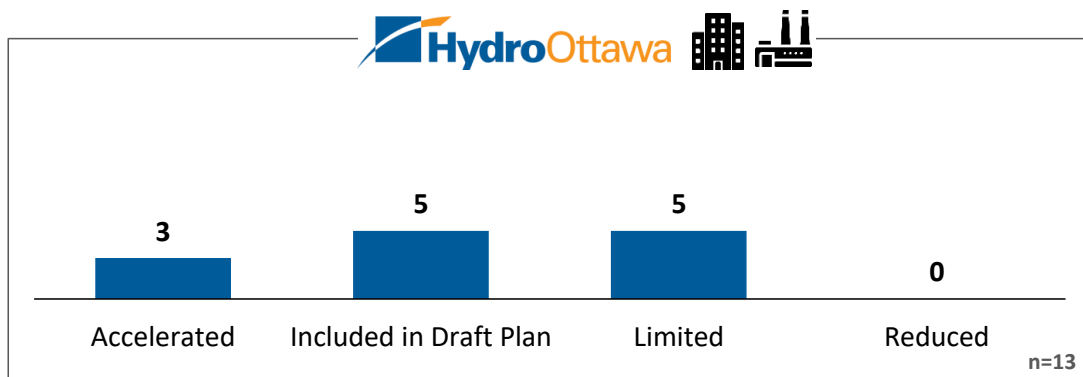
Mid-Market &
Commercial



37

Q

Which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



38

Preparing for potential increases in severe weather

Hydro Ottawa's distribution system is designed to withstand environmental stresses and impacts, however, weather-related outages have been increasing in terms of frequency and severity over recent years. During 2018 there were three major events which, combined, resulted in system asset replacements of approximately \$4M.

In addition to impacting Hydro Ottawa's equipment, these events increase the resources required to safely and quickly respond to the storm damage and coordinate and communicate restoration efforts to customers.

Hydro Ottawa is currently in the process of completing a climate change vulnerability assessment to determine what steps should be taken to mitigate the impacts of changing climates. While the recommendations from this assessment have not yet been finalized, there are a number of steps Hydro Ottawa could consider taking to prepare for an increasing frequency of severe weather events. For example, changing pole replacement practices and standards would increase overhead structure strength and provide greater clearances from trees and vegetation.

Hydro Ottawa wants to know what your preferences are with respect to making investments in system resilience for severe weather that may or may not materialize over this rate period.



Online Workbook

Mid-Market &
Commercial

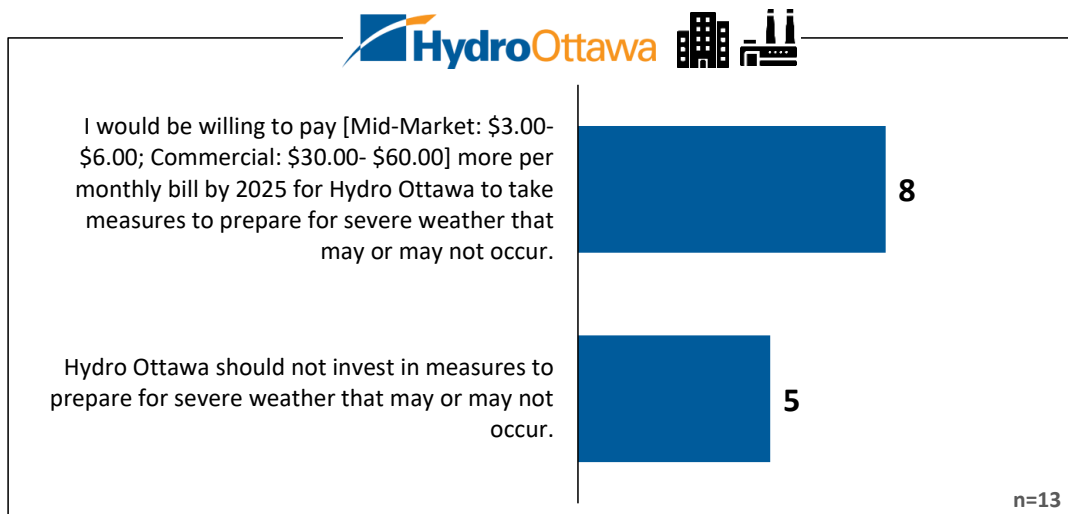


39

Preparing for potential increases in severe weather

Q

Which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

Our tax and hydro bills are our greatest expenses - they are indeed onerous obligations to our business.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



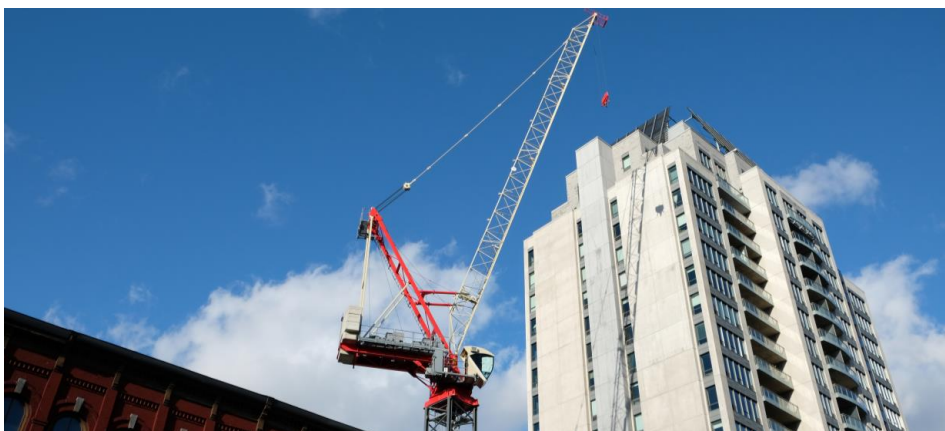
40

Serving a growing city

The population in Hydro Ottawa's service territory continues to grow. Hydro Ottawa must be prepared to serve new customers, while maintaining acceptable levels of service for existing customers. This means regularly assessing the capacity and reliability of its distribution system and its resilience to extreme weather events, and taking action when gaps are found.

A number of Hydro Ottawa's substations are approaching capacity and cannot accommodate future customer growth. Delaying planned investments could result in a decline in reliability for existing customers.

Hydro Ottawa's current plan only includes critical capacity investments; however, there is also an option to make further investments to get ahead of the growing demand for electricity supply.



Option	Outcome
Accelerated Approach <u>Additional</u> \$4.96 per bill each year (\$24.82 more per bill by 2025)	<ul style="list-style-type: none"> • Increase distribution system capacity investment to meet and exceed growing demand for electricity supply. • Distribution system capacity is moved ahead of the demand for electricity, eliminating reliability risk during peak demand days.
Included in Draft Plan <i>Within 4.5% annual increase</i>	<ul style="list-style-type: none"> • Slow distribution system capacity to critical investment only. • Distribution system capacity maintains pace with demand for electricity, or slightly lagging. No impact on ability to connect customers. • Results in modest increase to risk in reliability to areas of growth and increased risk of longer outages or inability to restore power to some customers if outages occur on peak demand days.

* Note: Mid-market bill impacts shown.

Online Workbook

Serving a growing city

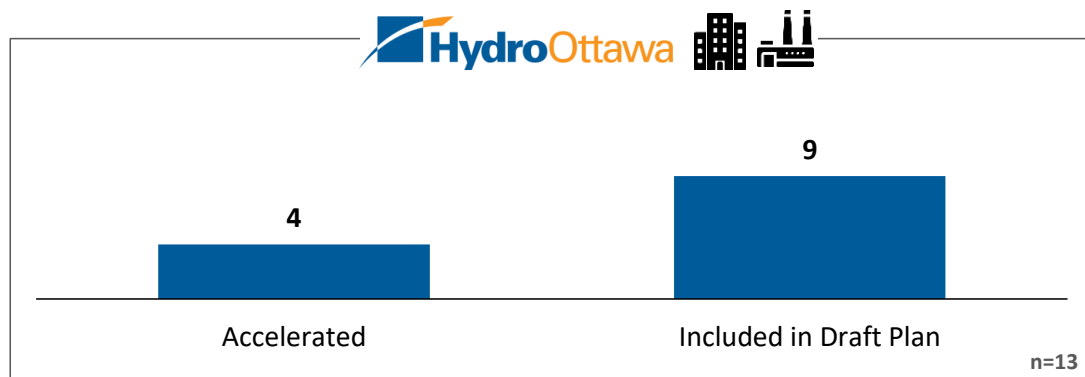
Mid-Market &
Commercial



41

Q

Which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (n=1)

12/13 of respondents did not provide additional feedback

Even potential limited access to power can prevent development. A client will not want to move into an area, if there is a risk of limited power or no expansion capability...

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



42

Innovation: Investing for the future

Electricity distribution service is in the midst of unprecedented change – evolving towards a more decentralized, customer-centric, technologically-advanced and environmentally sustainable model.

Hydro Ottawa plans to continue engaging in research and development activities which offer value to its customers. This includes supporting the connection of Distributed Energy Resources (DERs). This small scale generation is connected to the grid close to the communities they serve. Hydro Ottawa's Great DR – phase two project (currently known as MiGen), where customers generate their own power and store what's not immediately used, is an example of innovation that is incorporated into the 2021-2025 plan.

Hydro Ottawa has also been actively involved in assessing and addressing customer needs within the emerging electric vehicle market, as well as, participating in a Battery Energy Storage Project, as part of the Smart Grid Program.

Looking forward, opportunities to develop new rate models and explore new energy services will offer customers more choice and control over their electricity needs.



Online Workbook

Innovation: Investing for the future

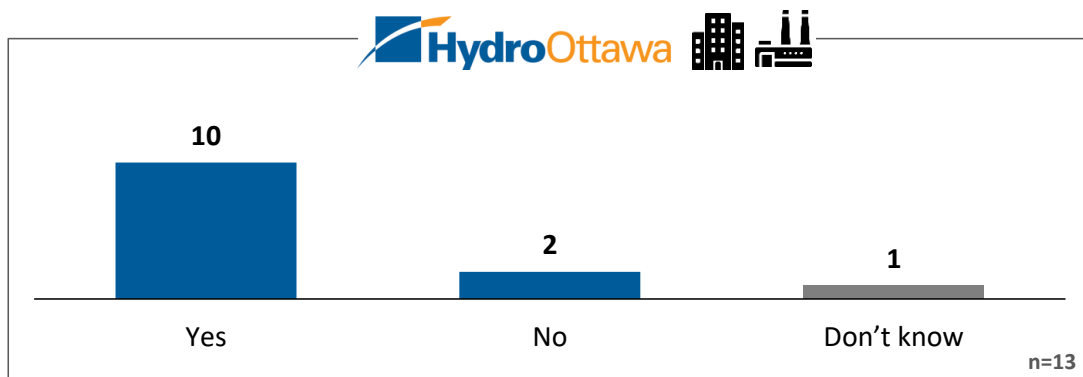
Mid-Market &
Commercial



43

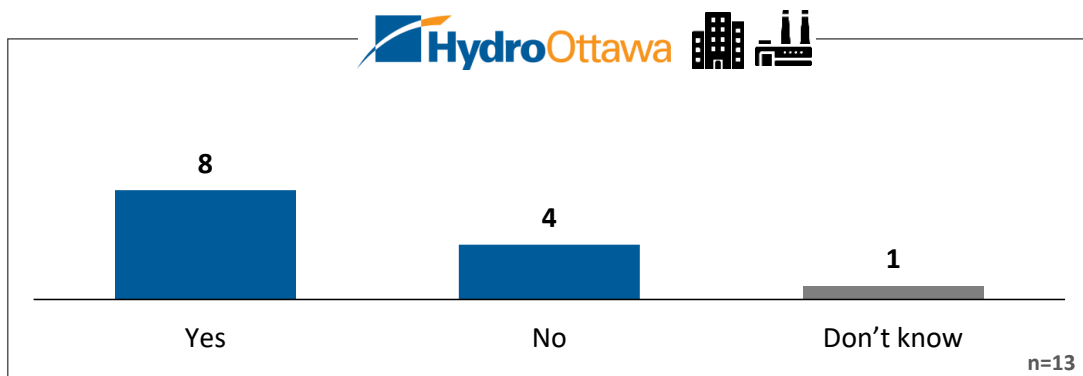
Q

Do you support Hydro Ottawa's strategy of leading change and engaging in industry projects that could shape the future of the energy marketplace?



Q

Do you believe Hydro Ottawa should limit expenditures to those necessary to serve today's customers and existing needs, if this option could lower rate impacts in the short term?



Q

Additional Feedback (Optional)

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Background Information

Mid-Market &
Commercial



44

Keeping the business running

Hydro Ottawa is more than just poles and wires – it's a business that needs to invest in tools, trucks, equipment, and facilities to maintain the distribution system and service its customers.

The types of expenditures in this category are:

- **Information Technology:** Systems required to securely operate the distribution system, manage customer information and privacy, and keep employees working effectively and efficiently.
- **Vehicles:** Bucket trucks and other vehicles used to move employees, equipment, and supplies throughout Hydro Ottawa's service territory to support the safe and reliable operation of the grid.
- **Facilities:** Warehouse, operations centres and administrative office.
- **Tools and Equipment:** Specialized safety tools and equipment to mitigate the risks associated with maintaining electricity distribution infrastructure.

When deciding whether to continue to maintain existing tools or replace them, Hydro Ottawa considers whether the risks and costs of continuing to use them outweighs the benefits of waiting longer to replace them. Hydro Ottawa must also consider the lead times required to replace some utility vehicles, such as bucket trucks, which can be as long as 18 months.



Online Workbook

Keeping the business running

Mid-Market &
Commercial

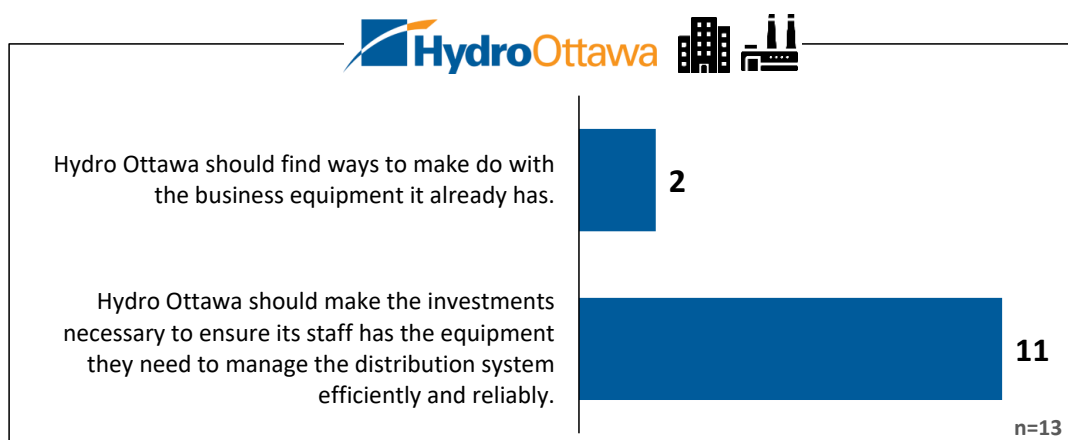


45

As a company, Hydro Ottawa needs equipment to maintain its distribution system and IT systems to manage the distribution system and customer information.

Q

Which of the following statements best represents your point of view?



Q

Additional Feedback (Optional)

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Vehicle replacement

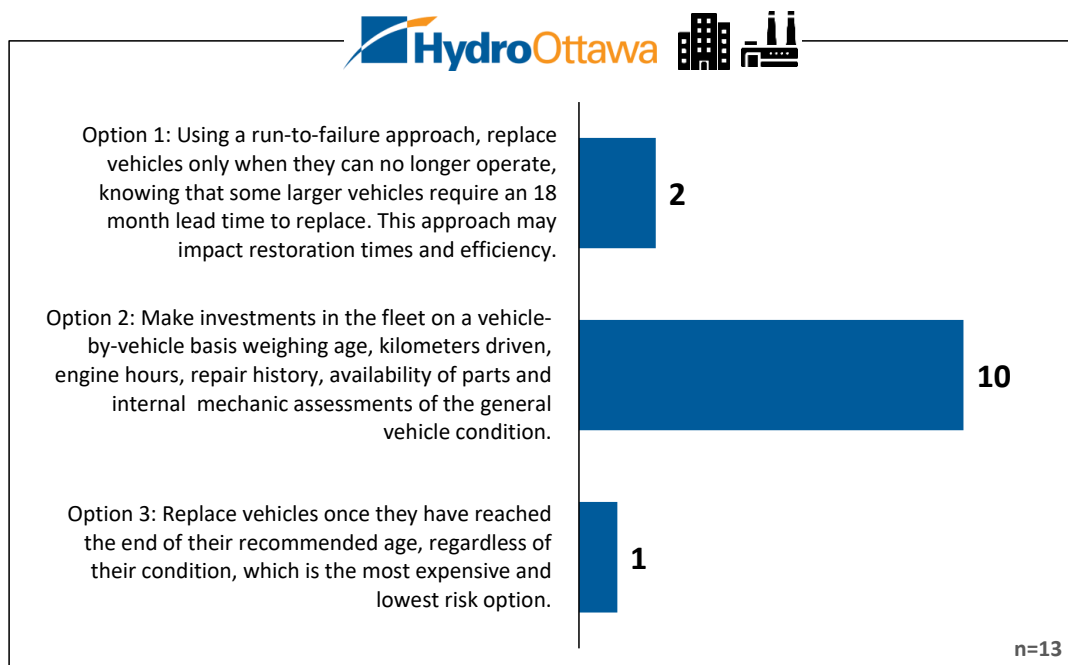
Mid-Market &
Commercial



46

Q

Which of the following vehicle replacement options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Mid-Market &
Commercial

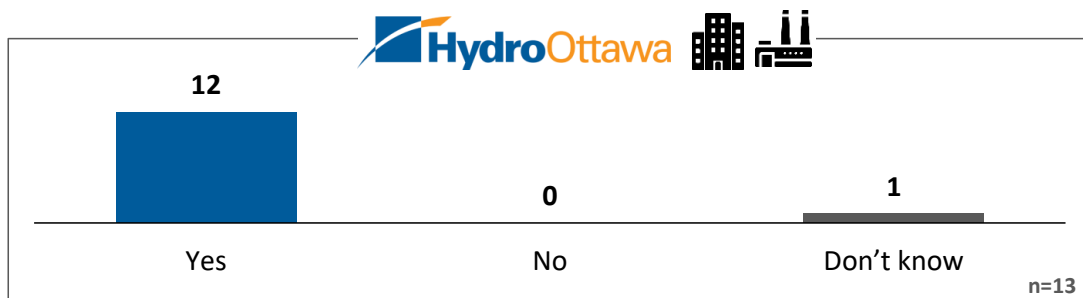


47

Finding efficiencies through technology investments

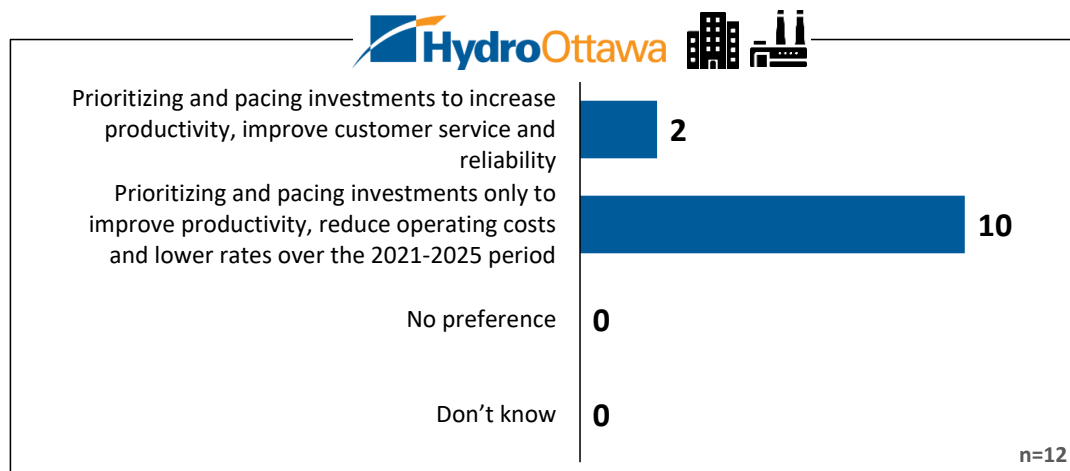
Q

Do you support Hydro Ottawa's view that prudent technological investments are necessary in order to meet its ongoing business and customer needs?



Q

[If yes to above] And which of the following options do you prefer?



Q

Additional Feedback (Optional)

Verbatim Responses (No respondents provided additional feedback)

13/13 of respondents did not provide additional feedback

None

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Change in Initial vs. Final Response by Project

Mid-Market &
Commercial



48

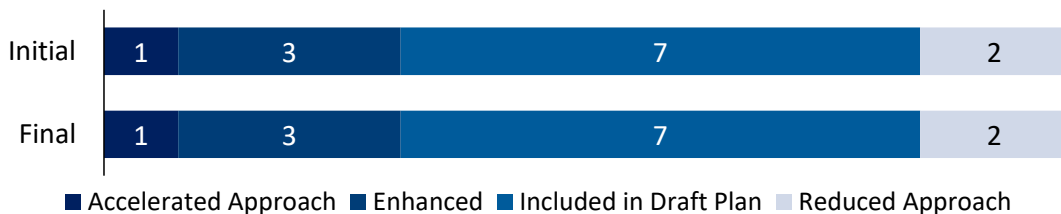
Q

Pacing investments in the overhead distribution system



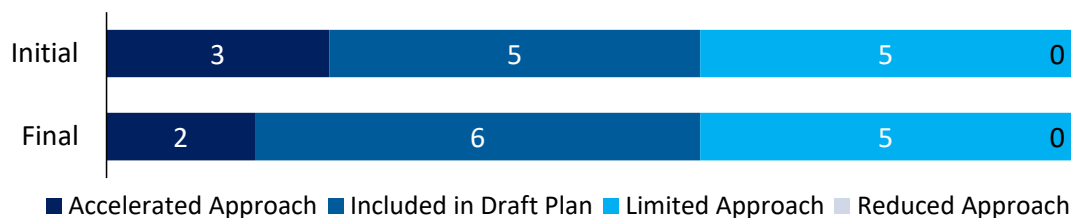
Q

Pacing Investments in the Underground Distribution System



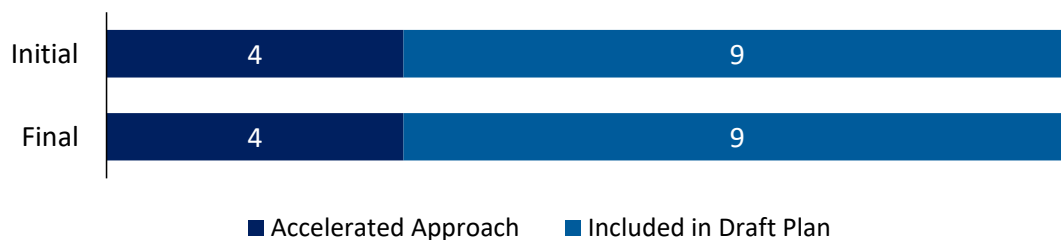
Q

Reliability Investments



Q

Serving a Growing City



Online Workbook

Impact of Choices on Rates | Preamble

Mid-Market &
Commercial



49

Impact of Hydro Ottawa's Plan

Hydro Ottawa has calculated the rate impact of implementing the options recommended by its planners and included it in its draft plans.

These priorities may change based on your input but Hydro Ottawa is looking for an investment program that aims to:

- **Minimize rate increases;**
- **Maintain reliability and service quality;**
- **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth, and;**
 - **The effects of severe weather events.**
- **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **4.5%/4.2% per year for the period 2021-2025.**

At the end of the 5-year plan, the typical **mid-sized business/commercial** customer would see the distribution portion of their electricity bill increase by **\$358.90/ \$3,670.30**. As a result, the distribution charges on the typical **mid-sized business/commercial** customer's monthly bill would increase from **\$1,485.75/ \$16,277.93 in 2020 to \$1,844.65/ \$19,948.23 by 2025.**

Online Workbook

Impact of Hydro Ottawa's Plan

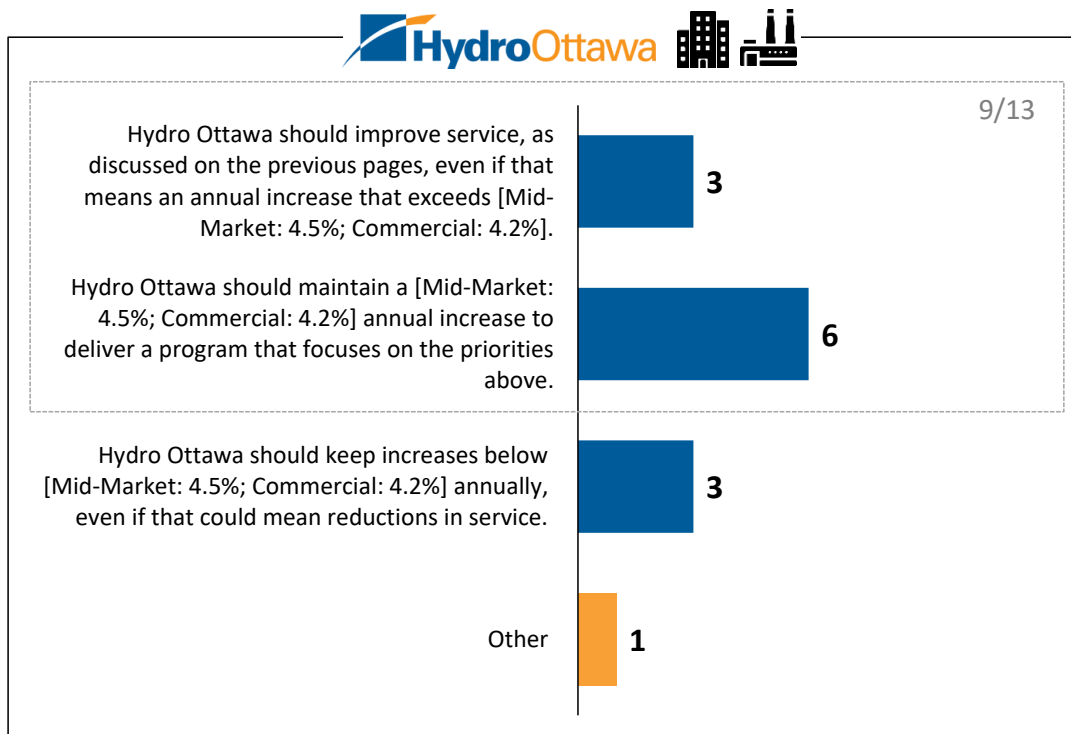
Mid-Market &
Commercial



50

Q

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?



Q

Additional Feedback (Optional)

Verbatim Response (n=1)

You need to work with a budget based on inflation like every other business. We also need competition in hydro. Although it is not an hydro Ottawa issue the energy global adjustment is unfair, uncontrolled and not predictable.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Final Comments

Mid-Market &
Commercial



51

Q

Now that you have considered the various choices Hydro Ottawa has to make and the cost implications of those choices, do you have any final comments for Hydro Ottawa?

Verbatim Responses (n=2)

11/13 of respondents did not provide additional feedback

However saying this there should be a cap put on the plan i.e between 4% and 6%...

Focus on electricity delivery and stop trying to compete with private industry.

* Note: Redactions have been made in order to protect the individual confidentiality of customers.

Online Workbook

Final Thoughts: Workbook Diagnostics

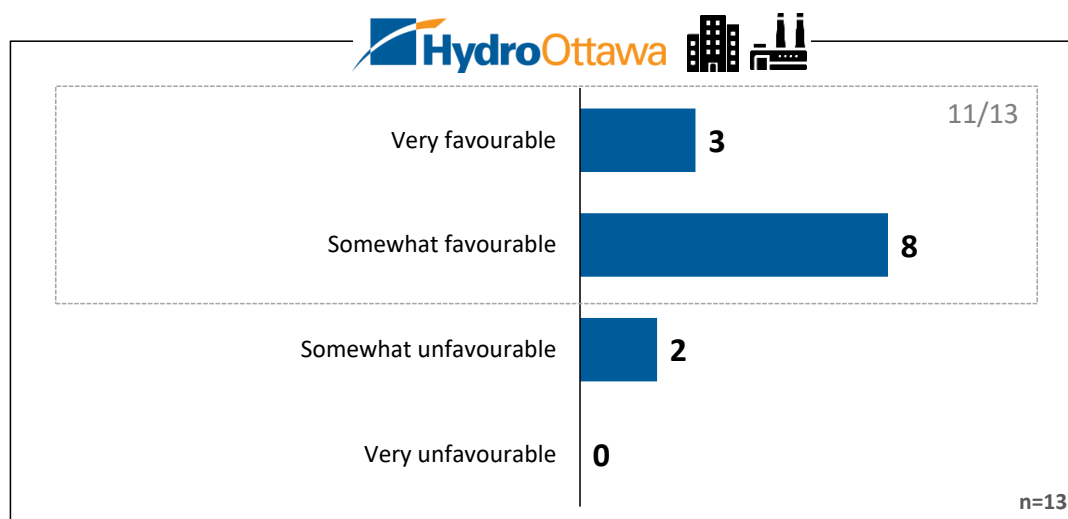
Mid-Market &
Commercial



52

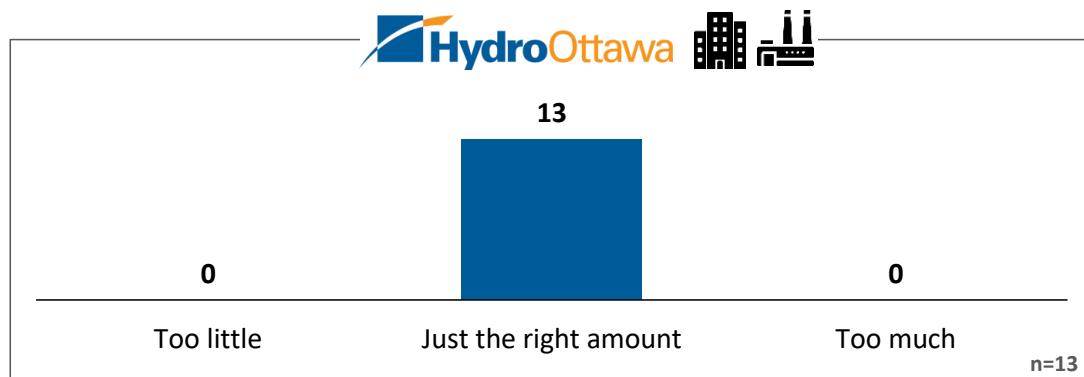
Q

Overall Impression: Did you have a favourable or unfavourable impression of the workbook you just completed?



Q

Volume of Information: Did Hydro Ottawa provide too much information, not enough, or just the right amount?





Building Understanding.

Personalized research to connect you and your audiences.

For more information, please contact:

Julian Garas

Senior Consultant

(t) 416-640-4133

(e) jgaras@innovativeresearch.ca

Jason Lockhart

Vice President

(t) 416-642-7177

(e) jlockhart@innovativeresearch.ca

Appendix 8.0



Legend	
<div></div>	Residential customers
<div></div>	Small Business customers

Residential and Small Business Online Workbook Layout

Hydro Ottawa Limited Customer Consultation

2

Have your say: 2021-2025 Rate Application

Hydro Ottawa Limited (Hydro Ottawa) is looking for your input on choices that will help shape the service you receive and the price you pay.



Hydro Ottawa is developing its business plan for 2021 to 2025. This plan will determine the level of spending and investments Hydro Ottawa makes in equipment and infrastructure and the services it provides, as well as the rates you pay.



Hydro Ottawa is accountable to the provincial regulator, the **Ontario Energy Board (OEB)**, both in terms of sharing what customers say and demonstrating how they considered those views when undertaking the planning process.



You don't need to be an electricity expert to participate in this consultation. This workbook is focused on basic choices and provides the background information you need to answer the questions.

Building on previous customer feedback, the goal of this consultation is to allow Hydro Ottawa to better understand the needs and preferences of customers like you, and help them align their plan with what you have shared.

While your view may not always align exactly with the available options, please select the one that is closest to your point of view.

Those who complete the questions that follow will be invited to enter a draw to win one of four (4) \$500 cash prizes.

Depending on how much feedback you wish to provide, this consultation should take approximately 30-45 minutes to complete. If you need to pause and return at a later time to finish your feedback, your completed answers will be saved

If you are reading this on a smaller mobile device, you may want to consider accessing the survey from a tablet, desktop or laptop instead so that it is easier for you to read.

All individual responses will be kept confidential.

Innovative Research Group (INNOVATIVE), an independent research company, has been hired by Hydro Ottawa to gather your feedback.

Are you completing this customer consultation as a...

- ☐ Hydro Ottawa Residential Customer
- ☐ Hydro Ottawa Small Business Customer

Hydro Ottawa Limited Customer Consultation

3

Have your say: 2021-2025 Rate Application

More about you/your organization

In order to group responses with those from similar customers, we need a little more information about you. This information will be treated as confidential and only be used to analyse the feedback from this consultation.

Please enter the first three characters of your residential/organization's postal code. (_ _ _)

Are you the person primarily responsible for paying the electricity bill in your household?

- ☐ Yes – I pay the bill
- ☐ Yes – Shared responsibility
- ☐ No

Which of the following best describes your living situation?

- ☐ I pay rent for my housing
- ☐ I own my home
- ☐ I live in housing where I do not pay rent

Including yourself, what is the TOTAL number of people currently living in your household? (_)

As part of your job, do you make decisions or influence decisions about electricity management?

- ☐ Yes
- ☐ No

Thinking about the areas of your organization that you manage, how much would you estimate is spent every month on electricity as a Hydro Ottawa customer?

- ☐ Less than \$500
- ☐ \$500 to less than \$1,000
- ☐ \$1,000 to less than \$1,500
- ☐ \$1,500 to less than \$2,000
- ☐ \$2,000 or more
- ☐ Don't know

Which of the following best describes the sector in which your business operates?

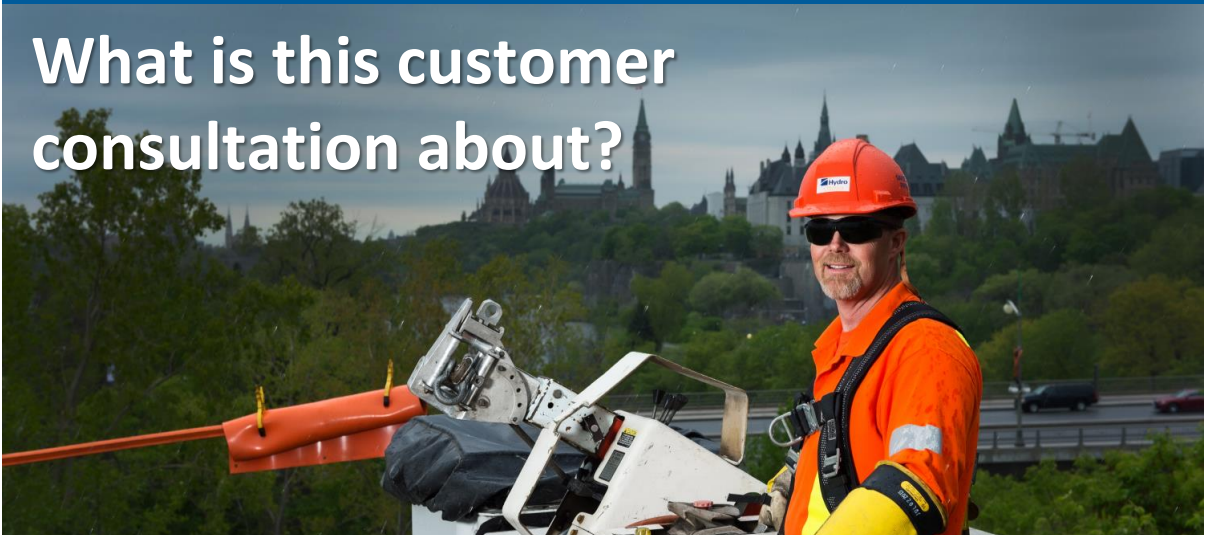
- | | |
|--|--|
| <input type="checkbox"/> Public Administration | <input type="checkbox"/> Retail |
| <input type="checkbox"/> Health Care | <input type="checkbox"/> Warehouse |
| <input type="checkbox"/> Education/Academic | <input type="checkbox"/> Multi-Unit Residential |
| <input type="checkbox"/> Manufacturing/Industrial | <input type="checkbox"/> Consulting Services |
| <input type="checkbox"/> Data Centre | <input type="checkbox"/> Construction Services |
| <input type="checkbox"/> Hospitality | <input type="checkbox"/> Other (Please specify: _____) |
| <input type="checkbox"/> Food Services/Accommodation | |

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

4

What is this customer consultation about?



This consultation is about gathering your feedback on finding the right balance between the services you receive from Hydro Ottawa over the next five years and the price you pay.

Hydro Ottawa has important decisions to make about the pace and mix of expenditures it makes in equipment and infrastructure, the services it provides you as a customer, and the rates you pay.

Every five years, Hydro Ottawa submits a plan for its proposed rates and spending to the Ontario Energy Board for approval. They are now in the process of finalizing that plan.

- Earlier in 2019, Hydro Ottawa asked thousands of customers about their priorities and preferred outcomes for electricity distribution service.
- Using the feedback shared by customers, Hydro Ottawa built a plan that is intended to align with customer preferences. Want to learn more about how Hydro Ottawa plans? [Click here \(001\)](#)
- Hydro Ottawa is now coming back to its customers with a series of expenditure options in order to finalize its draft plan for the next five years.

How will this customer consultation work?



Hydro Ottawa will ask for your feedback on a number of decisions it needs to make in order to finalize their plan. These decisions will impact both the services you receive, as well as the price you pay on the distribution portion of your electricity bill.



For each decision, Hydro Ottawa has identified the option that it feels balances customer feedback received to date to limit cost impacts, while prudently investing in the distribution system. These options have been included in the current plan, but may be influenced by your feedback.



Once you have finished sharing your thoughts on these decisions, you will have an opportunity to review your responses and the estimated total rate impact of those choices. You will be able to change your responses until you feel you have found the right mix of investments and estimated rate impact.

LINK TO NEXT PAGE

Hydro Ottawa Limited Customer Consultation

5

Have your say: 2021-2025 Rate Application

How will your views impact Hydro Ottawa's plans and rates?

The Ontario Energy Board (OEB) sets electricity rates in Ontario.



Electricity distributors like Hydro Ottawa are funded by the distribution rates paid by its customers. Electricity distributors are required to file a rate application with the OEB to request a change in distribution rates based on its plans for capital and operating costs.

As a customer, how are my interests protected?

The OEB requires all electricity distributors in Ontario, like Hydro Ottawa, to consider customer needs and preferences as they develop their business plan and distribution system plan.

The OEB then reviews Hydro Ottawa's plan and proposed rates in an open and transparent public process known as a rate hearing. Any individual or group may participate during Hydro Ottawa's application to ask questions or seek more information about Hydro Ottawa's plan and application.

Hydro Ottawa will be held accountable for the way you were consulted, the information shared with you and the ways in which the plan considers what you say.

At the end of the process, the OEB will weigh the evidence and decide on the rates Hydro Ottawa can charge its customers.

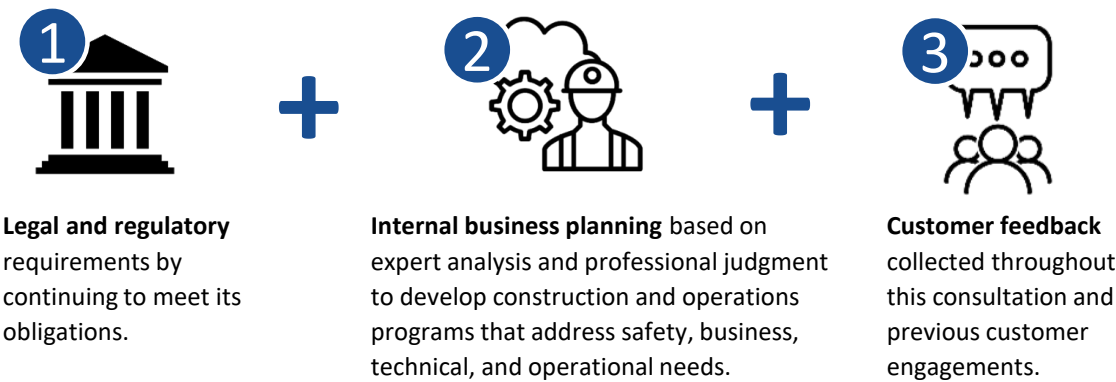
Do you feel that the purpose of Hydro Ottawa's customer consultation is clear?

- ☐ Very clear
- ☐ Somewhat clear
- ☐ Not clear at all

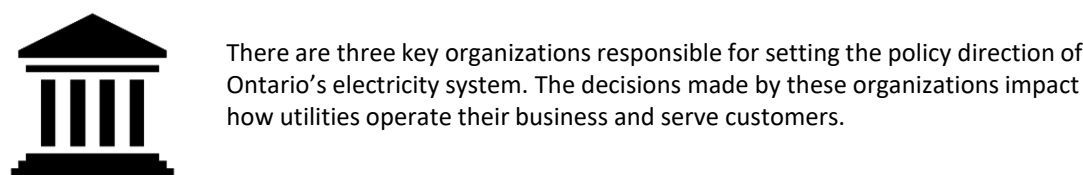
Pop-up: 001

How does Hydro Ottawa plan?

Hydro Ottawa is proposing a plan that is responsive to:



Legal and Regulatory Obligations



Policy
The **Ontario Ministry of Energy, Northern Development and Mines** (MNDM) creates energy policy for the province.



Regulation
The electricity industry in Ontario is regulated by the **Ontario Energy Board** (OEB). One of the OEB's roles is to review the business and distribution plans of all electricity distributors and approve the rates that they charge customers.



Operations and Planning
The **Independent Electricity System Operator** (IESO) manages the provincial electricity grid, plans for the province's future energy needs, and develops conservation programs.

[LINK TO NEXT PAGE](#)

Pop-up: 001

Internal business planning

Hydro Ottawa closely monitors the pressures on the distribution system, and develops and recommends solutions to address these challenges as part of its business planning process.



A Growing Community

- **Hydro Ottawa is serving a growing city.** Significant growth in Ottawa will occur in the downtown core, which will require new underground infrastructure. In addition, new residential subdivisions and business parks need to be connected and serviced by the distribution system.
- Hydro Ottawa must make investments to increase distribution system capacity in order to meet these future demands.



Aging Infrastructure

- A large part of Hydro Ottawa's distribution system was installed in the 1950s and 1960s. This infrastructure has served its customers well, but in some cases it is nearing or has reached its end-of-life and must be replaced.
- Hydro Ottawa actively monitors its distribution system, prioritizes asset replacement, and paces investments in order to provide safe and reliable electricity, delivered at a reasonable cost to customers.



Weather

- Hydro Ottawa's distribution system is exposed to the elements, including strong winds, tornadoes, freezing rain, and flooding. While it may be impossible or impractical to completely guard against extreme weather, proactive steps are being taken to "harden" the distribution system to prevent or reduce the length of power outages caused by extreme weather.
- In the past year alone, severe weather has presented a unique set of challenges that have included the touchdown of two tornadoes in September 2018, and flooding in April 2019.



Innovation

- The expansion of the distribution system needs to accommodate the growth of electric vehicles and customer-generated renewable electricity.
- Investment in technologies will enable customers to better understand, manage and monitor their electricity consumption.
- Automation of the electricity distribution system will improve reliability and restoration time in the event of an unscheduled power outage.

Information Technology



- Hydro Ottawa must ensure its information technology meets the needs of its business and its customers.
- Hydro Ottawa is taking proactive steps to prevent cyberattacks that could impact the protection of customer information and distribution system.

Pop-up: 001

Customer feedback



Hydro Ottawa is incorporating customer feedback into the planning process more than ever before.

Every day, Hydro Ottawa interacts with its customers through multiple channels. These touchpoints help identify customer needs and preferences and influence how Hydro Ottawa plans and works to better serve its customers.

	Customer Interaction	<ul style="list-style-type: none">• Telephone• In person• Email• Web chat• Social media• Website• Community events
	Customer Research	<ul style="list-style-type: none">• Customer satisfaction and public safety awareness surveys• Customer focus groups• Website and social media analytics

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

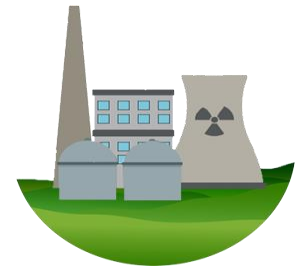
Understanding Ontario's electricity system and Hydro Ottawa's role

Ontario's electricity system is owned and operated by public, private and municipal corporations across the province. It is made up of three key components: **generation**, **transmission** and **distribution**.

Generation

Where electricity comes from

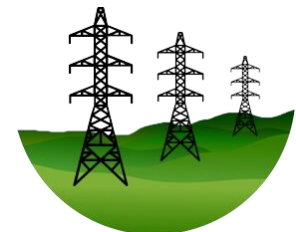
Ontario's electricity is generated using a mix of nuclear, gas-fired, and water power (hydro), as well as biomass and renewable sources such as wind and solar technology. In Ontario, a number of companies own these generating stations but approximately half of the electricity is generated by Ontario Power Generation. The Independent Electricity System Operator (IESO) balances the supply of, and demand for, electricity on a second-by-second basis and directs its flow across the high-voltage transmission lines.



Transmission

How electricity travels across Ontario

Once generated, electricity must be transported to electrical substations across the province. Due to the large amount of power and long distances, transmission normally takes place at high voltages with the lines suspended on large, steel towers. The province has more than 30,000 kilometres of 'electricity highway', most of which is owned and operated by Hydro One.



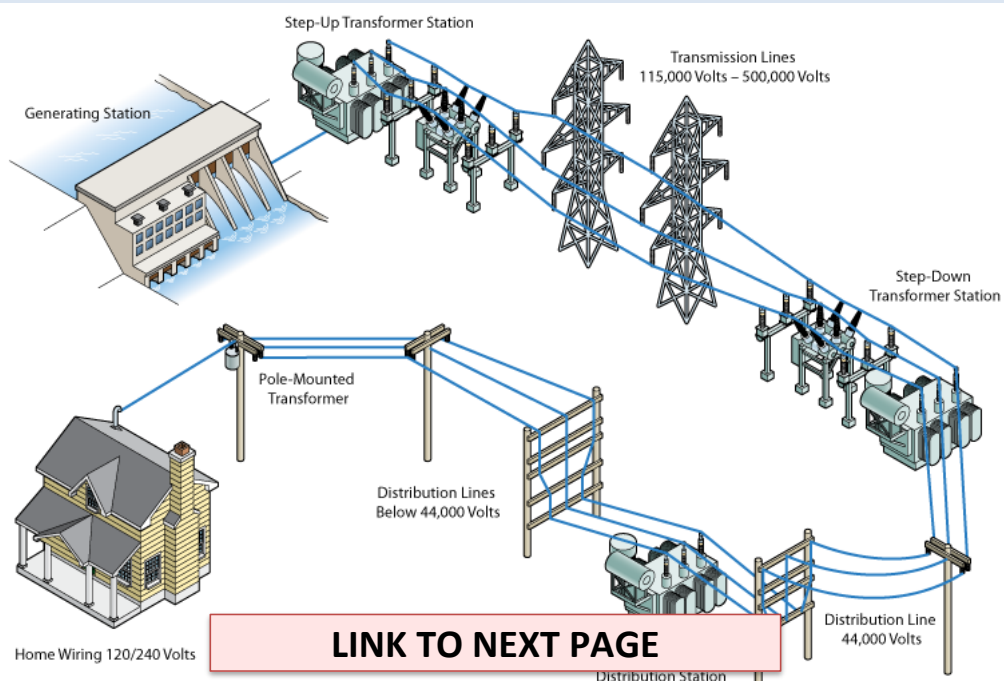
Local Distribution

How electricity is delivered to the end-consumer



Hydro Ottawa is responsible for the last step of the journey: distributing electricity to customers. Its local distribution system is connected to the transmission grid through its distribution stations and transformers. This allows the voltage to be decreased so it can be distributed and safely used in homes and organizations across Hydro Ottawa's service territory.

Hydro Ottawa's distribution system is complex. It consists of approximately 50,000 poles, 2,700 km of overhead power lines, 3,000 km of underground cable, and 45,000 transformers.



[LINK TO NEXT PAGE](#)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

10

Before this consultation, how familiar were you with various parts of the electricity system, how they work together, and for which services Hydro Ottawa is responsible?

- ☐ Very familiar
- ☐ Somewhat familiar
- ☐ Not familiar at all
- ☐ Don't know

Thinking generally about the electricity system in Ontario, including *generation, transmission and local distribution*, do you agree or disagree with the following statements?

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't Know
The cost of my electricity bill has a major impact on my finances and requires I do without some other important priorities.					
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.					
Customers are well served by the electricity system in Ontario.					

Hydro Ottawa is entirely funded through the rates its customers pay and does not receive taxpayer money for its operations or investments.

Before this consultation, were you aware of how Hydro Ottawa received its funding?

- ☐ Very familiar
- ☐ Somewhat familiar
- ☐ Not familiar at all
- ☐ Don't know

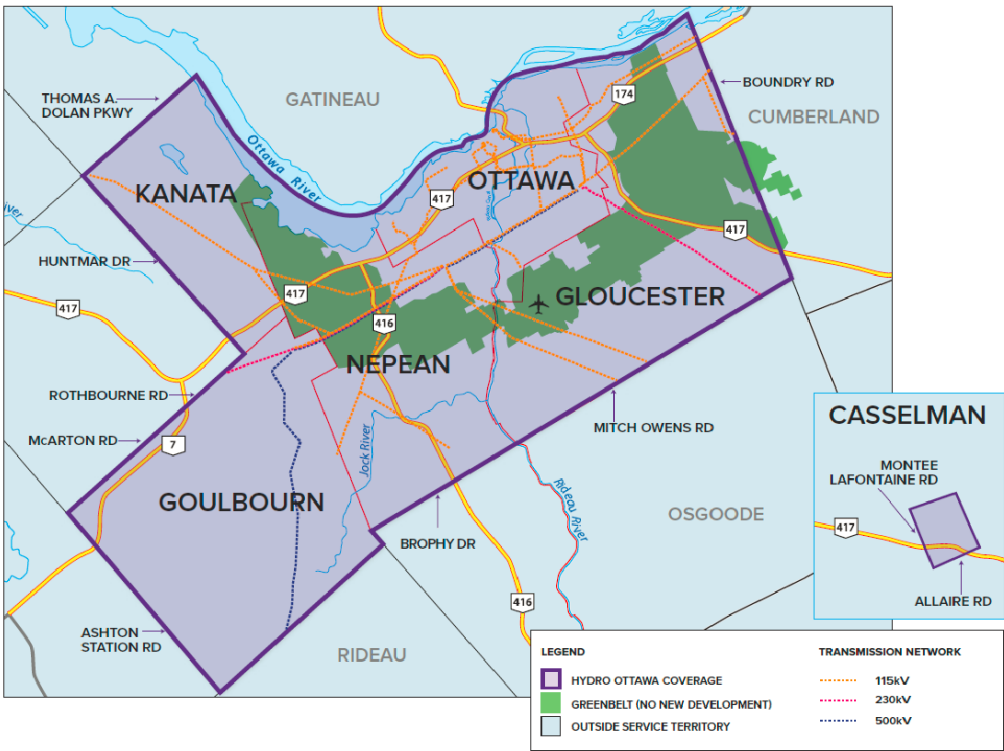
LINK TO NEXT PAGE

Hydro Ottawa Limited Customer Consultation
Have your say: 2021-2025 Rate Application

11

Hydro Ottawa fast facts

- Private business corporation 100% owned by its shareholder, the City of Ottawa
- Third largest municipally-owned electricity distributor in Ontario
- Serves approximately 335,000 homes and businesses (more than one million consumers)
- Service territory of 1,116 square kilometers that includes most of the City of Ottawa and the Village of Casselman
- Over 600 employees
- Does not receive taxpayer money to fund its operations or its investments in the distribution system
- Entirely funded through the rates its customers pay



Thinking specifically about the services provided to you and your community by Hydro Ottawa, how satisfied or dissatisfied are you with the services that you receive?

☐ Very satisfied
 ☐ Somewhat satisfied
 ☐ Neither satisfied or dissatisfied
 ☐ Somewhat dissatisfied
 ☐ Very dissatisfied
 ☐ Don't know

Is there anything in particular that Hydro Ottawa can do to improve its services to you?

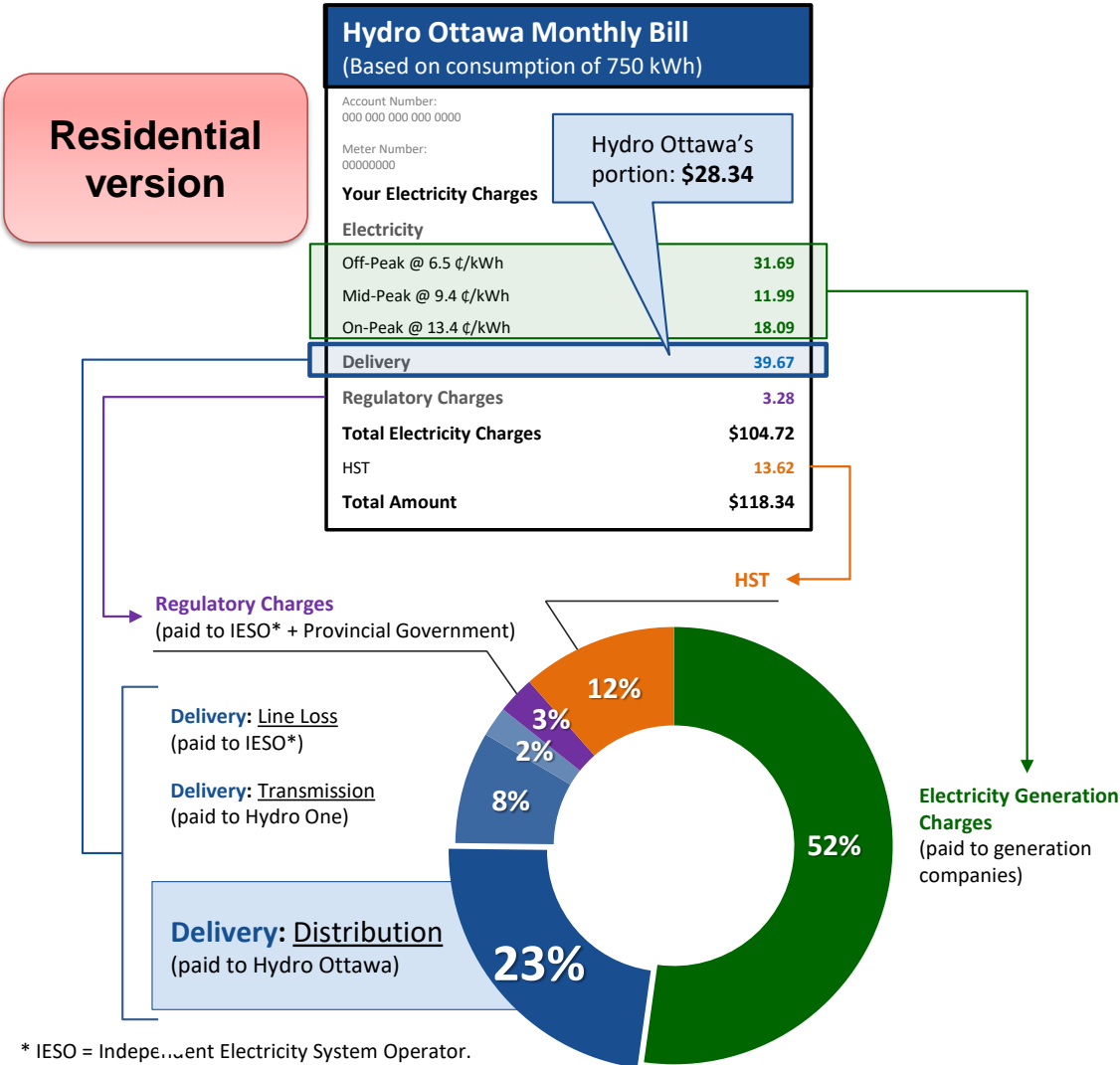
Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa’s portion makes up about 23%/22% of a typical residential/small business customer’s bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



Note: The sample bill above reflects rates as of May 1, 2019. These numbers do not include the 8% Provincial Rebate.

Note: Graphs may not always total 100% due to rounding.

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?

☐ Very familiar

☐ Somewhat familiar

☐ Not familiar

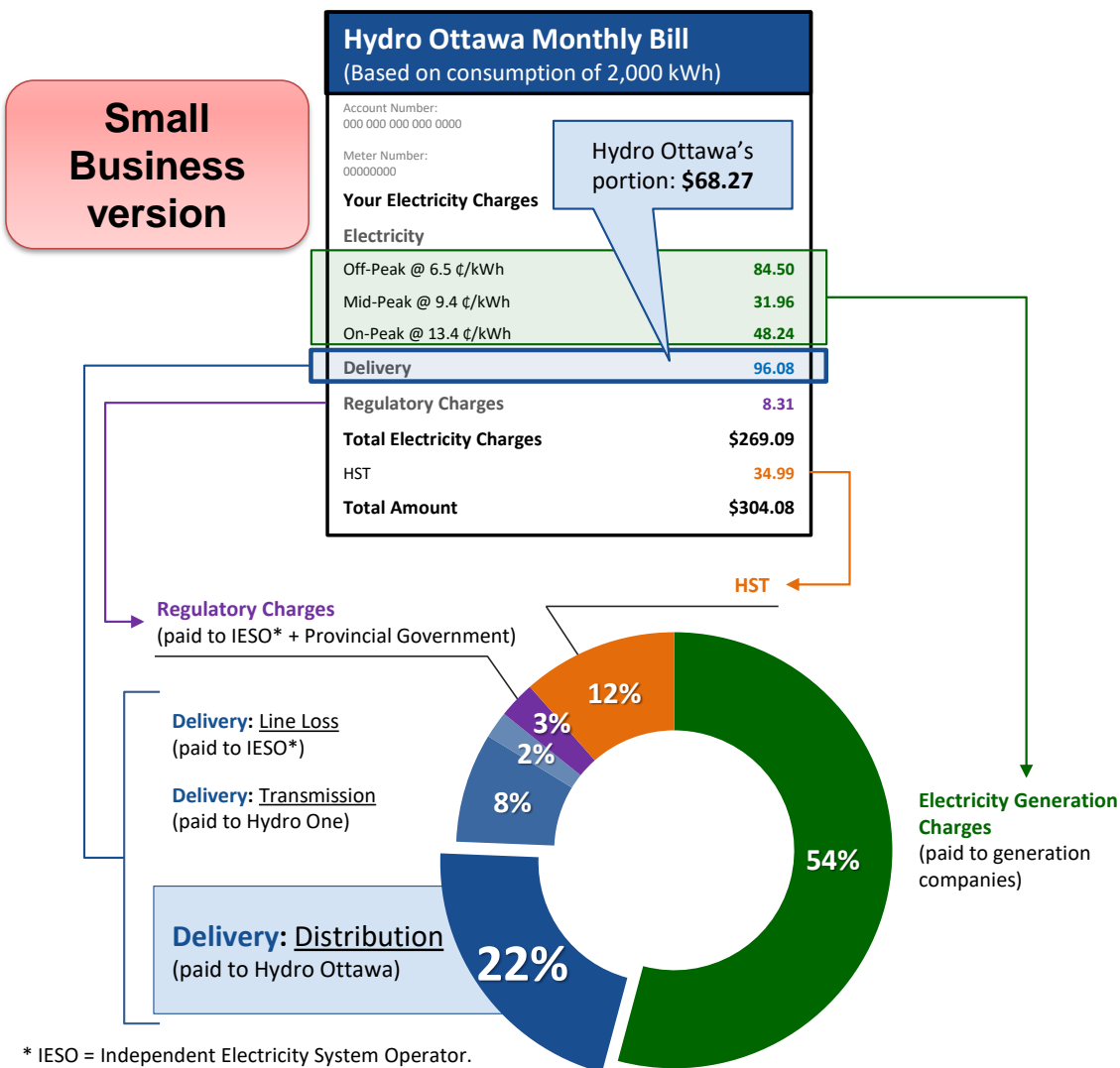
Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

How much of your bill goes to Hydro Ottawa?

Every item and charge on your bill is mandated by the provincial government or regulated by the Ontario Energy Board (OEB), the provincial energy regulator.

- While Hydro Ottawa is responsible for collecting payment for the entire electricity bill, it retains only a portion of the delivery charge.
- Hydro Ottawa's portion makes up about **23%/22%** of a typical **residential/small business** customer's bill.
- The remainder of your bill is collected for the other companies responsible for generating and transmitting electricity, and to regulatory agencies and the federal and provincial governments.



Note: The sample bill above reflects rates as of May 1, 2019. These numbers do not include the 8% Provincial Rebate.

Note: Graphs may not always total 100% due to rounding.

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro Ottawa?

- ☐ Very familiar
- ☐ Somewhat familiar
- ☐ Not familiar

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application



Hydro Ottawa's Preliminary Plan
Planning for the future

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

How did customer feedback shape Hydro Ottawa's preliminary plan?

Hydro Ottawa engages with its customers both in day-to-day interactions and in a variety of customer engagement surveys. **However, this consultation is unique, as it focuses on Hydro Ottawa's business plan that will cover the five year period from 2021 to 2025.**

Preliminary customer engagement found that:

- The clear majority of residential and small business customers are satisfied with the current service they receive;
- Despite being the top priorities, customers don't just expect Hydro Ottawa to focus exclusively on price and reliability;
- Among competing priorities, price, reliability, and investing in new technology are the top three priorities for both residential and small business customers.

Understanding that many customers are satisfied with the level of service they receive from Hydro Ottawa, including with the reliability of the distribution system, and value minimizing price increases above all else, Hydro Ottawa has developed a business plan that emphasizes four core principles:

1. **Minimize rate increases;**
2. **Maintain reliability and service quality;**
3. **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth, and;**
 - **The effects of severe weather events.**
4. **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

Do you agree or disagree with the principles outlined above?

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ Don't know enough to say

Is there anything that you would change about the four core principles outlined above? If yes, what would you change?

Hydro Ottawa Limited Customer Consultation

16

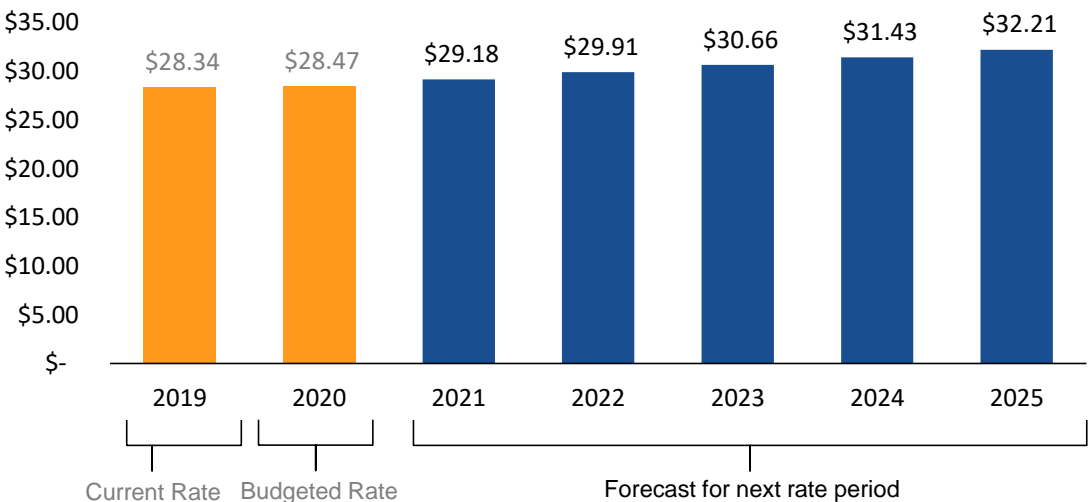
Have your say: 2021-2025 Rate Application

How much will this proposed plan cost me?

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **2.5%/3.5% per year for the period 2021-2025**.

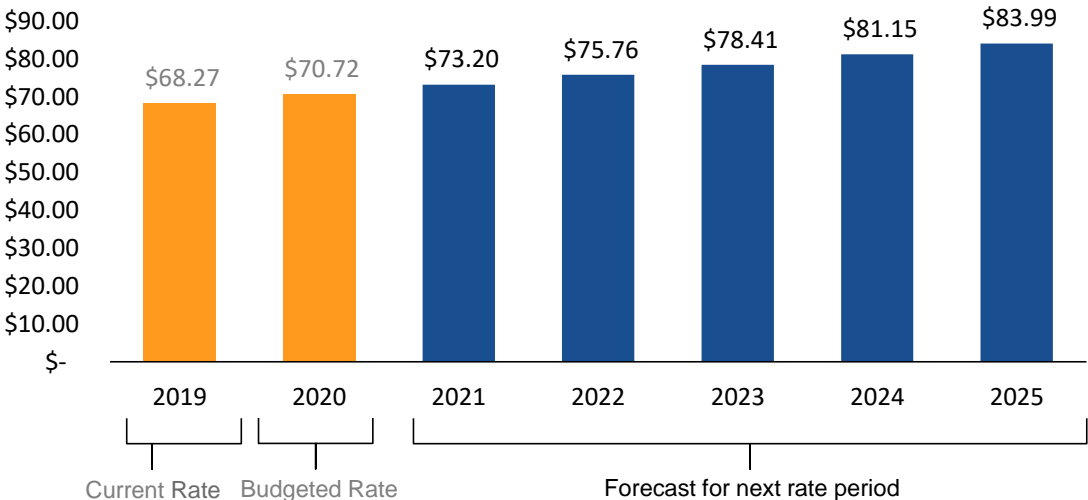
At the end of the 5-year plan, the typical **residential/small business** customer would see the distribution portion of their electricity bill increase by **\$3.74/\$13.27**. As a result, the distribution charges on the typical **residential/small business** customer's monthly bill would increase from **\$28.47/\$70.72** in 2020 to **\$32.21/\$83.99** by 2025.

Estimated Residential Monthly Distribution Charge, per Year*



* These estimates are preliminary, and are subject to your feedback as the business plan is finalized.

Estimated Small Business Monthly Distribution Charge, per Year*



Hydro Ottawa is looking for your input on its preliminary plan to ensure it is making the spending decisions that matter to you, the customer.

The following sections of this workbook will explore some of the choices Hydro Ottawa needs to make to help finalize its proposed plan.

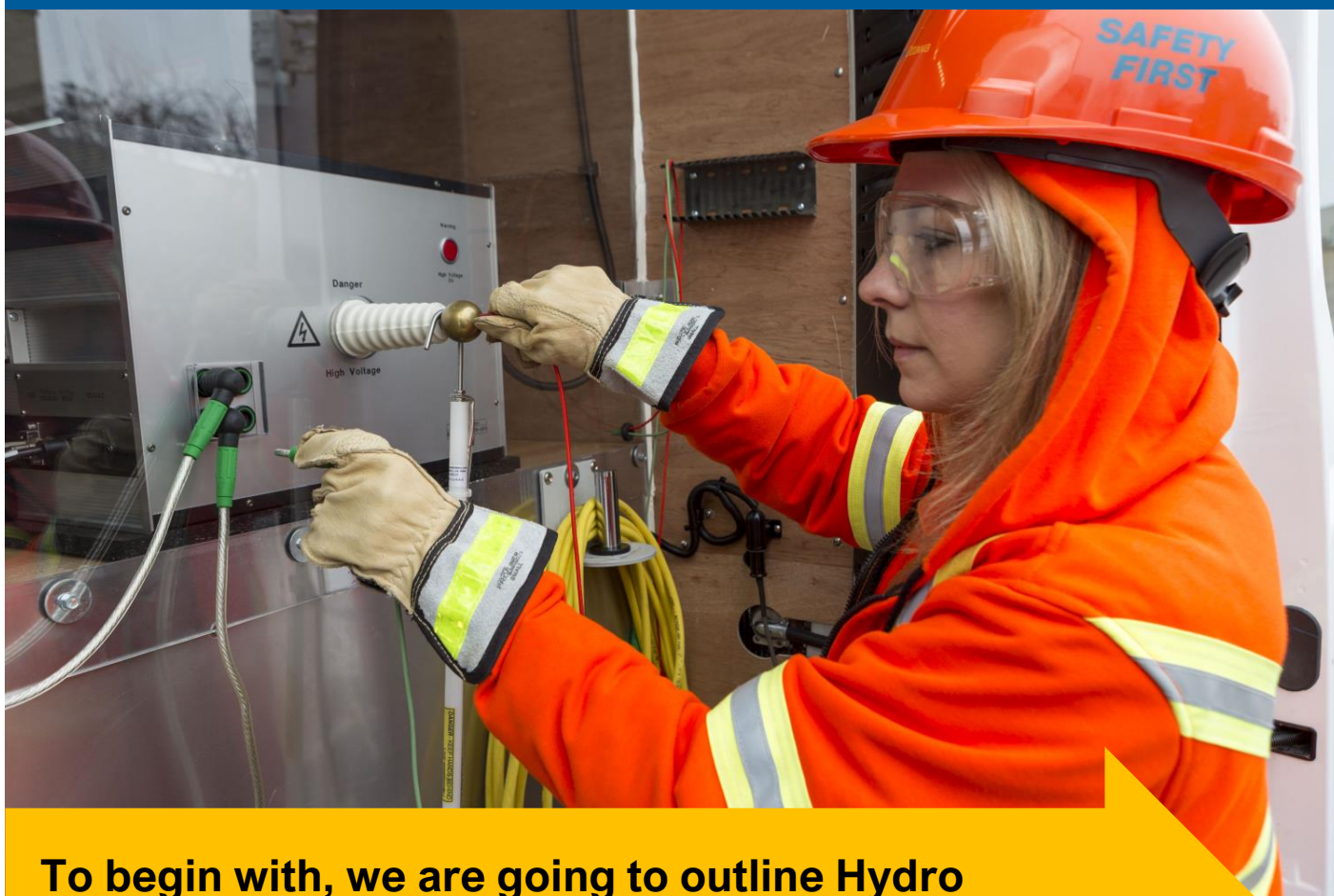
Hydro Ottawa Limited Customer Consultation

17

Have your say: 2021-2025 Rate Application

Like most businesses, Hydro Ottawa manages both an operating budget and a capital budget.

- Hydro Ottawa's **operating budget** covers recurring expenses, such as the maintenance of tools, equipment and assets, and employee payroll.
- Its **capital budget** covers items that, once purchased, have lasting benefits over many years. This includes much of the equipment that is part of the distribution system, such as overhead and underground infrastructure, computers and information systems, vehicles and facilities.



To begin with, we are going to outline Hydro Ottawa's preliminary operating plan.

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

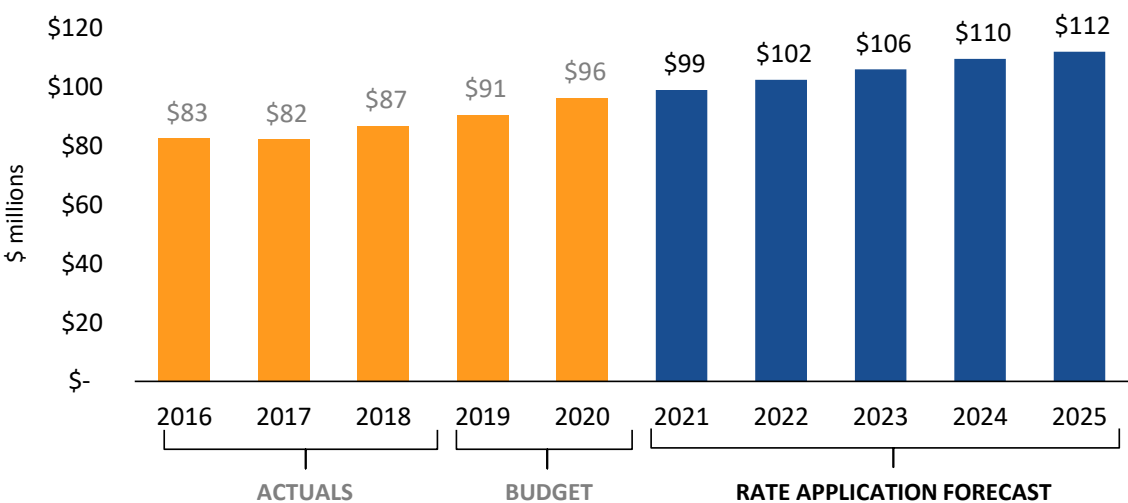
18

Operating expenses

Here we want to focus on operating expenses and how Hydro Ottawa compares to its peers.

Cost drivers contributing to Hydro Ottawa’s operating budget can largely be attributed to ongoing maintenance and management of the distribution system. The preliminary five-year plan, between 2021 and 2025, would include an estimated \$529 million for operations.

Hydro Ottawa’s Annual Operating Expenses



What are the key operating cost drivers for the 2021 - 2025 rate application?



Proactive and Reactive Distribution System Maintenance

Includes power outage restoration work due to storms, vegetation management such as tree trimming for storm hardening, underground locates to ensure safe work, distribution system inspections and cleaning up contaminated sites to protect the environment.



Employees, Equipment and Facilities

Hydro Ottawa relies upon a skilled and experienced workforce that is equipped with the tools necessary to perform their work safely and efficiently. Ongoing employee training is required as the workforce is renewed due to retirements. This ensures that employees continue to work safely and keep pace with the new skill sets associated with a more sophisticated distribution system.



Information Technology (IT) and Communications

Many IT systems service Hydro Ottawa’s day-to-day business activities and require ongoing support, maintenance and protection, including cyber security. The need and cost of software licensing is also increasing. Examples include an electrical distribution system that allows two-way communication of electricity data (Smart Grid); a Supervisory Control and Data Acquisition System (SCADA); a Geographic Information System (GIS); a Customer Care and Billing System; an Outage Management System; and Enterprise Resource Planning and Human Resources Systems.

Hydro Ottawa Limited Customer Consultation

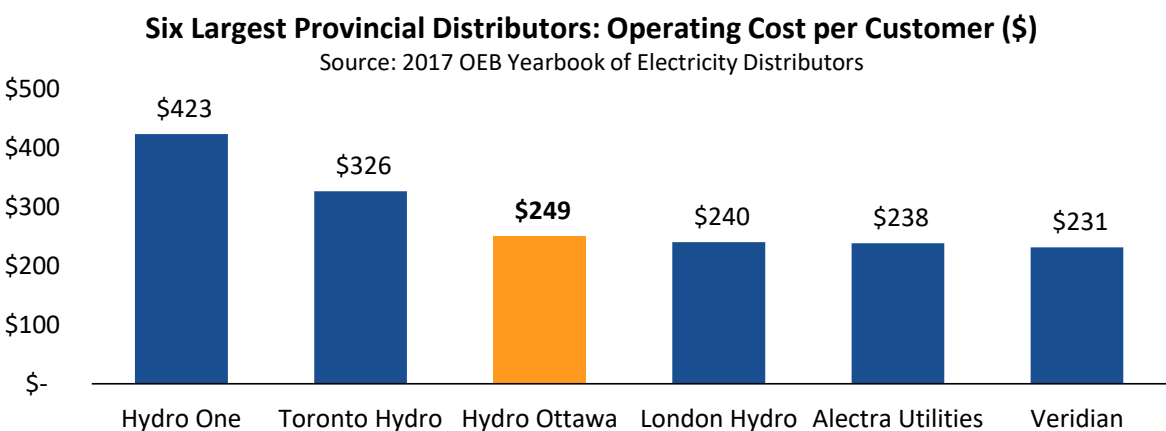
Have your say: 2021-2025 Rate Application

19

Finding efficiencies

Hydro Ottawa is continuing its focus on productivity and continuous improvement initiatives; which offset continuing costs and improves organizational effectiveness.

Hydro Ottawa’s total operating costs are reported every year to the OEB and benchmarked against other distribution companies in Ontario. In the last year of publicly available data collected by the OEB, Hydro Ottawa’s total operating cost per customer was **\$249**. This was, and historically has been, lower than the average Ontario distribution company cost of **\$304** per customer.



The choices Hydro Ottawa makes in its operating budget are primarily driven by technical analysis and expert assessments of best practices.

As promised earlier, this workbook does not ask questions that expect you to be an electricity expert.

The OEB runs an open and transparent review process where experts from the OEB and intervenor groups review and have the opportunity to question Hydro Ottawa’s analyses and assessments. Anyone, including you are welcome to participate in the OEB process.

This workbook leaves detailed discussion of Hydro Ottawa’s operating budget to experts from the OEB and intervenors in the formal OEB review; the workbook focuses on collecting your views on competing trade-offs in investments.

Does this customer engagement process seem like the right approach to bring customer needs and preferences into Hydro Ottawa’s plan?

- ☐ Definitely the right approach
- ☐ Probably the right approach
- ☐ Probably not the right approach
- ☐ Definitely not the right approach
- ☐ Don’t know

Are there things that you would change about how Hydro Ottawa brings customer needs and preferences into Hydro Ottawa’s plan? If so, what would you change?

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application



We would now like to get your feedback on Hydro Ottawa's preliminary capital investment plan.

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

Capital plan

In addition to its operating budget, Hydro Ottawa needs to consider its capital budget, which also impacts customer bills.

Hydro Ottawa estimates that the capital expenditure required to address system renewal, maintain system reliability and safety, and invest in infrastructure priorities between 2021 and 2025 is estimated to be \$517 million.

Hydro Ottawa classifies this cost into four areas as follows:



System Access

Investments that allow Hydro Ottawa to meet its obligation to connect customers to the grid, and service new developments (e.g. a new subdivision or new infrastructure work such as the Light Rail Transit project).



System Renewal

Planned end-of-life and emergency asset replacement, such as poles, cables, and transformers.



System Service

New infrastructure projects or station upgrades that improve distribution system reliability and capacity, including capital contributions to Hydro One for associated expansion work.

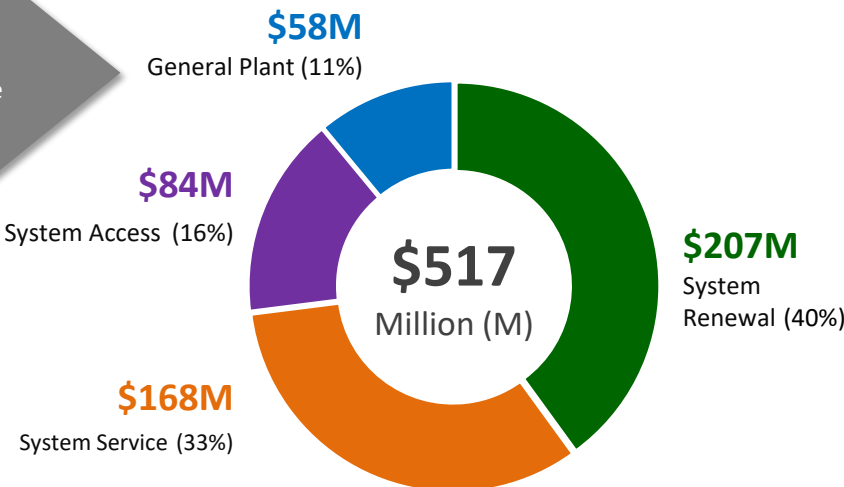


General Plant

Investments needed to support the business that includes fleet, facilities, facilities-related equipment, information technology equipment and software and security.

Each of these four investment categories helps Hydro Ottawa pace and prioritize projects.

2021-2025 Forecasted Capital Investments



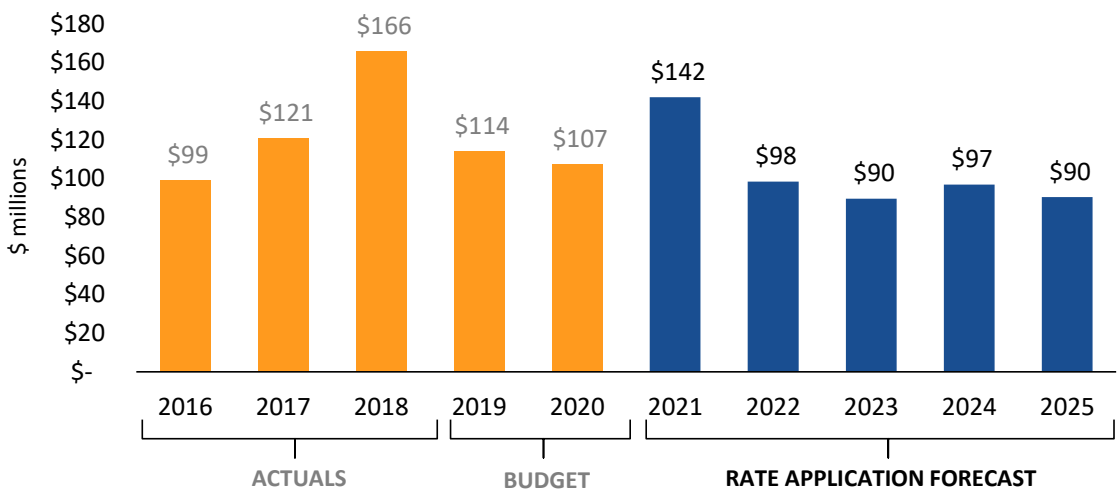
**LINK TO NEXT
PAGE**

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

22

Hydro Ottawa’s Annual Capital Budget



* These estimates are preliminary, and are subject to your feedback as business plans are finalized.

Capital Cost Drivers and Trends

Hydro Ottawa’s capital budget covers items that, once purchased, have lasting benefits over many years. Year-over-year, regardless of external drivers, Hydro Ottawa will need to make investments in the core distribution system, including poles, wires, cables and transformers. Other investments are periodically required to maintain operational effectiveness and efficiency. Some examples have been included below.

2016-2020

- Consolidation of technical and administrative employees in one building and operational staff in two strategically-located operations centres (South and East Ottawa)
- Customer Care and Billing System (CC&B) upgrades
- Fibre optic network (communications)
- Expansion of distribution station capacity to provide basic levels of service and supply growing communities
- Replacement of aging distribution system infrastructure

2021-2025

- South Nepean Municipal Transformer Station (in service 2021)
- Expansion of distribution station capacity to provide basic levels of service and supply growing communities
- Ongoing replacement of existing aging distribution system
- Replacement of a higher than normal number of vehicles that have reached or are beyond their end-of-life

Want to learn more about past and future Hydro Ottawa initiatives? [Click here](#) [\[link to next page\]](#).

Hydro Ottawa Limited Customer Consultation

23

Have your say: 2021-2025 Rate Application

Past highlights and proposed future initiatives

2016-2020 Key Highlights

POP UP FROM PREVIOUS PAGE

- Average of \$40 million, per year, invested in the distribution system to replace aging infrastructure, such as overhead power lines and underground cables to maintain reliability and safety
- Approximately \$95 million invested in a new facility, designed to match the current scale and configuration of Hydro Ottawa's service territory. This included the consolidation of facilities into one new administrative building, along with two new operations centres built in close proximity to the 416/417 Highways. Two former headquarters will be sold by the end of this year.
- \$75 million is being invested in a new transformer station in South Ottawa to increase electricity supply (capacity) to facilitate growth. Completion in early 2021
- Average of \$15 million, per year, invested in asset enhancements, such as grid technologies, to improve distribution system operation and performance
- Average of \$9 million, per year, allocated to distribution system relocations and expansions, including the Light Rail Transit, Main Street and Elgin Street improvement initiatives
- Approximately \$30 million invested in fibre optic network upgrades to increase reliability and performance of business communications systems
- Approximately \$3 million, per year, invested towards customer service enhancements and deploying more self-serve features
- Approximately \$3 million, per year, invested in new and replacement technology to increase business integration and efficiencies
- Approximately \$2.7 million in the acquisition of a new Supervisory Control and Data Acquisition System (SCADA) to improve distribution system monitoring, analytics and outage response

2021-2025 Proposed Key Initiatives

- An average of \$41 million, per year, budgeted for ongoing replacement of aging overhead power lines, underground cables and metering infrastructure
- An average of \$14 million, per year, in distribution system upgrades to increase electricity supply in growing communities
- \$17 million in vehicle replacements over the five-year period which are fully depreciated and no longer cost-effective, reliable or safe to operate
- \$15 million investment in systems and software for enterprise resource planning software programs, data analytics and productivity improvements
- Approximately \$2 million, per year, allocated towards customer services that include self-serve options, outage communications, community outreach, education (i.e. safety and energy management) and business automation and analytics
- Approximately \$500,000 investment in Supervisory Control and Data Acquisition System (SCADA) to enhance the timing, accuracy and type of field information available to power outage response teams

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

24

System Access



Non-discretionary expenditures

All proposed expenditures in Hydro Ottawa’s business plan are regarded as necessary in order to provide customers with the services they require today and in the future. However, federal, provincial and municipal governments as well as, regulators may set requirements and standards that Hydro Ottawa must satisfy. These non-discretionary expenditures can be broken down into four categories:

- 1. **Connecting customers:** This includes connecting customers to the grid when a new home or building is constructed or modified.
- 2. **Relocating equipment:** This includes moving equipment like overhead power lines and underground cables for road widening and other municipal infrastructure needs such as Light Rail Transit.
- 3. **Mandated services:** This includes installing and maintaining meters and distributing electricity from the grid.
- 4. **Compliance requirements:** This includes meeting and maintaining regulatory, technical, environmental and safety standards.



LINK TO NEXT PAGE

Hydro Ottawa Limited Customer Consultation

25

Have your say: 2021-2025 Rate Application

As federal, provincial and municipal demands change, Hydro Ottawa may need to implement unplanned, non-discretionary expenditures. It has a decision to make about how to accommodate unexpected non-discretionary spending which could impact other planned priorities.

Which of the following statements best represents your point of view regarding Hydro Ottawa's approach to discretionary and non-discretionary spending?

- ☐ When Hydro Ottawa encounters unforeseen increases in non-discretionary requirements, planned discretionary expenditures should be deferred to keep rate impacts down, even if that could result in a potential decline in service in the near future.
- ☐ When Hydro Ottawa encounters unforeseen increases in non-discretionary requirements, it should not defer planned discretionary expenditures, even if that could result in cost increases to customers over the next five years.
- ☐ Don't know

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

26

Have your say: 2021-2025 Rate Application

What type of equipment does Hydro Ottawa operate and maintain?

1



Stations

A substation decreases the high voltage of electricity transmission customers to be safely used. Hydro Ottawa's stations include:

- Power lines
- Transformers
- Switches
- Circuit breakers

2



Overhead Distribution

Hydro Ottawa's overhead assets include:

- Poles and attachments
- Transformers
- Switches

3



Underground Distribution

Hydro Ottawa's underground assets include:

- Cables
- Vault transformers
- Switchgear
- Civil structures

To the best of your knowledge, how does your home or organization receive electrical service?

- ☐ Overhead wires
- ☐ Underground cable
- ☐ Don't know

Hydro Ottawa has some decisions to make about the level of its capital expenditures and is seeking your input on the options under consideration. The options presented include an estimate of the monthly bill impact, in addition to the estimated 2.5%/3.5% annual increase if Hydro Ottawa continues with its current draft plan.

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

System Renewal

40%

Pacing investments in the overhead distribution system

Poles and wires are one of the most visible parts of Hydro Ottawa’s distribution system. Hydro Ottawa owns and maintains 50,000 poles across its service territory. More than 20% of these poles have exceeded their end-of-life service of 53 years.

Hydro Ottawa routinely inspects its poles to identify replacement priorities. To sustain the overhead distribution system and address its aging assets, Hydro Ottawa maintains historic replacement levels.



[LINK TO NEXT PAGE](#)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

28

Hydro Ottawa is considering three options for continued investment in the overhead distribution system:

1. **Accelerated Approach:** Increased replacement of aging overhead transformers, switches, and poles to catch up and get ahead of growing number of poles at, or beyond, their end-of-life.
2. **Included in Draft Plan:** Defer catch up in aging infrastructure to manage rate impact. Modest decrease of approximately \$1M per year in renewal of overhead infrastructure from 2016 to 2020 levels. Move to more targeted renewals of specific poor condition assets and less full renewals of broad areas.
3. **Reduced Approach:** Deferral of proactive switch renewal, and pole replacement. Move to replacement of only critical assets.

Which of the following options do you prefer?

	Option	Outcome
	<div>Accelerated Approach <u>Additional</u> \$0.04 per bill each year (\$0.20 more per bill by 2025) <u>Additional</u> \$0.13 per bill each year (\$0.65 more per bill by 2025)</div>	<ul style="list-style-type: none">Increasing the replacement levels to address higher-risk assets, such as poles, which are at or near end-of-life.Increasing investments in switches to enhance operational efficiency.Reducing requirement for emergency renewals.
	<div>Included in Draft Plan <i>Within 2.5% annual increase</i> <i>Within 3.5% annual increase</i></div>	<ul style="list-style-type: none">Moderate slowing of asset replacement.Increased future costs to catch up on expected end-of-life infrastructure.Some increase in emergency renewal replacements, significant increase not expected for next five years.Minor increases in customer impact as targeted and emergency renewals will result in more piecemeal replacements.
	<div>Reduced Approach <u>Decrease</u> of \$0.03 per bill each year (\$0.15 less per bill by 2025) <u>Decrease</u> of \$0.08 per bill each year (\$0.40 less per bill by 2025)</div>	<ul style="list-style-type: none">Need for catch up in future years, requiring significant levels of investment.Degradation in system reliability due to lower switch renewal. Switch failures typically occur on operation, resulting in longer restoration times.Moderate increases in targeted and emergency renewal, possibly resulting in multiple service visits in certain areas.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

System Renewal

40%

Pacing investments in the underground distribution system

The focus of Hydro Ottawa’s underground renewal program is on the replacement of end-of-life cable. The polymer cable which services most residential subdivisions and suburban commercial properties has an expected life of 45 years. 40% of this cable has exceeded its end-of-life and a further 31% has been in service for between 35 and 45 years.

Hydro Ottawa routinely tests and tracks underground cable failures to target and prioritize cable replacement. Given the age of this underground infrastructure, Hydro Ottawa has and will continue to see increased cable faults in the coming years.

Between 2021 and 2025, Hydro Ottawa plans to increase its investments in cable replacement, over historic levels in order to maintain overall distribution system reliability. Further increases in renewal investment will be required beyond 2025, to address these aging assets.



[LINK TO NEXT PAGE](#)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

Hydro Ottawa is considering four options when it comes to underground cable renewal:

- 1. Accelerated Approach:** Renewal of aging assets with increased spending directed to underground transformers and cables.
- 2. Enhanced Approach:** Renewal of aging assets with increased spending targeted for cable replacement.
- 3. Included in Draft Plan:** Balanced investment, defer catch up in replacement of aging infrastructure to manage rate impact. Continued and modest increases in proactive replacement of assets at higher risk of failure.
- 4. Reduced Approach:** Defer any increase in proactive asset replacement, moving to only critical repairs of the system.

Which of the following options do you prefer?

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.14 per bill each year (\$0.70 more per bill by 2025) <u>Additional</u> \$0.40 per bill each year (\$2.00 more per bill by 2025)	<ul style="list-style-type: none">Increasing proactive replacement of aging infrastructure with a focus on transformer and cable replacement. Reduced asset risk and future investment to catch up.Accelerating asset renewal enabling rapid roll out of increased system capacity (EVs) and improved operations (faster restoration when outages occur).Reliability improvements reducing frequency and duration of outages.Reducing maintenance costs related to oil leaks.
Enhanced Approach <u>Additional</u> \$0.07 per bill each year (\$0.35 more per bill by 2025) <u>Additional</u> \$0.20 per bill each year (\$1.00 more per bill by 2025)	<ul style="list-style-type: none">Replacing aging cables to reduce failure risk, with slowed investment in other underground infrastructure such as switches, and transformers.Manageable future investment will be required to catch-up.Increased rate of cable replacement will provide some improvements in asset failure and outage frequency.
Included in Draft Plan <i>Within 2.5% annual increase</i> <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none">Moderate rate of asset replacement, which is still higher than the 2016-2020 programManageable level of future investment required to catch-up.Maintenance of system reliability with minor impact in service reliability.
Reduced Approach <u>Decrease</u> of \$0.07 per bill each year (\$0.35 less per bill by 2025) <u>Decrease</u> of \$0.20 per bill each year (\$1.00 less per bill by 2025)	<ul style="list-style-type: none">Need for catch up in future years, requiring significant levels of investment.Potential reduction on system reliability with increasing outages in specific areas due to cable failures.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

31

Have your say: 2021-2025 Rate Application

System Service

33%

Reliability experience

In order to provide feedback on Hydro Ottawa’s plans, it’s important to understand how the distribution system has performed in the past, as well as what’s expected in the future.

A core objective of Hydro Ottawa’s 2021-2025 rate application is to maintain current levels of reliability, while making targeted improvements to those areas experiencing below average service.

- The five-year average number of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.02 to 0.84 (total number of annual outages).
- The five year average duration of outages (excluding major event days and loss of supply from Hydro One) has decreased slightly between 2014 and 2018, from 1.17 to 1.14 (total annual hours).

What is most likely to cause an outage?

Although both the number and duration of outages have decreased compared to the previous five-year average, defective equipment remains the top cause of outages within Hydro Ottawa’s control.

That said, in 2018, severe weather presented a unique set of challenges for Hydro Ottawa’s distribution system. One section of this consultation will focus on the impacts of severe weather, and the options for preparing the distribution system for more frequent and extreme weather.

Causes of Unscheduled Power Outages (five-year average: 2014 to 2018)



10%

Animal Contact: outages caused by animals such as birds and squirrels coming in contact with overhead power lines or transformers.



27%

Equipment Failure: unscheduled power outages from equipment failure usually occur with distribution assets that are beyond or approaching the end of their expected useful lives.



24%

Weather Related Events: adverse weather such as heavy rain, lightening, ice, snow, wind, extreme temperatures, freezing rain and frost can disrupt the distribution system.



39%

Other: includes tree contact (10%), and human interference (11%) (such as construction workers accidentally cutting power lines or motor vehicle accidents involving contact with distribution assets). 9% of outages are unknown, but most likely caused by animal contact.

Note: statistics do not include loss of supply from Hydro One.

Have you experienced any power outages at your home or at your business in the past 12 months which lasted longer than one minute? If so, approximately how many of these power outages did you experience?

- ☐ No outages
- ☐ 1 outage
- ☐ 2 outages
- ☐ 3 or more outages
- ☐ Don’t know

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

32

System Service



Reliability investments

Reliability investments are targeted towards areas in the City experiencing below average reliability, or, increased reliability risk due to growing demands on the distribution system.

Between 2021 and 2025, investments under this program are estimated to be \$5M for neighbourhoods experiencing the most frequent number of power outages. In addition, approximately \$8M is planned to add redundancy between substations to ensure adequate electricity supply is available to be re-routed when needed.



LINK TO NEXT PAGE

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

Hydro Ottawa is considering four options when it comes to reliability investments:

- 1. **Accelerated Approach:** Build power lines/new connections between substations to improve reliability. Enhance monitoring of substation and distribution equipment.
- 2. **Included in Draft Plan:** Only build critical connections between substations. Enhance monitoring of station and distribution equipment.
- 3. **Limited Approach:** Improve reliability for neighbourhoods experiencing the most frequent number of power outages. Enhance monitoring of substation and distribution equipment.
- 4. **Reduced Approach:** Only improve reliability for neighbourhoods experiencing the most frequent number of power outages.

Which of the following options do you prefer?

Option	Outcome
Accelerated Approach <u>Additional</u> \$0.02 per bill each year (\$0.10 more per bill by 2025) <u>Additional</u> \$0.05 per bill each year (\$0.25 more per bill by 2025)	<ul style="list-style-type: none">• Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral.• Increase system resilience and performance through addition of connections on distribution network. Supports reduction in outage duration.• Target investments to areas that have below average reliability.
Included in Draft Plan <i>Within 2.5% annual increase</i> <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none">• Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral.• Maintain system resilience and performance through addition of connections on distribution network. Maintains outage duration at current levels.• Target investments to areas that have below average reliability.
Limited Approach <u>Decrease</u> of \$0.04 per bill each year (\$0.20 less per bill by 2025) <u>Decrease</u> of \$0.10 per bill each year (\$0.50 less per bill by 2025)	<ul style="list-style-type: none">• Assess assets and identify issues early through installation of monitoring and control equipment in stations. Reduced financial and reliability risk related to investment deferral.• Target investments to areas that have below average reliability.
Reduced Approach <u>Decrease</u> of \$0.05 per bill each year (\$0.25 less per bill by 2025) <u>Decrease</u> of \$0.15 per bill each year (\$0.75 less per bill by 2025)	<ul style="list-style-type: none">• Target investments to areas that have below average reliability.• No investment to improve/enhance reliability.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

34

Have your say: 2021-2025 Rate Application

System Service

33%

Preparing for potential increases in severe weather

Hydro Ottawa's distribution system is designed to withstand environmental stresses and impacts, however, weather-related outages have been increasing in terms of frequency and severity over recent years. During 2018 there were three major events which, combined, resulted in system asset replacements of approximately \$4M.

In addition to impacting Hydro Ottawa's equipment, these events increase the resources required to safely and quickly respond to the storm damage and coordinate and communicate restoration efforts to customers.

Hydro Ottawa is currently in the process of completing a climate change vulnerability assessment to determine what steps should be taken to mitigate the impacts of changing climates. While the recommendations from this assessment have not yet been finalized, there are a number of steps Hydro Ottawa could consider taking to prepare for an increasing frequency of severe weather events. For example, changing pole replacement practices and standards would increase overhead structure strength and provide greater clearances from trees and vegetation.

Hydro Ottawa wants to know what your preferences are with respect to making investments in system resilience for severe weather that may or may not materialize over this rate period.



Which of the following options do you prefer?

- ☐ I would be willing to pay **\$0.05- \$0.10 more** per monthly bill by 2025 for Hydro Ottawa to take measures to prepare for severe weather that may or may not occur.
- ☐ Hydro Ottawa should not invest in measures to prepare for severe weather that may or may not occur.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

35

System Service



Serving a growing city

The population in Hydro Ottawa’s service territory continues to grow. Hydro Ottawa must be prepared to serve new customers, while maintaining acceptable levels of service for existing customers. This means regularly assessing the capacity and reliability of its distribution system and its resilience to extreme weather events, and taking action when gaps are found.

A number of Hydro Ottawa’s substations are approaching capacity and cannot accommodate future customer growth. Delaying planned investments could result in a decline in reliability for existing customers.

Hydro Ottawa’s current plan only includes critical capacity investments; however, there is also an option to make further investments to get ahead of the growing demand for electricity supply.



Which of the following options do you prefer?

	Option	Outcome
	Accelerated Approach <u>Additional</u> \$0.09 per bill each year (\$0.45 more per bill by 2025)	<ul style="list-style-type: none">• Increase distribution system capacity investment to meet and exceed growing demand for electricity supply.• Distribution system capacity is moved ahead of the demand for electricity, eliminating reliability risk during peak demand days.
	<u>Additional</u> \$0.25 per bill each year (\$1.25 more per bill by 2025) Included in Draft Plan <i>Within 2.5% annual increase</i> <i>Within 3.5% annual increase</i>	<ul style="list-style-type: none">• Slow distribution system capacity to critical investment only.• Distribution system capacity maintains pace with demand for electricity, or slightly lagging. No impact on ability to connect customers.• Results in modest increase to risk in reliability to areas of growth and increased risk of longer outages or inability to restore power to some customers if outages occur on peak demand days.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

36

Have your say: 2021-2025 Rate Application

System Service

33%

Innovation: Investing for the future

Electricity distribution service is in the midst of unprecedented change – evolving towards a more decentralized, customer-centric, technologically-advanced and environmentally sustainable model.

Hydro Ottawa plans to continue engaging in research and development activities which offer value to its customers. This includes supporting the connection of Distributed Energy Resources (DERs). This small scale generation is connected to the grid close to the communities they serve. Hydro Ottawa's Great DR – phase two project (currently known as MiGen), where customers generate their own power and store what's not immediately used, is an example of innovation that is incorporated into the 2021-2025 plan.

Hydro Ottawa has also been actively involved in assessing and addressing customer needs within the emerging electric vehicle market, as well as, participating in a Battery Energy Storage Project, as part of the Smart Grid Program.

Looking forward, opportunities to develop new rate models and explore new energy services will offer customers more choice and control over their electricity needs.



Do you support Hydro Ottawa's strategy of leading change and engaging in industry projects that could shape the future of the energy marketplace?

- ☐ Yes
- ☐ No
- ☐ Don't know

Do you believe Hydro Ottawa should limit expenditures to those necessary to serve today's customers and existing needs, if this option could lower rate impacts in the short term?

- ☐ Yes
- ☐ No
- ☐ Don't know

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

General Plant

11%

Keeping the business running

Hydro Ottawa is more than just poles and wires – it’s a business that needs to invest in tools, trucks, equipment, and facilities to maintain the distribution system and service its customers.

The types of expenditures in this category are:

- **Information Technology:** Systems required to securely operate the distribution system, manage customer information and privacy, and keep employees working effectively and efficiently.
- **Vehicles:** Bucket trucks and other vehicles used to move employees, equipment, and supplies throughout Hydro Ottawa’s service territory to support the safe and reliable operation of the grid.
- **Facilities:** Warehouse, operations centres and administrative office.
- **Tools and Equipment:** Specialized safety tools and equipment to mitigate the risks associated with maintaining electricity distribution infrastructure.

When deciding whether to continue to maintain existing tools or replace them, Hydro Ottawa considers whether the risks and costs of continuing to use them outweighs the benefits of waiting longer to replace them. Hydro Ottawa must also consider the lead times required to replace some utility vehicles, such as bucket trucks, which can be as long as 18 months.



As a company, Hydro Ottawa needs equipment to maintain its distribution system and IT systems to manage the distribution system and customer information. Which of the following statements best represents your point of view?

- ☐ Hydro Ottawa should find ways to make do with the business equipment it already has.
- ☐ Hydro Ottawa should make the investments necessary to ensure its staff has the equipment they need to manage the distribution system efficiently and reliably.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

General Plant

11%

Vehicle replacement

Hydro Ottawa operates a fleet of vehicles to build and maintain a safe and reliable electricity system.

As with other equipment, Hydro Ottawa has a vehicle replacement policy that weighs whether it is more cost effective to repair a vehicle, rather than replace it.

For instance, a large bucket truck is typically replaced if it meets one of the following criteria; 12 years of service, 200,000 kilometres or 10,000 engine hours.

Between 2021-2025, Hydro Ottawa has identified \$17M in vehicle replacements using the approach described in Option 2, below.

Hydro Ottawa has a decision to make about how they proceed with vehicle replacements over the next five year period. Hydro Ottawa will not be expanding its vehicle inventory as part of this rate application.



Which of the following vehicle replacement options do you prefer?

- ☐ **Option 1:** Using a run-to-failure approach, replace vehicles only when they can no longer operate, knowing that some larger vehicles require an 18 month lead time to replace. This approach may impact restoration times and efficiency.
- ☐ **Option 2:** Make investments in the fleet on a vehicle-by-vehicle basis weighing age, kilometers driven, engine hours, repair history, availability of parts and internal mechanic assessments of the general vehicle condition.
- ☐ **Option 3:** Replace vehicles once they have reached the end of their recommended age, regardless of their condition, which is the most expensive and lowest risk option.

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application

39

General Plant

			11%
--	--	--	-----

Finding efficiencies through technology investments

Within a rapidly changing energy landscape, adopting the right technologies is critical to Hydro Ottawa’s continued business success and customer satisfaction. At Hydro Ottawa, decisions are based on two objectives: enhancing service to its customers, and enhancing organizational effectiveness that will increase agility and resilience in response to industry change.

Building upon the technology investments Hydro Ottawa made throughout 2016 to 2020, over the course of 2021 to 2025, Hydro Ottawa plans to continue adopting innovative technologies to solve business issues, increase efficiencies and enhance customer services.

These plans include a broader range of products and services to help customers manage their time and access information and services. Hydro Ottawa also plans to upgrade its Customer Care and Billing (CC&B) system in order to utilize account data to offer a more personalized customer experience.

Operationally, continued investment in Smart Grid technologies, including the Supervisory Control and Data Acquisition System (SCADA) and Geographical Information System (GIS) will enhance the timing, accuracy and type of field information available to outage response teams.

Hydro Ottawa is mindful that price and the increasing cost of electricity remains a key concern for customers. As this rate application will demonstrate, there will be a continued evolution of the business systems within the company to increase productivity through automation.



Do you support Hydro Ottawa’s view that prudent technological investments are necessary in order to meet its ongoing business and customer needs?

- ☐ Yes
- ☐ No
- ☐ Don’t know

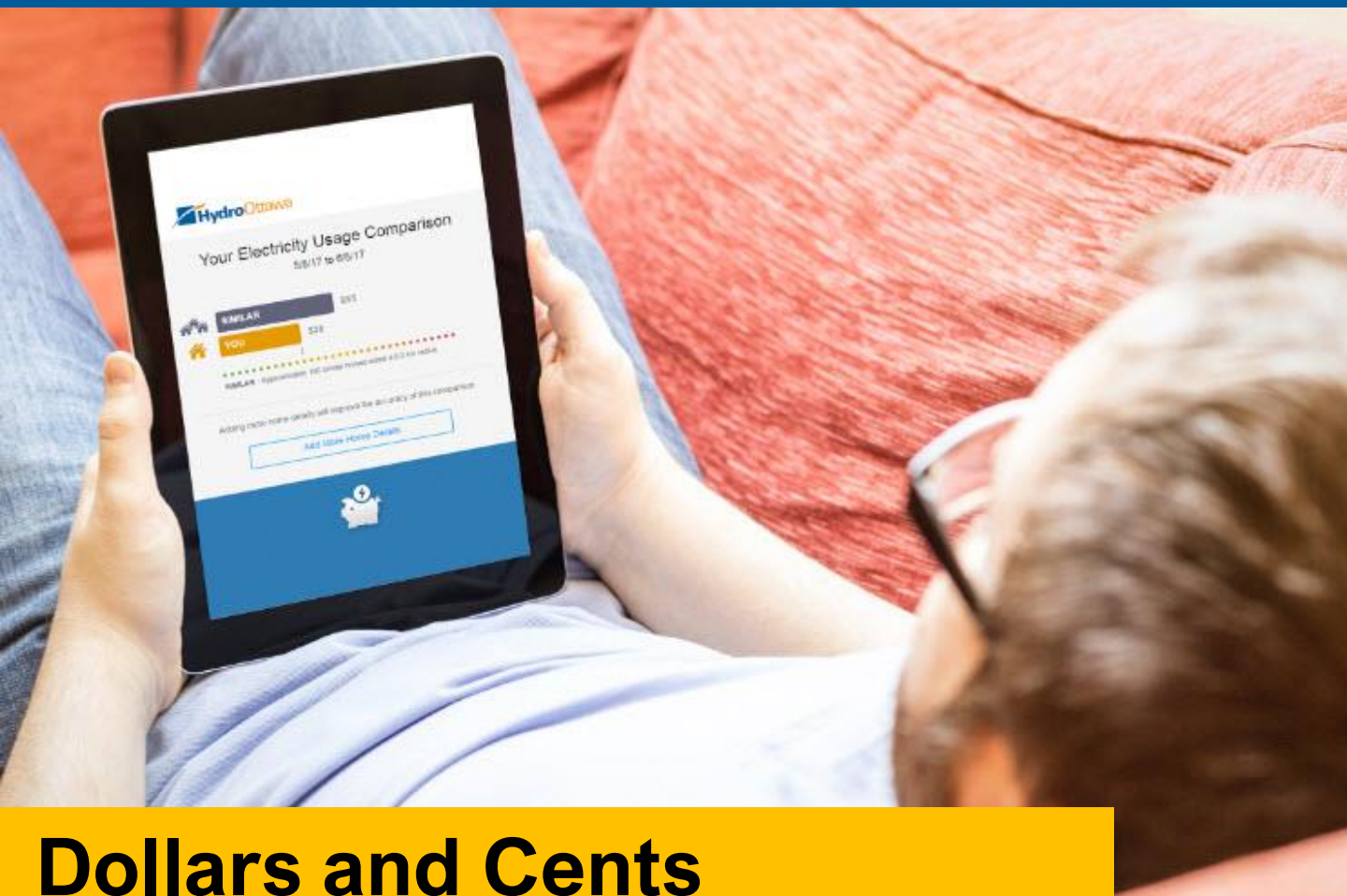
[If yes to above] And which of the following options do you prefer?

- ☐ Prioritizing and pacing investments to increase productivity, improve customer service and reliability
- ☐ Prioritizing and pacing investments only to improve productivity, reduce operating costs and lower rates over the 2021-2025 period
- ☐ No preference
- ☐ Don’t know

Additional Feedback (Optional)

Hydro Ottawa Limited Customer Consultation

Have your say: 2021-2025 Rate Application



Dollars and Cents

What this preliminary plan would cost you

Hydro Ottawa Limited Customer Consultation

41

Have your say: 2021-2025 Rate Application

Investment Alternative Summary



Throughout this workbook, you have been asked about some key choices that could impact your rates. Below is a summary of your answers to the questions that could impact your rates.

At the bottom of this page you will find the total bill impact of all the answers.

Having seen the total bill impact, please review your answers and change your responses if you desire; your potential rate impact will be re-calculated. You will have the opportunity to adjust your answers again until you feel you've reached the best balance for you.

Pacing Investments in the Overhead Distribution System

- ☐ **Accelerated Approach:** Additional \$0.04/\$0.13 per bill each year (\$0.20/\$0.65 more per bill by 2025)
- ☐ **Included in Draft Plan:** Within 2.5%/3.5% annual increase
- ☐ **Reduced Approach:** Decrease of \$0.03/\$0.08 per bill each year (\$0.15/\$0.40 less per bill by 2025)

Pacing Investments in the Underground Distribution System

- ☐ **Accelerated Approach:** Additional \$0.14/\$0.40 per bill each year (\$0.70/\$2.00 more per bill by 2025)
- ☐ **Enhanced Approach:** Additional \$0.07/\$0.20 per bill each year (\$0.35/\$1.00 more per bill by 2025)
- ☐ **Included in Draft Plan:** Within 2.5%/3.5% annual increase
- ☐ **Reduced Approach:** Decrease of \$0.07/\$0.20 per bill each year (\$0.35/\$1.00 less per bill by 2025)

Reliability Investments

- ☐ **Accelerated Approach:** Additional \$0.02/\$0.05 per bill each year (\$0.10/\$0.25 more per bill by 2025)
- ☐ **Included in Draft Plan:** Within 2.5%/3.5% annual increase
- ☐ **Limited Approach:** Decrease of \$0.04/\$0.10 per bill each year (\$0.20/\$0.50 less per bill by 2025)
- ☐ **Reduced Approach:** Decrease of \$0.05/\$0.15 per bill each year (\$0.25/\$0.75 less per bill by 2025)

Serving a Growing City

- ☐ **Accelerated Approach:** Additional \$0.09/\$0.25 per bill each year (\$0.45/\$1.25 more per bill by 2025)
- ☐ **Included in Draft Plan:** Within 2.5%/3.5% annual increase

The total impact of your choices would result in:

+/- \$X.XX per bill each year (+/- \$X.XX per bill by 2025)

This is in addition to the estimated 2.5%/3.5% annual increase if Hydro Ottawa continues with its current draft plan.

Hydro Ottawa Limited Customer Consultation

42

Have your say: 2021-2025 Rate Application

Impact of Hydro Ottawa's Plan

Hydro Ottawa has calculated the rate impact of implementing the options recommended by its planners and included it in its draft plans.

These priorities may change based on your input but Hydro Ottawa is looking for an investment program that aims to:

- **Minimize rate increases;**
- **Maintain reliability and service quality;**
- **Address key pressures to the system, including;**
 - **Aging infrastructure;**
 - **An expanding customer base and continued population growth, and;**
 - **The effects of severe weather events.**
- **Make prudent investments in emerging technologies to enhance service offerings and/or reduce operating costs.**

If Hydro Ottawa continues with its current plan, it is estimated that the distribution portion of the bill will increase an average of **2.5%/3.5% per year for the period 2021-2025.**

At the end of the 5-year plan, the typical **residential/small business** customer would see the distribution portion of their electricity bill increase by **\$3.74/\$13.27**. As a result, the distribution charges on the typical **residential/small business** customer's monthly bill would increase from **\$28.47/\$70.72 in 2020 to \$32.21/\$83.99 by 2025.**

With regards to Hydro Ottawa's draft plan, which of the following statements best represents your view?

- ☐ Hydro Ottawa should improve service, as discussed on the previous pages, even if that means an annual increase that exceeds **2.5%/3.5%**.
- ☐ Hydro Ottawa should maintain a **2.5%/3.5%** annual increase to deliver a program that focuses on the priorities above.
- ☐ Hydro Ottawa should keep increases below **2.5%/3.5%** annually, even if that could mean reductions in service.
- ☐ Other
- ☐ Don't know

Now that you have considered the various choices Hydro Ottawa has to make and the cost implications of those choices, do you have any final comments for Hydro Ottawa?

Hydro Ottawa Limited Customer Consultation

43

Have your say: 2021-2025 Rate Application

Demographics and Final Thoughts

These final few questions are for statistical purposes only.

Please indicate your gender.

- ☐ Male
- ☐ Female
- ☐ Self-identified [Please specify: _____]

What age category do you fall into?

- ☐ Under 18
- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or older

To the best of your ability, which category best describes your household's after tax income?

- ☐ Less than \$28,000
- ☐ Just over \$28,000 to \$39,000
- ☐ Just over \$39,000 to \$48,000
- ☐ Just over \$48,000 to \$52,000
- ☐ More than \$52,000
- ☐ I prefer not to say

Including yourself, how many people work at your organization?

- ☐ 1 person
- ☐ 2 to 5 people
- ☐ 6 to 10 people
- ☐ 11 to 25 people
- ☐ 26 to 50 people
- ☐ More than 50 people
- ☐ Prefer not to say

Overall Impression: Did you have a favourable or unfavourable impression of the workbook you just completed?

- ☐ Very favourable
- ☐ Somewhat favourable
- ☐ Somewhat unfavourable
- ☐ Very unfavourable
- ☐ Don't know

Volume of Information: Did Hydro Ottawa provide too much information, not enough, or just the right amount?

- ☐ Too little
- ☐ Just the right amount
- ☐ Too much

Hydro Ottawa Limited Customer Consultation

44

Have your say: 2021-2025 Rate Application

Thanks for Participating!

You have now completed Hydro Ottawa's customer consultation.

Please enter your email and customer billing address if you wish to be entered into the draw for your chance to win one of **four (4) \$500 cash prizes**.

Your email will be used to contact you if you are one of the randomly selected prize winners and your billing address will be used to verify that you are a Hydro Ottawa customer. Your email and customer billing address will be treated as strictly confidential and will not be shared with any third parties. This information will be deleted once the draw is complete.

☐ I do not wish to be entered into the draw

Email Address*: _____

Confirm Email*: _____

Billing Address

Address*: _____

City: _____

Postal Code*: _____

* Mandatory fields

Note: Only Hydro Ottawa customers are permitted to participate in this voluntary review, therefore, postal codes are collected and used by Innovative Research Group Inc. solely for maintaining the integrity of the consultation by validating legitimate participation in the process. Your personal information shall remain under the custody and control of Innovative Research Group Inc. and will not be disclosed to any third parties.

If you have any additional questions or comments about this customer engagement, email:

HydroOttawa@innovativeresearch.ca