

A - ANWAATIN INTERROGATORY - 001

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Reference:

Exhibit A-7-2
Exhibit A-7-2, Attachment 1

Interrogatory:

- a) Please place HONI’s current Indigenous Relations Policy (“**IRP**”) on the record in this proceed. Please outline the changes to the IRP HONI anticipates over the 2023-2027 period.
- b) Please confirm that Appendix 1 to Exhibit B, Tab 1, Schedule 1, Section 1.6 is the draft investment plan shared with customers during the Phase 2 Customer Engagement Process discussed at Exhibit A, Tab 7, Schedule 2, Section 4.2 (p. 4) (the “**DIP**”). If it is not the DIP shared with customers during customer engagement, please place the DIP on the record in this proceeding.
- c) Please file all reports, presentations, analysis, data, or other materials (including drafts) related to the First Nations Electricity Reliability Improvement Plan.
- d) Please file all reports, presentations, analysis, data, or other materials (including drafts) produced or used in coming to the decision to develop and implement a First Nations Electricity Reliability Improvement Plan.
- e) Please provide a detailed process and timeline for the development and implementation of the First Nations Electricity Reliability Improvement Plan.
- f) Please provide an outline of the anticipated contents of the First Nations Electricity Reliability Improvement Plan and precisely delineate the reliability improvements that HONI expects will be undertaken through its distribution business and those that will be undertaken through its transmission business.
- g) What is the anticipated process and timeline to carry out the detailed studies of energy storage candidate communities as described at Exhibit A, Tab 7, Schedule 2, Attachment 1 (p. 10)?

1 h) Please revise and refile the chart in Appendix A to Exhibit A, Tab 7, Schedule 2, Attachment 1
2 to include the feeder(s) and/or line(s) associated with each of the First Nations communities
3 listed.

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5 **Response:**

6 a) Hydro One's Indigenous Relations Policy dated November 8, 2019 is included at Attachment
7 1. Hydro One's recently approved updated Indigenous Relations Policy dated November 10,
8 2021 is included at Attachment 2. Hydro One's Indigenous Relations Policy is reviewed and
9 updated every two years.

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11 b) The draft investment plan shared with customers through the Customer Engagement
12 workbooks in Phase 2 of the Customer Engagement Process may be found at B1-SEC-055.

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14 c) The First Nation Reliability Report in Exhibit A, Tab 7, Schedule 2, Attachment 1 includes the
15 materials related to the First Nations Electricity Reliability Improvement Plan.

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17 d) See part c).

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19 e) Hydro One will engage in the development and implementation of the First Nation Electricity
20 Reliability Improvement Plan following OEB approval of the proposed plan for Energy Storage
21 Solutions, see Exhibit ISD D-SS-04.

22
23 f) Hydro One will engage in the development and implementation of the First Nation Electricity
24 Reliability Improvement Plan following OEB approval of the proposed plan for Energy Storage
25 Solutions, see Exhibit ISD D-SS-04. Energy Storage Solutions will be performed by the Hydro
26 One distribution business.

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28 g) The candidates identified in Exhibit A, Tab 7, Schedule 2 Attachment 1 will be divided into
29 subgroups. A study will be completed for all candidates in the first subgroup by Q4 2022. The
30 study will include system analysis to determine optimal MW and MWh capacity based on
31 historic data and system condition, real estate analysis, telecom analysis, and environmental
32 analysis to determine feasibility and location, as well as community outreach to solicit
33 feedback to finalize the BESS installation plan. Studies for the other candidates will follow in
34 subsequent years.

1 h) Below is the revised Appendix A to Exhibit A-7-2, to include supply feeder(s) associated with
 2 each of the First Nations communities listed.

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Three corrections are also included in the revised table below:

- For Alderville First Nation, the Average of Annual Hours of Interruption (2018-2020) has been updated from 44 to 41
- For Aroland First Nation, the Average of Annual Hours of Interruption (2018-2020) has been updated from 44 to 45
- For Factory Island 1, the Average of Annual Hours of Interruption (2018-2020) has been updated from 9 to 11; and the Average of Annual Numbers of Interruption (2018-2020) has been updated from 3 to 5

First Nations Community	Average of Annual Hours of Interruption (2018-2020)	Average of Annual Numbers of Interruption (2018-2020)	Supply Feeder
Abitibi 70	29	7	Ramore TS M3
Agency 1	11	3	Burleigh DS F1
Alderville First Nation	41	8	Bowmanton DS F2 Roseneath DS F1 Roseneath DS F3
Aroland First Nation	45	10	Nakina DS F2
Bear Island 1	42	10	Herridge Lake DS F1
Big Grassy River 35G	18	8	Sleeman DS F4
Big Island Mainland 93	18	8	Sleeman DS F4
Chapleau 74A	52	9	Chapleau DS F4
Chapleau Cree Fox Lake	47	8	Chapleau DS F4
Chief's Point 28	16	5	Sauble River DS F2
Chippewas of Georgina Island First Nation	10	3	Virginia Beach DS F2 Virginia Beach DS F3 Island Grove DS F3
Chippewas of the Thames First Nation 42	18	4	Longwood TS M26 Appin DS F1
Christian Island 30	19	5	Awenda DS F1 Thunder Beach DS F2 Thunder Beach DS F3
Christian Island 30A	20	5	Awenda DS F1 Thunder Beach DS F3
Constance Lake 92	25	13	Calstock DS F2
Couchiching 16A	8	3	Burleigh DS F1

First Nations Community	Average of Annual Hours of Interruption (2018-2020)	Average of Annual Numbers of Interruption (2018-2020)	Supply Feeder
Curve Lake First Nation 35	35	7	Buckhorn DS F3
Dokis 9	75	13	Noelville DS F1
Duck Lake 76B	49	7	Chapleau DS F4
Eagle Lake 27	1	2	Eton DS F3
Factory Island 1	11	5	Moosonee DS F1
French River 13	20	4	Alban DS F3
Ginoogaming First Nation	23	6	Longlac East DS F2
Grassy Narrows	20	7	Margach DS F2
Gull River 55	21	8	Hydro One Remotes
Henvey Inlet 2	72	11	McGowan Lake DS F1 Point Au Baril DS F1
Hiawatha First Nation 36	22	6	Bensfort DS F3
Islands in the Trent Waters 36A	42	8	Flynns Corners DS F2
Kenora 38B	5	5	Margach DS F1
Kettle Point 44	16	7	Forest Jura DS F1
Lac Seul 28	16	5	Sam Lake DS F1
Lake Helen 53A	16	5	Nipigon DS F1
Long Lake 58	24	6	Longlac West DS F1
Magnetawan 1	65	10	Point Au Baril DS F1
Manitou Rapids 11	9	5	Barwick DS F1
Matachewan 72	27	8	Matachewan DS F2
Mattagami 71	75	10	Shining Tree DS F1
M'chigeeng 22	24	6	West Bay DS #2 F1 West Bay DS #2 F2 West Bay DS #2 F3
Mississagi River 8	10	4	North Shore DS F1 Striker DS F2
Mississauga's of Scugog Island	13	3	Scugog Island DS F3
Mnjikaning First Nation 32	18	3	Rama DS F1 Washago DS F1
Moose Point 79	66	8	Footes Bay DS F2
Moravian 47	18	5	Thamesville North DS F2
Munsee-Delaware Nation 1	19	5	Appin DS F1
Naiscoutaing 17A	63	9	Pointe Au Baril DS F
Neguaguon Lake 25D	41	14	Crilly DS F1

First Nations Community	Average of Annual Hours of Interruption (2018-2020)	Average of Annual Numbers of Interruption (2018-2020)	Supply Feeder
New Credit 40A	11	4	Lythmore DS F2 Jarvis TS M3
New Post 69A	7	2	Cochrane West DS F1
Neyaashiinigmiing	16	5	Colpoys Bay DS F3
Nipissing 10	7	3	Sturgeon Falls DS F1 Sturgeon Falls DS F2
Ojibway Nation of Saugeen	44	11	Valora DS F1
Oneida 41	18	4	Shedden DS F1 Southwold DS F1
Osnaburgh 63A	34	8	Crow River DS F1
Osnaburgh 63B	34	7	Crow River DS F1
Parry Island First Nation	34	7	McGowan Lake DS F1
Pays Plat 51	28	7	Schreiber Winnipeg DS F1
Pic Mobert Reserve North	50	10	White River DS F3
Pic Mobert Reserve South	52	10	White River DS F3
Pic River 50	30	10	Pic DS F2
Pikwakanagan	21	9	Golden Lake DS F2
Rainy Lake 17A	32	11	Devlin DS F1
Rainy Lake 17B	39	13	Nestor Falls DS F1
Rainy Lake 18C	14	4	Burleigh DS F1
Rainy Lake 26A	20	6	Burleigh DS F2
Rat Portage 38A	11	5	Keewatin DS F2 Margach DS F1
Rocky Bay 1	27	7	Beardmore DS #2 F4
Sabaskong Bay 35D	12	6	Nestor Falls DS F2
Sagamok	23	6	Massey DS F3
Saug-A-Gaw-Sing 1	26	11	Sleman DS F4
Saugeen 29	10	5	Elsinore DS F1 Elsinore DS F2
Seine River 23A	27	12	Crilly DS F1
Serpent River 7	17	5	Spanish DS F2
Shawanaga 17	36	4	Carling DS F3
Shawanaga 17B	62	8	Pointe Au Baril DS F2
Sheguiandah 24	21	6	Little Current DS F2
Sheshegwaning 20	40	10	Wolsey Lake DS F1
Shoal Lake 34B2	34	9	Clearwater Bay DS F1
Shoal Lake 39A	24	7	Clearwater Bay DS F1

First Nations Community	Average of Annual Hours of Interruption (2018-2020)	Average of Annual Numbers of Interruption (2018-2020)	Supply Feeder
Shoal Lake 40	38	9	Clearwater Bay DS F1
Six Nations 40	19	4	Jarvis TS M3 Lythmore DS F3 Caledonia TS M3 Newport PDS F1
Sturgeon Falls 23	26	12	Crilly DS F1
Sucker Creek 23	12	4	Little Current DS F2
The Dalles 38C	10	4	Kenora DS F1
Thessalon 12	10	4	Sowerby DS F2
Tyendinaga Mohawk Territory	9	4	Beechwood DS F1 Marysville DS F1 Shannonville DS F2 Marysville DS F3
Wabaseemoong 29	14	3	Whitedog DS F1
Wabauskang 21	15	7	Perrault Falls DS F1
Wabigoon Lake 27	18	6	Dryden Rural DS F2
Wahnapeitei 11	19	3	Post Creek DS F1
Wahta Mohawk Territory	33	6	Bala River DS F1 Footes Bay DS F1 Footes Bay DS F2
Walpole Island 46	12	3	Wallaceburg TS M5
Whitefish Bay 32A	11	7	Sioux Narrows DS F2
Whitefish Bay 33A	10	8	Sioux Narrows DS F2
Whitefish Bay 34A	12	7	Sioux Narrows DS F2
Whitefish Lake 6	37	7	Whitefish DS F2 Whitefish DS F3
Whitefish River 4	14	4	Birch Island DS F1
Wikwemikong Unceded 26	22	6	Manitouwaning DS F1
Zhiibaahaasing 19A	39	10	Wolsey Lake DS F1



HYDRO ONE INDIGENOUS RELATIONS POLICY¹

AT HYDRO ONE, WE WILL WORK PROACTIVELY TO BUILD RELATIONSHIPS WITH INDIGENOUS PEOPLES BASED ON UNDERSTANDING, RESPECT AND MUTUAL TRUST. WE WILL RESPECT THE RIGHTS OF INDIGENOUS PEOPLES INCLUDING THE ABORIGINAL AND TREATY RIGHTS OF ABORIGINAL PEOPLES AS RECOGNIZED AND AFFIRMED IN SECTION 35 OF THE *CONSTITUTION ACT, 1982*.

¹ Indigenous includes the First Nation, Inuit and Métis peoples



OUR COMMITMENT:

Hydro One is committed to working with Indigenous Peoples in a spirit of cooperation and shared responsibility. We acknowledge that Indigenous Peoples have unique historic and cultural relationships with their land and a unique knowledge of the natural environment. Forging meaningful relationships with Indigenous Peoples based upon trust, confidence, and accountability is vital to achieving our corporate objectives. Hydro One recognizes distinctions between and among First Nations, Inuit, and the Métis Nation. These commitments and relationships are a priority for Hydro One and as such, we will:

- Adapt our business practices to respond to the legal rights of Indigenous communities and individuals.
- Develop and maintain relationships across all Hydro One lines of business with Indigenous Peoples that demonstrate understanding, respect and are based upon mutual trust.
- Increase procurement opportunities for Indigenous businesses to support their aspirations for self-sustainability and track progress of such growth.
- Increase Indigenous representation in all levels in our workforce and track progress of such growth.
- Increase Indigenous community investments through our sponsorship and grant programs to assist communities in advancing positive and lasting socio-economic outcomes.
- Undertake procedural aspects of consultation, as required by law or guided by leading industry practices, in the early stages of, and throughout, projects that may have an impact on Indigenous rights.
- Seek good faith resolution of transmission and distribution line issues on First Nation reserve lands in a fair manner.
- Ensure our employees have the skills, training and resources necessary to perform their duties with respect to developing and advancing relationships with Indigenous Peoples that demonstrate mutual respect and understanding of the unique rights of Indigenous Peoples.

Mark Poweska
President and CEO
Hydro One Ltd.

November 8, 2019

hydro **One**

Hydro One Indigenous Relations Policy



The Hydro One Indigenous Relations Policy reflects our Vision and Guiding Principles. Our engagement, advocacy and strategic direction are set by the Indigenous Relations Policy and led in collaboration with the Indigenous communities (First Nations, Inuit and Métis Nation) we work with every day.

Key Beliefs

At Hydro One:

- We acknowledge that Indigenous communities have historically borne impacts of development without benefiting from it
- We acknowledge that Indigenous communities have real issues and grievances arising from past and current development
- We commit to a journey of Reconciliation that is guided by this context and by the unique Indigenous communities we work with during engagement and for the life cycle of our assets
- We understand that our success is dependent on demonstrating leadership in Indigenous Relations and embracing partnerships with Indigenous communities

Our Guiding Principles and UNDRIP

- We approach Indigenous communities with **transparency** and **respect**
- We meet Indigenous communities **where they are** in their governance, capacity and priorities, as participants in industry and environmental practice, and as the **original stewards** of the lands that make up Ontario and Canada
- We respect the **cultures, traditions and rights** unique to each Indigenous community
- We recognize the **obligations** industry has in **Reconciliation** with Indigenous people, to address meaningful and measurable change in cultural understanding and economic outcomes
- We understand that Hydro One succeeds when Indigenous communities succeed and that all Hydro One employees benefit from a greater understanding of Indigenous issues, opportunities and knowledge

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Mark Poweska
President and CEO
Hydro One Ltd.

November 2021

Our Vision

A better and brighter future
for all

Our Goals

- We will be the partner of choice for Indigenous communities
- We will attract, retain and learn from Indigenous employees as their employer of choice
- We will advance meaningful economic Reconciliation as partners with Ontario Indigenous communities

UNDRIP

We understand that our relationships and interactions with Indigenous communities in Canada require a paradigm shift. Guided by the evolving legal obligations and opportunities for consultation and engagement, we embrace the United Nations Declaration on the Rights of Indigenous Peoples as it supports human rights, language, education and governance for Indigenous people. It is a critical lens on our relationship with Indigenous communities. We are committed to supporting UNDRIP.

It remains our goal to achieve the agreement and support, articulated in UNDRIP as “Free Prior and Informed Consent”, of Indigenous peoples. We will use FPIC as a goal and a guide in every engagement. We understand that UNDRIP and FPIC are an important lens to view our relationship with Indigenous people, along with the evolving law, practices, and the guidance of Indigenous communities in Ontario.

Our focus is on meaningful reconciliation under Call to Action #92, which includes increasing and retaining our Indigenous employee base, offering equity investment opportunities to Indigenous communities when we build new capital Transmission projects, challenging ourselves to set aggressive procurement targets for Indigenous businesses and focusing on the input and guidance of Indigenous communities as we develop and implement our strategic goals.

1 **B1 - ANWAATIN INTERROGATORY - 002**

2
3 **Reference:**

4 Exhibit B-1-1, Section 1.6

5 Exhibit B-1-1, Section 1.6, Attachments 2-3

6
7 **Interrogatory:**

8 a) Please file any and all reports, presentations, analysis, data, or other materials related to
9 HONI's engagement with Indigenous communities. Please also file any and all reports to the
10 board of directors related to same.

11
12 b) In light of the Board's prior directive to HONI "to explicitly identify initiatives to address
13 reliability challenges in northern and First Nation communities, including economically
14 justified Distributed Energy Resource ("DER") solutions" (EB-2017-0049), please specifically
15 describe precisely how HONI consulted Indigenous communities on increasing HONI capital
16 investments in DERs to improve system reliability in Indigenous communities what resulted
17 from those specific consultation efforts.

18
19 c) Please file each of the versions of the draft investment plans used in Phase 1 and Phase 2 of
20 the customer engagement process.

21
22 d) Please list any and all Indigenous communities that are concerned about
23 historical, present and future compensation (or the lack thereof), for HONI transmission or
24 distribution assets on reserve lands and/or within traditional territories and treaty lands.

25
26 e) Please describe in general terms whether and how HONI compensates Indigenous
27 communities for HONI assets on reserve lands and/or within traditional territories and treaty
28 lands.

29
30 f) What opportunities does HONI make available to Indigenous communities to participate as
31 equity owners in DER reliability assets?

1 **Response:**

2 a) Hydro One’s Business Plan 2023-2027, included at Exhibit A-03-01, Attachment 1, was
3 presented to the Board of Directors on May 7, 2021 and describes Hydro One’s customer
4 engagement process. The Customer Engagement survey and workbook shared with First
5 Nation customers is included in B1-SEC-055. As part of Phase 1 of the Customer Engagement,
6 Innovative provided Hydro One with a placemat of Phase 1 results, including results from on-
7 reserve First Nation residential ratepayers (Attachment 1), and a report titled “Phase I: Online
8 Workbook Report – First Nations Chiefs and Residential Customers” dated January 2020
9 (Attachment 2).

10
11 b) Hydro One’s engagement with Indigenous communities on distributed energy resources to
12 improve reliability included the following:
13 • The Customer Engagement Report by Innovative included at Exhibit B-1-1 Section 1.6
14 Attachment 1
15 • The Customer Engagement Survey. See B1-SEC-055 for the First Nations Residential
16 workbook/survey and particularly, questions on battery energy storage solutions
17 • The First Nations Chiefs Engagement Report by Innovative included at Exhibit B-1-1
18 Section 1.6 Attachment 2

19
20 Please see the First Nations Reliability Report at Exhibit A, Tab 7, Schedule 2, which specifically
21 addresses the OEB’s directive “to explicitly identify initiatives to address reliability challenges
22 in northern and First Nation communities, including economically justified Distributed Energy
23 Resource (“DER”) solutions” (EB-2017-0049), reflects the customer engagement feedback,
24 and outlines specific investments that are responsive to the OEB directive.

25
26 c) There was no draft investment plan for Phase 1 of the customer engagement. Please see
27 Appendix 1 to Exhibit B, Tab 1, Schedule 1, Section 1.6 for the draft investment plan used in
28 Phase 2 of the customer engagement.

29
30 d) Hydro One respectfully refuses this interrogatory. It is not relevant because this does not
31 impact the elements of costs currently being sought.

32
33 e) Hydro One compensates Indigenous communities for transmission infrastructure on reserve
34 lands. The compensation is based upon 1) the area of impact (in acres); 2) the fair market
35 value of the impacted lands which is determined by an accredited AACI appraiser; 3) the
36 percentage of impact (as it is a non-exclusive right being obtained); and 4) a rate of return, as
37 it is annualized payment.

- 1 Hydro One does not compensate Indigenous communities for distribution infrastructure on
- 2 reserve, understanding there is an overall use and benefit to the community and its members.
- 3
- 4 f) There are no DER projects that include equity ownership at this time.

Filed: 2021-11-29
EB-2021-0110
Exhibit I
Tab 2
Schedule B1-Anwaatin-002
Page 4 of 4

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Dx Customer Engagement Planning Placemat

Identifying Customer Needs and Preferences

Dx Customer Engagement Planning Placemat (Identifying Customer Needs and Preferences)



Residential



Small Business



Commercial & Industrial



Large Dx Accounts



First Nations (on-reserve)

What are customer needs?

Most customers don't list any unfulfilled needs. Among those who do, the top two needs are improved reliability and power quality, and lower rates.

1 st	Improve reliability and power quality	Lower rates, no increases	Improve reliability and power quality	Improve reliability and power quality	Improve reliability and power quality
2 nd	Lower rates, no increases	Improve reliability and power quality	Lower rates, no increases	None	Lower rates, no increases

What outcomes do customers prioritize?

Price, reliability, safety and customer service are the top priorities across all customer types.

1 st	Delivering electricity at reasonable rates	Delivering electricity at reasonable rates	Delivering electricity at reasonable rates	Ensuring reliable electrical service	Delivering electricity at reasonable rates
2 nd	Ensuring reliable electrical service	Ensuring reliable electrical service	Ensuring reliable electrical service	Delivering electricity at reasonable rates	Ensuring reliable electrical service
3 rd	Ensuring the safety of electricity infrastructure	Providing quality customer service	Ensuring the safety of electricity infrastructure	Helping customers with conservation/cost savings	Providing quality customer service

What reliability outcomes do customers prioritize?

Reducing the number and length of outages during extreme weather events and reducing the number of day-to-day outages are top reliability outcomes.

1 st	Reducing length of time to restore power during extreme weather events	Reducing length of time to restore power during extreme weather events	Reducing length of time to restore power during extreme weather events	Reducing length of time to restore power during extreme weather events	Reducing length of time to restore power during extreme weather events
2 nd	Reducing number of outages during extreme weather events	Reducing number of outages during extreme weather events	Reducing overall number of day-to-day outages	Reducing overall number of day-to-day outages	Reducing number of outages during extreme weather events
3 rd	Reducing overall number of day-to-day outages	Reducing overall number of day-to-day outages	Reducing number of outages during extreme weather events	Improving power quality	Reducing overall number of day-to-day outages

What technology investments do customers prioritize?

Technology investments to reduce costs, improve reliability and help customers manage electricity usage are top technology priorities for customers.

1 st	Help find efficiencies and reduce customer costs	Help find efficiencies and reduce customer costs	Help find efficiencies and reduce customer costs	Help find efficiencies and reduce customer costs	Help find efficiencies and reduce customer costs
2 nd	Reduce the number and length of outages	Reduce the number and length of outages	Reduce the number and length of outages	Help customers better manage their usage	Reduce the number and length of outages
3 rd	Help customers better manage their usage	Help customers better manage their usage	Help customers better manage their usage	Reduce the number and length of outages	Help customers better manage their usage

Keeping Pace with Aging Distribution Infrastructure

A clear majority of customers prefers a more proactive approach to replacing aging infrastructure, when or before it starts to deteriorate.

Deteriorate rapidly	2%	1%	1%	0%	3%
Deteriorate	7%	9%	10%	0%	9%
When it starts to deteriorate	50%	58%	56%	70%	45%
Before it starts to deteriorate	35%	24%	23%	0%	31%

Ensuring Day-to-Day Reliability

Most customers want Hydro One to invest in reliability but are divided over the level of investment—between maintaining and improving.

Defer investments	4%	4%	5%	0%	7%
Maintain reliability	36%	34%	44%	40%	41%
Improve reliability	53%	54%	40%	40%	38%

Responding to Severe Weather

The majority of customers supports investments in hardening the system, either as part of ongoing system renewal or as proactive investments.

No investments	4%	4%	7%	0%	7%
Invest only as part of ongoing system renewal	31%	29%	47%	60%	29%
Proactively invest	60%	59%	41%	30%	51%

Helping Customers with Poor Reliability

Almost all customers want to help those with poor reliability, either by shifting or increasing spending.

No investments	5%	4%	6%	10%	4%
Shift spending	31%	31%	40%	60%	33%
Increase spending	56%	53%	42%	10%	43%

Enabling Economic Growth

Customers are divided over additional spending on building capacity to enable economic growth.

Customers pay	45%	37%	47%	40%	32%
Proactively build capacity	40%	48%	31%	30%	46%

Keeping Hydro One's Business Running

Most customers want Hydro One to make the investments necessary to keep the business running safely and reliably.

Find ways to make do	15%	21%	17%	30%	16%
Make necessary investments	77%	68%	71%	70%	68%

Tx Customer Engagement Planning Placemat (Identifying Customer Needs and Preferences)



Residential



Small Business



Commercial & Industrial



Large Dx Accounts



Large Tx Accounts



First Nations

What outcomes do customers prioritize?

Price, reliability and safety are the top priorities for residential and small business customers.

1 st	Delivering electricity at reasonable rates	Delivering electricity at reasonable rates	Delivering electricity at reasonable rates	Ensuring reliable electrical service	Ensuring reliable electrical service	Delivering electricity at reasonable rates
2 nd	Ensuring reliable electrical service	Ensuring reliable electrical service	Ensuring reliable electrical service	Delivering electricity at reasonable rates	Ensuring the safety of electricity infrastructure	Ensuring reliable electrical service
3 rd	Ensuring the safety of electricity infrastructure	Ensuring the safety of electricity infrastructure	Ensuring the safety of electricity infrastructure	Helping customers with conservation/cost savings	Delivering electricity at reasonable rates	Providing quality customer service

What reliability outcomes do customers prioritize?

Reducing the number and length of outages during extreme weather events and reducing the number of day-to-day outages are top reliability outcomes.

1 st	Reducing the length of time to restore power during extreme weather events	Reducing the number of outages during extreme weather events	Reducing the length of time to restore power during extreme weather events	Reducing the length of time to restore power during extreme weather events	Reducing the overall number of day-to-day outages	Reducing the length of time to restore power during extreme weather events
2 nd	Reducing the number of outages during extreme weather events	Reducing the length of time to restore power during extreme weather events	Reducing the overall number of day-to-day outages	Reducing overall number of day-to-day outages	Reducing the number of outages during extreme weather events	Reducing the number of outages during extreme weather events
3 rd	Reducing the overall number of day-to-day outages	Reducing the overall number of day-to-day outages	Reducing the number of outages during extreme weather events	Improving the quality of power	Reducing the length of time to restore power during extreme weather events	Reducing the overall number of day-to-day outages

Keeping Pace with Aging Transmission Infrastructure

A clear majority of customers want to either maintain or increase the current level of investment.

Decrease current level of investment	9%	14%	6%	10%	4%	6%
Maintain current level of investment	41%	48%	49%	50%	57%	40%
Increase current level of investment	37%	29%	32%	10%	26%	37%

Investing in a More Reliable Transmission System

Most customers want investments in a more reliable transmission system, either as part of ongoing renewal or as proactive investments.

Do not make specific reliability investments	9%	14%	7%	0%	0%	7%
Invest only as part of ongoing system renewal	43%	45%	52%	50%	43%	42%
Proactively invest in improving reliability	38%	33%	31%	20%	43%	38%

Reducing the Number of Momentary Outages

The majority of customers want Hydro One to make investments to improve power quality.

Defer investments in improving power quality	22%	28%	8%	0%	9%	19%
Make investments in improving power quality	66%	63%	81%	80%	79%	65%

Note: "Don't know" not shown.

Methodology: Hydro One's Online Workbook (Phase I)

The main mode used to gather customer feedback was an online workbook. The first part of the workbook was designed to collect general customer needs and outcome preferences. The second part asked customers to provide their feedback on high-level investment trade-offs, covering both distribution and transmission systems.

The online workbook was customized for different customer types. Separate versions were created for Hydro One primary residential, seasonal residential, small business (GS<50 kW), C&I, LDA, LTX and on-reserve residential First Nations customers. Ontario residential and small business rate payers that are outside of Hydro One's distribution network received a version that only included transmission-related questions.

The goal of this first phase was to obtain feedback from a representative sample of customers and assess their needs and preferences. Only a random sub-sample of customers was invited to participate in this phase. All customers will have the opportunity to participate in Phase II.

Interpreting the Results

To ensure that these findings are representative of Hydro One's broader customer base, INNOVATIVE conducted a rigorous sample validation process. This process includes comparing the online sample to the broader customer base on known variables, such as region and usage (where available).

The results for LDA and LTX customers should be interpreted with caution, given the very small sample sizes (n=10 and n=23, respectively).

Dx Customers	Sample size
Residential	N=1,338
Small business	N=200
C&I	N=250
LDA	N=10
First Nations residential customers (on-reserve)	N=300

Tx Customers	Sample size
Residential	N=1,800
Small business	N=690
C&I	N=250
LDA	N=10
LTX	N=23
First Nations residential customers (on-reserve)	N=300



2023-2027

Phase I: Online Workbook Report

First Nations

Chiefs and Residential Customers



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 One Inc.

January 2020

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About This Report



This report presents the results from the **online workbook** that was conducted among **First Nation Residential Customers and First Nation Chiefs**, as part of Hydro One's Phase I customer engagement process for the 2023-2027 joint rate application.

To provide context to how customer feedback was collected, this report contains the original workbook pages used in the survey.

Workbook Pages

Pages in this report that are taken from the online workbook are denoted by watermarked pages. Please note that some of these pages include graphs and charts; these do not represent data collected from the online survey, but were used to equip respondents with the facts and figures needed to form informed opinions.

The workbook pages in the results section are shown in the order they were presented to respondents.

Results and Segmentation

The results are presented after the workbook page wherein a particular question was asked.

This report shows the overall results and detailed results by rate class and region. In the distribution report, these regions correspond to the planning regions used by Hydro One's distribution system planners.

Introduction

Customer Engagement Methodology (Phase I)

Hydro One's 2023-2027 Customer Engagement (Phase I)

Innovative Research Group Inc. (INNOVATIVE) was engaged by Hydro One Inc. (Hydro One) to assist in meeting Hydro One'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 activities conducted between September 2019 and January 2020.

Hydro One is developing its joint rate application for the period covering the years 2023 to 2027, including both a consolidated Distribution System Plan and Transmission System Plan. Between September 2019 and January 2020, INNOVATIVE (on behalf of Hydro One) reached out to a range of Hydro One customers to identify customer needs and outcomes valued by customers.

Hydro One's Online Workbook

The main mode used to gather customer feedback was an online workbook. The first part of the workbook was designed to collect general customer needs and outcome preferences. The second part asked customers to provide their feedback on ten high-level investment trade-offs, covering both distribution and transmission system examples.

The goal of this first phase was to obtain a representative sample of customers and assess their needs and preferences. Only a random sub-sample of customers was invited to participate in this phase. All customers will have the opportunity to participate in Phase II.

All responses were collected using unique survey URLs which were sent directly to customers, using a Hydro One email address administered by INNOVATIVE. Workbooks were customized to represent different rate classes.

Interpreting the Results

Links to the online workbook were distributed to customers with an email address on file. To ensure that these findings are representative of Hydro One's broader customer base, INNOVATIVE conducted a rigorous sample validation process. This process includes comparing the online sample to the broader sample on known variables, such as region and usage.

Methodology

First Nations Online Workbook



Field Dates & Workbook Delivery

The **First Nations Residential Online Workbook** was sent to a random sub sample of Hydro One residential customers who have provided the utility with an email address. Customers had an opportunity to complete the workbook between December 17th, 2019 and January 17th, 2020. Each customer received a workbook using a unique URL that could be linked back to their region. In total, the residential workbook was sent to **20,000** customers via e-blast from a Hydro One email address that is administered by INNOVATIVE.

First nations residential customers, who completed the workbook, were entered into a draw to win one of ten \$100 cash prizes.

The **First Nations Chiefs Online Workbook** was sent to representatives of all 88 First Nation communities served by Hydro One. Chiefs (or delegated community representatives) had an opportunity to complete the workbook between December 17, 2019 and January 28, 2020. Each Chief received a unique URL via email from a Hydro One email address that is administered by INNOVATIVE.

For those who completed the First Nations Chiefs workbook, a \$100 charitable donation was made to a charity of the respondent's choosing in appreciation of their time.

Online Workbook Completes

A total of **318** (unweighted) Hydro One First Nations residential customers and **24** First Nations Chiefs (or their delegates) completed the online workbook.

Sample Weighting

The residential online workbook sample has been weighted proportionately by region in order to be representative of the broader Hydro One service territory. Please see page 5 for a detailed breakdown of residential respondents weighting. The Chiefs online workbook was not weighted.

First Nations Chiefs and Residential Customers

Demographics



Sample Demographics

First Nations Residential Customers and Chiefs

First Nations Residential Online Workbook

The residential online survey was weighted to be proportionate based on the actual distribution of First Nation residential customers in each region throughout Hydro One's service territory. *Weighted and unweighted samples size are outlined below.*

	First Nation Residential Customers			
	Unweighted N		Weighted N	
	n-size	%	n-size	%
Southern	65	20%	74	25%
Central	121	38%	72	24%
Eastern	17	5%	19	6%
Northern	115	36%	135	45%
Total	318	100%	300	100%

First Nations Chiefs Online Workbook

The chiefs online survey was left unweighted due to the sample size.

	First Nations Chiefs		Chief Respondents	
	n-size	%	n-size	%
Southern	21	24%	8	33%
Central	33	38%	13	54%
Northern	34	39%	3	13%
Total	88	100%	24	100%



Demographics: The following questions are for statistical purposes only. This information is used to segment and group similar people together when the survey results are analysed. Insights gained from this can be used to develop weights, which can minimize these differences between the dataset and the general population.

Gender	Residential
Male	41%
Female	55%

Age	Residential
18-24	1%
25-34	9%
35-44	11%
45-54	18%
55-64	34%
65 or older	24%

Education	Residential
Highschool or less	20%
College/Trades	46%
University Degree	26%



Household Size	Residential
1 person	13%
2 people	40%
3 people	19%
4 people	13%
5 people	6%
6 people	5%
7 people	0%
8 or more people	0%

Household Income	Residential
Less than \$28,000	20%
Just over \$28,000 to \$39,000	14%
Just over \$39,000 to \$48,000	11%
Just over \$48,000 to \$52,000	7%
More than \$52,000	30%

LEAP Qualification	Residential
LEAP Qualified	29%
Not Qualified (<\$52k)	24%
Not Qualified (>\$52k)	30%



The cost of electricity bills in my community has a major impact on household finances and requires families to do without other important priorities.	Residential
Strongly agree	32%
Somewhat agree	41%
Somewhat disagree	15%
Strongly disagree	8%
Agree (Strongly + Somewhat)	73%
Disagree (Strongly + Somewhat)	22%

Customers in my community are well served by the electricity system in Ontario.	Residential
Strongly agree	25%
Somewhat agree	54%
Somewhat disagree	11%
Strongly disagree	4%
Agree (Strongly + Somewhat)	79%
Disagree (Strongly + Somewhat)	15%

Demographics

Attitudes Towards Electricity



The cost of electricity bills in my community has a major impact on household finances and requires families to do without other important priorities.	Chiefs
Strongly agree	n= 15
Somewhat agree	n= 7
Somewhat disagree	n= 2
Strongly disagree	-
Agree (Strongly + Somewhat)	n= 22
Disagree (Strongly + Somewhat)	n= 2

Customers in my community are well served by the electricity system in Ontario.	Chiefs
Strongly agree	n= 6
Somewhat agree	n= 9
Somewhat disagree	n= 4
Strongly disagree	n= 4
Agree (Strongly + Somewhat)	n= 15
Disagree (Strongly + Somewhat)	n= 8

First Nations Residential Customers **Workbook Diagnostics**



Online Workbook

How Does Hydro One Consider Customer Views in Its Plan?

Hydro One's Investment Plan

Hydro One is about to begin developing its investment plan for the period covering the years 2023-2027. Throughout its planning process, Hydro One planners will identify a number of areas where they believe investments could provide customer benefit, by addressing areas such as asset condition, reliability, preparing for severe weather or finding cost savings through new technologies.

The Ontario Energy Board (OEB) requires that Hydro One has a plan that responds to customer needs and preferences. While conversations with customers will continue over the next several months, Hydro One wants to hear your preferences when it comes to finding the right balance between costs and other outcomes.

- On the pages that follow, we are going to ask you about **10** trade-offs that planners are looking for your guidance on. Your answers to these questions will be combined with feedback from other customers and presented to Hydro One's planners.
- Once planners have received your feedback, they will proceed with developing a draft plan. Later in 2020, we will be returning to customers to again gather feedback on the draft plan.
- While the questions throughout this workbook will focus on high-level trade-offs between various types of investments, the next phase in 2020 will ask you about specific investments and programs.
- Some questions include the bill impacts associated with the types of investments.* These bill impacts are directional in nature and correspond to additional spending on equipment only. They do not correspond to a specific investment plan. In the next phase in 2020, bill impacts will be refined to more precise amounts, once the investment plan has been drafted.

Hydro One has developed a five phase approach to gathering and responding to customer feedback:

You are here

1. Identify customer priorities: Today, Hydro One is asking customers from across Ontario about their needs and priorities for electricity distribution and transmission service.

2. Use customer feedback to guide development of plan: Key findings from the initial customer engagement will be presented to planners to inform the investment plan.

3. Collect customer feedback on the draft investment plan: In the Summer and Fall of 2020, Hydro One is returning to customers to get feedback on the draft investment plan, including specific business choices it needs to make.

4. Revise investment plan: Make appropriate changes to the plan based on customer feedback and other factors, like OEB guidance, that may influence investment needs.

5. Submit the plan to the Ontario Energy Board: File the plan, this workbook, and a summary report with the OEB where it will be examined by the OEB, consumer advocates, and other independent parties in a public hearing.

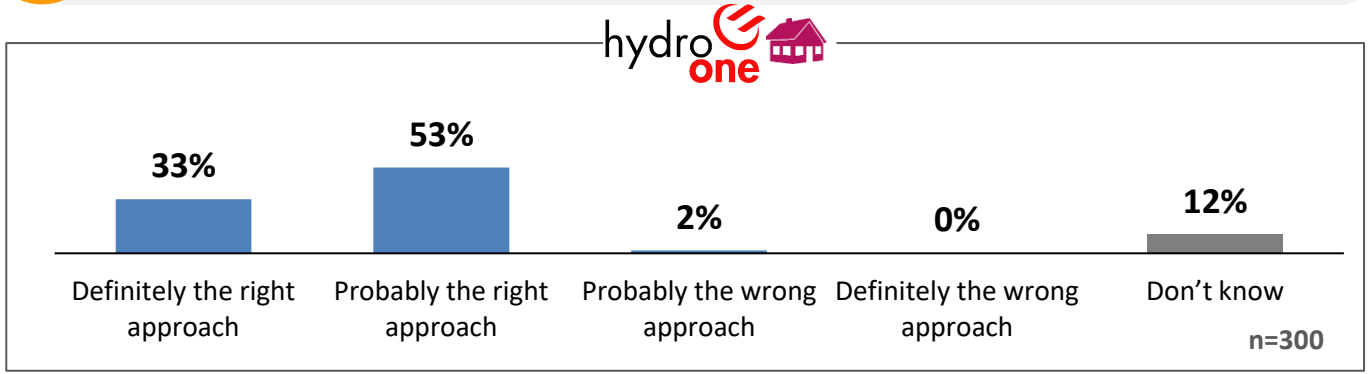
*Bill impacts included in the investment options do not reflect the following factors, which will be incorporated in the next phase in 2020: returns on historical spending, other spending not included in these investment options, operating expenses, and forecast consumption, among other things.



How Does Hydro One Consider Customer Views in Its Plan?



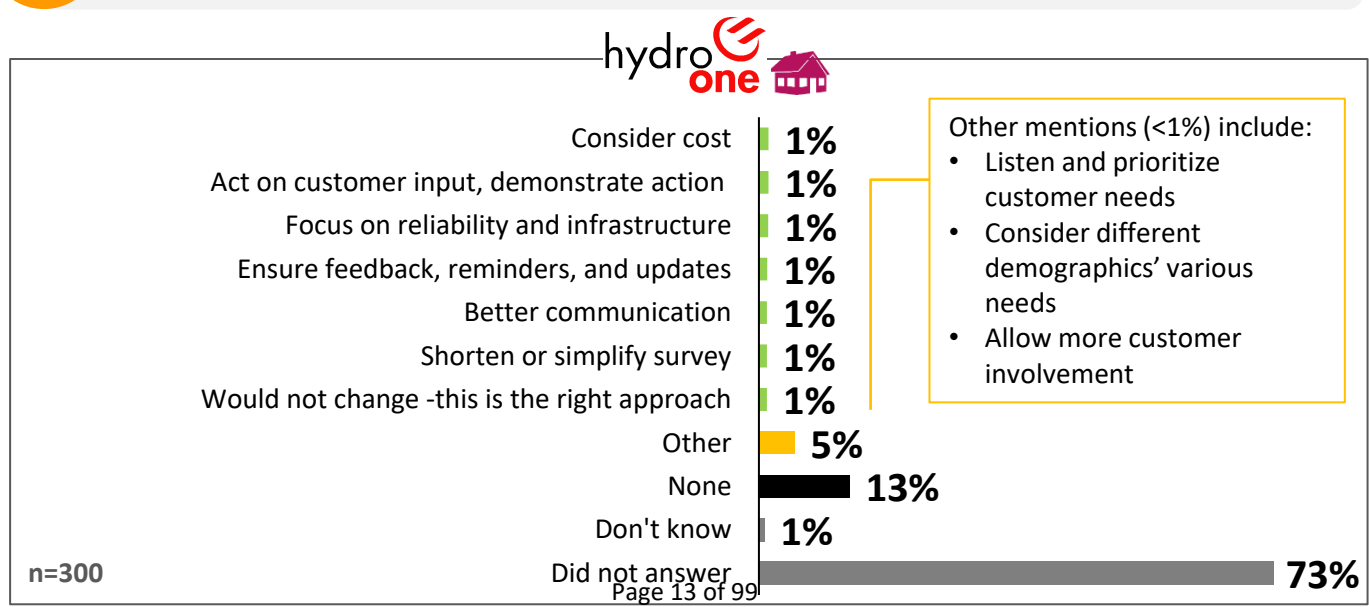
Does this customer engagement approach seem like the right approach or the wrong approach to bring customer needs and preferences into Hydro One's plan?



	Total	Southern	Central	Eastern	Northern
Definitely the right approach	33%	31%	28%	29%	38%
Probably the right approach	53%	62%	57%	53%	46%
Probably the wrong approach	2%	2%	2%	-	2%
Definitely the wrong approach	0%	-	1%	-	-
Don't know	12%	6%	12%	18%	14%



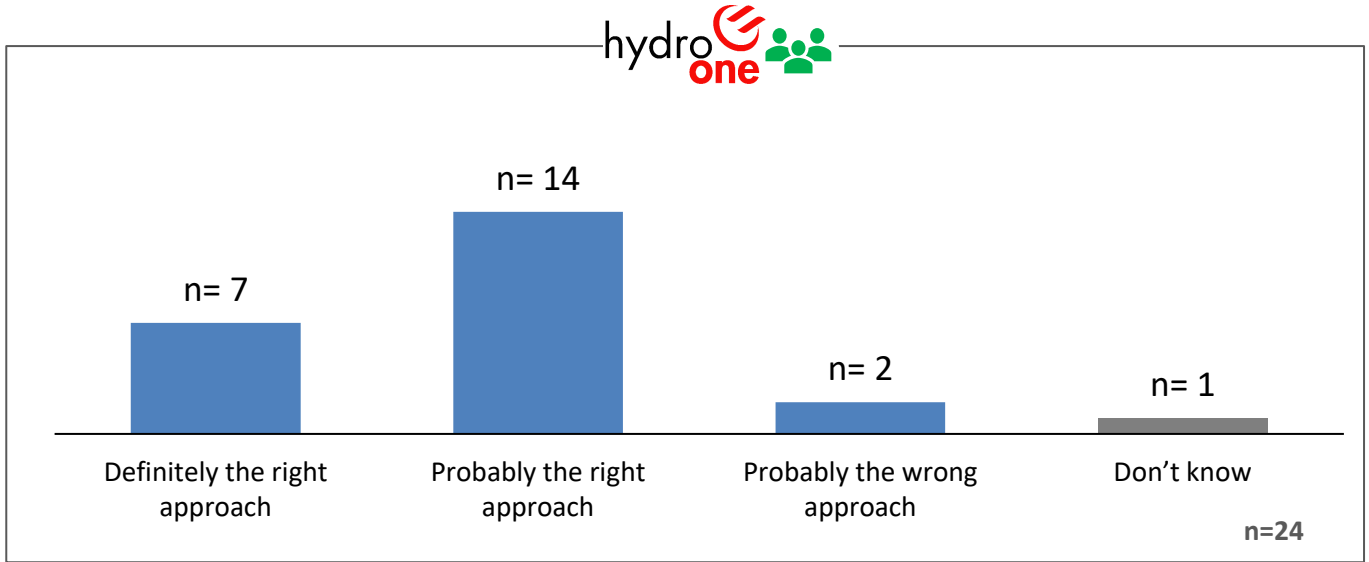
Is there anything in particular you would change about this approach or any other comments you would like to make?



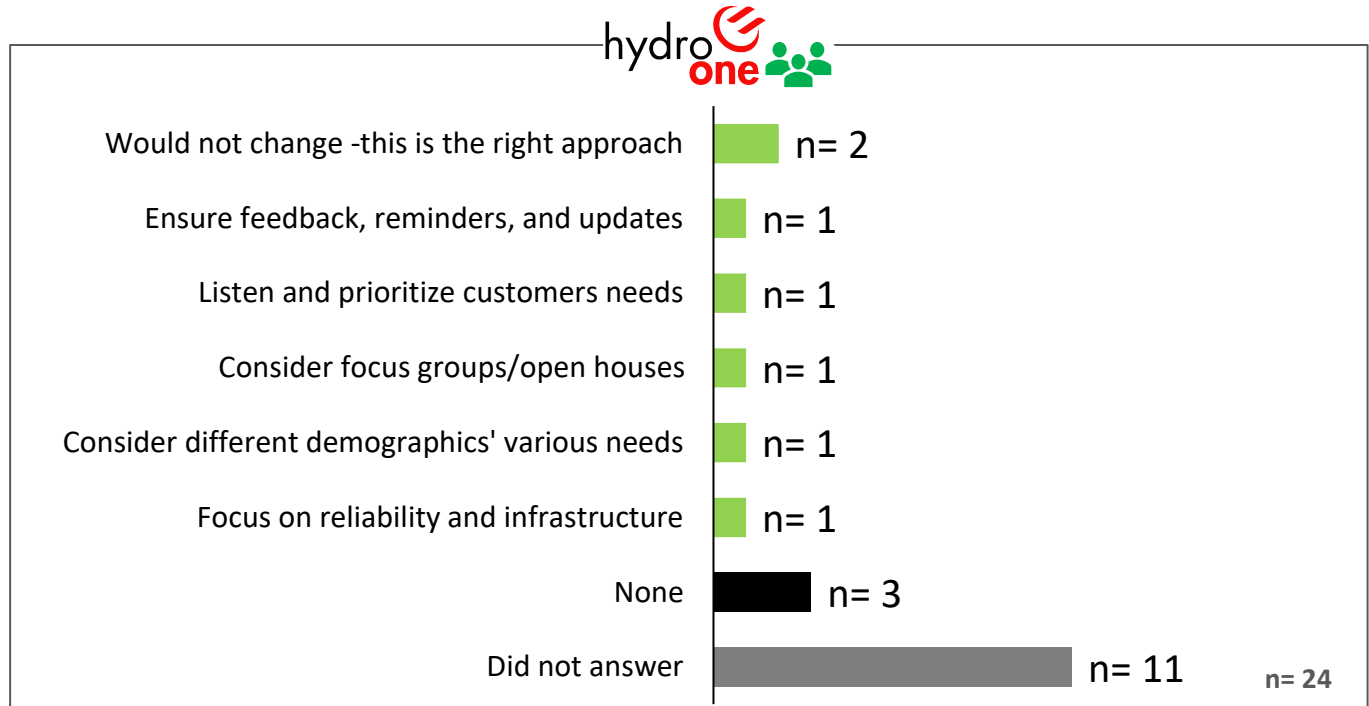


How Does Hydro One Consider Customer Views in Its Plan?

Q Does this customer engagement approach seem like the right approach or the wrong approach to bring customer needs and preferences into Hydro One’s plan?



Q Is there anything in particular you would change about this approach or any other comments you would like to make?





How Does Hydro One Consider Customer Views in Its Plan?



Is there anything in particular you would change about this approach or any other comments you would like to make?

Verbatim Responses: Chiefs

"After the initial gathering stage, there should be a report. There also should be a first nation specific report that shows the number of people who participated in relation to the overall participation. From there there should be another round to review that to establish priorities. From there then go on to the Investment Plan. There should be more than just a survey especially for FN's people. Hydro one should make themselves available to come to communities."

"People are more concerned that the hydro is on and it is affordable. We do appreciate that you are consulting us from the beginning rather than preparing a draft and presenting it to us first."

"The engagement/relationship approach is working very well in my opinion. Making communities feel apart of instead of just being customers works."

"A lot of people do not have internet or computers as they cannot afford them."

"Need to engage more people who use hydro one...everyone are at different places in life financially and have different priorities. Maybe work with First Nation Social Service Dept. with a survey and offer something to them."

"Ensure that all stakeholders are providing input. Using this method you cannot guarantee that this is going to be completed by the person who knows the most about Hydro One and those specific community issues. More preliminary work and research and perhaps telephone, Skype or in person meetings with selected people within communities would be more appropriate."

"I can understand why you want to "summarize" customers concerns by doing this survey through an "individual" of a community, but you should provide a media for individuals to participate and let them voice their concerns."

"Revise placement of 1 and 2, I would recommend you ask the Customers first what they want, then you prioritize those."

"Have community engagement with First Nation communities. We have seniors who still run house holds but lack the understanding how bills are set up and how Hydro One is business set up with other groups i.e.: private, etc."

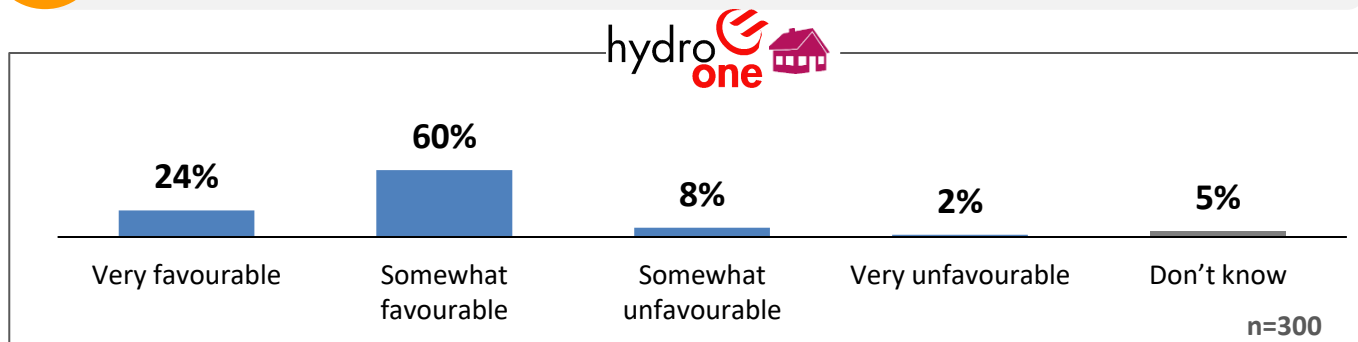
"Be careful about lumping First Nations priorities and needs together with non- First Nation ones. Realities and pressures with Hydro service are much different on reserve than off for a number of reasons. These realities should be acknowledged and reflected in your plan and filings so all customer needs can be effectively addressed."



Feedback on Hydro One's Customer Engagement

Q

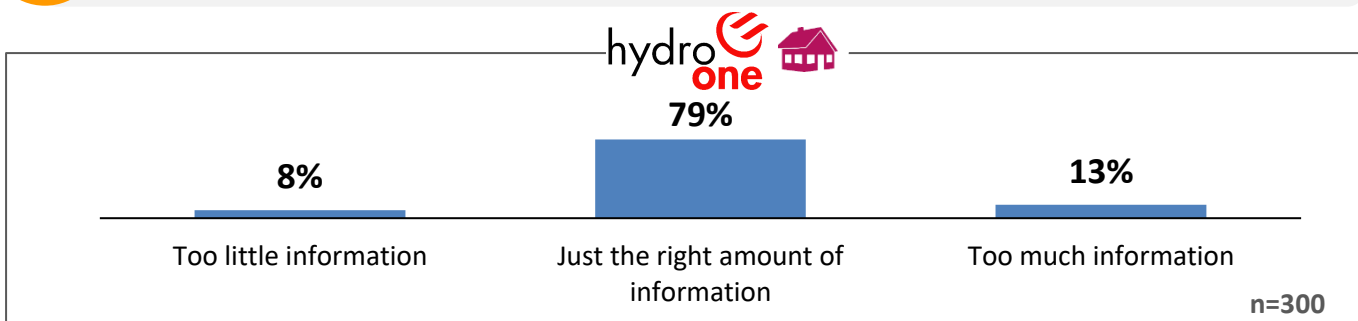
Overall, did you have a favourable or unfavourable impression of the workbook you just completed?



Residential	Total	Southern	Central	Eastern	Northern
Very favourable	24%	23%	21%	35%	24%
Somewhat favourable	60%	65%	64%	47%	58%
Somewhat unfavourable	8%	8%	12%	6%	7%
Very unfavourable	2%	2%	2%	-	3%
Don't know	5%	3%	1%	12%	8%

Q

In this workbook, do you feel that Hydro One provided too much information, not enough, or just the right amount?



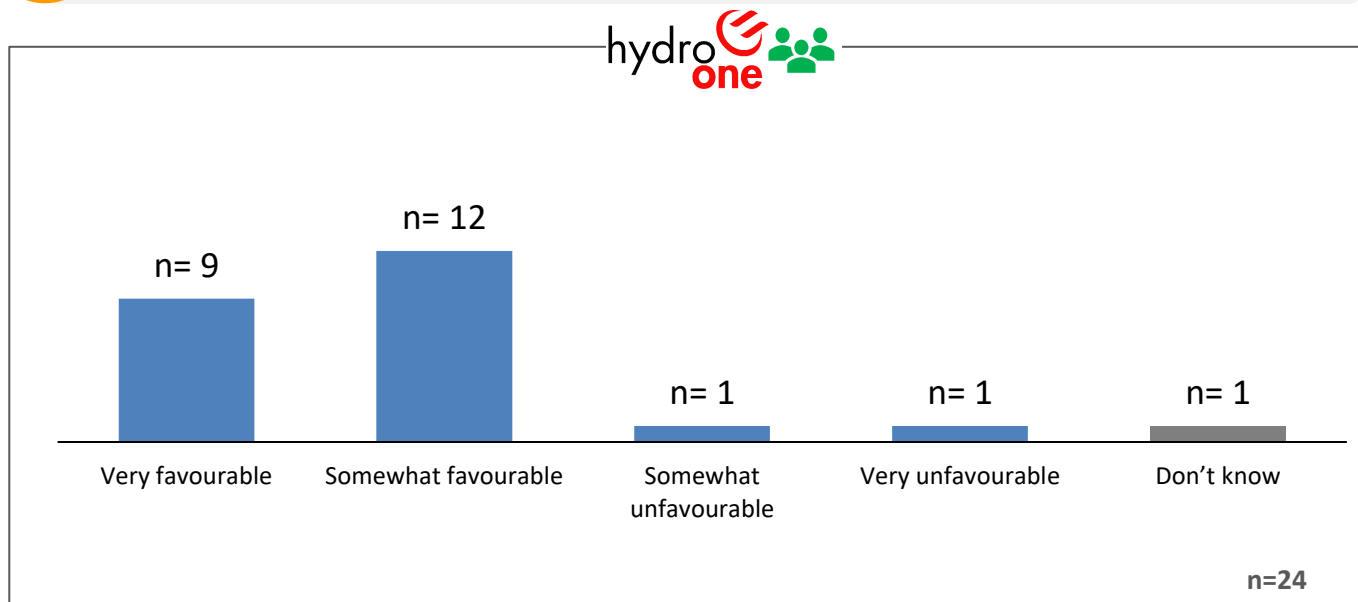
Residential	Total	Southern	Central	Eastern	Northern
Too little information	8%	11%	9%	12%	5%
Just the right amount of information	79%	71%	75%	82%	84%
Too much information	13%	18%	16%	6%	10%



Feedback on Hydro One's Customer Engagement

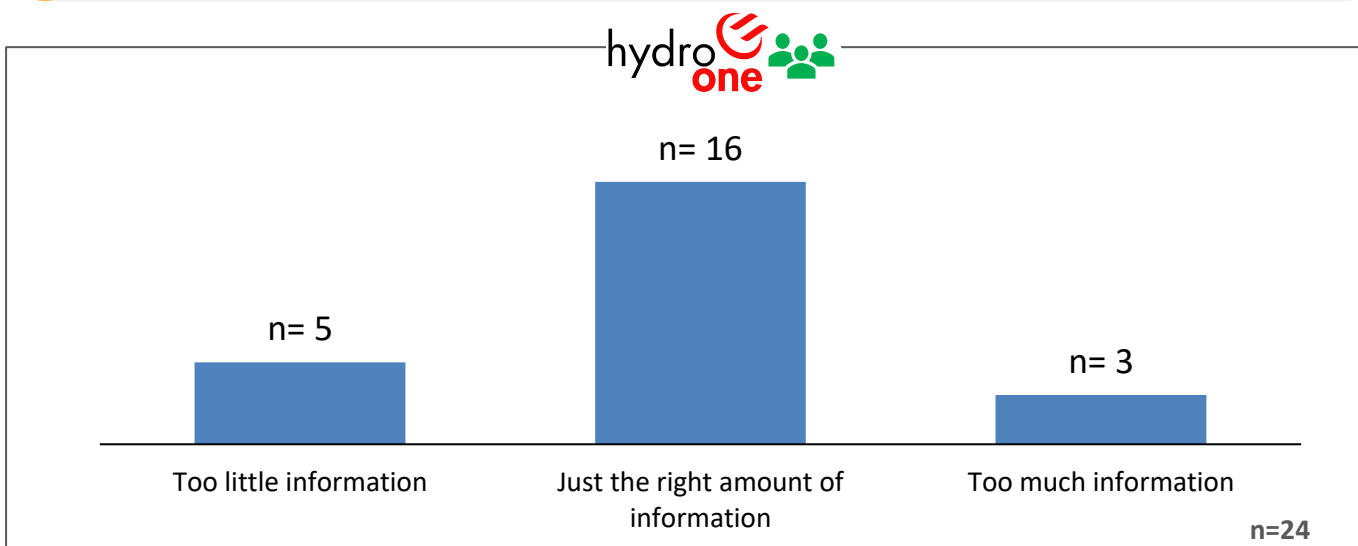
Q

Overall, did you have a favourable or unfavourable impression of the workbook you just completed?



Q

In this workbook, do you feel that Hydro One provided too much information, not enough, or just the right amount?

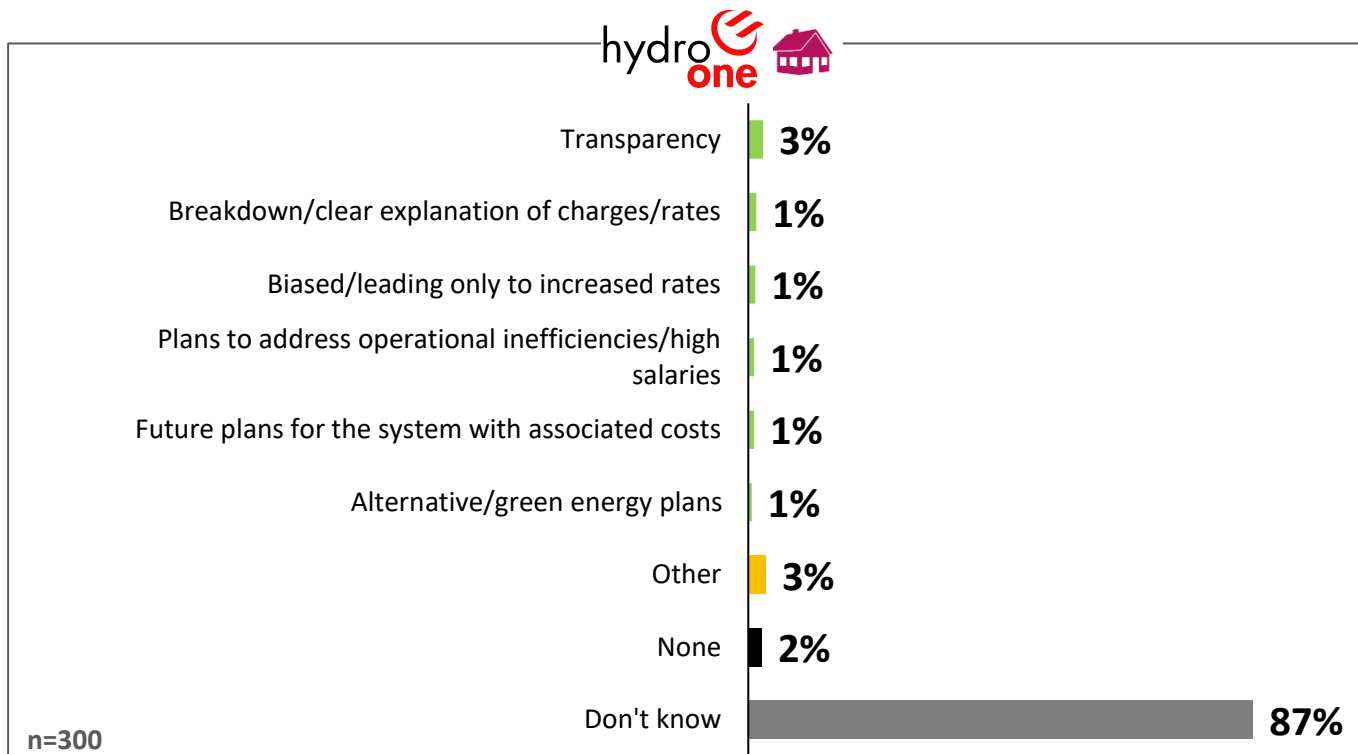




Feedback on Hydro One's Customer Engagement

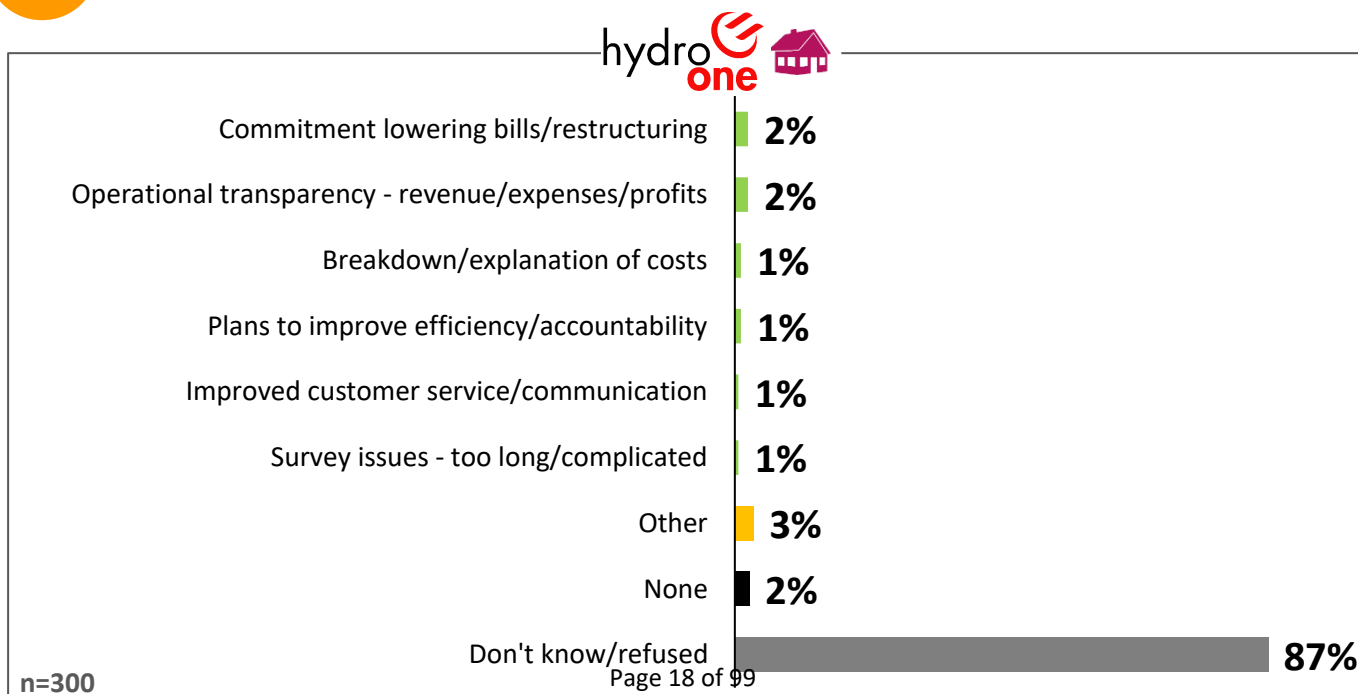
Q

Was there any content missing that you would have liked to have seen included in this workbook?



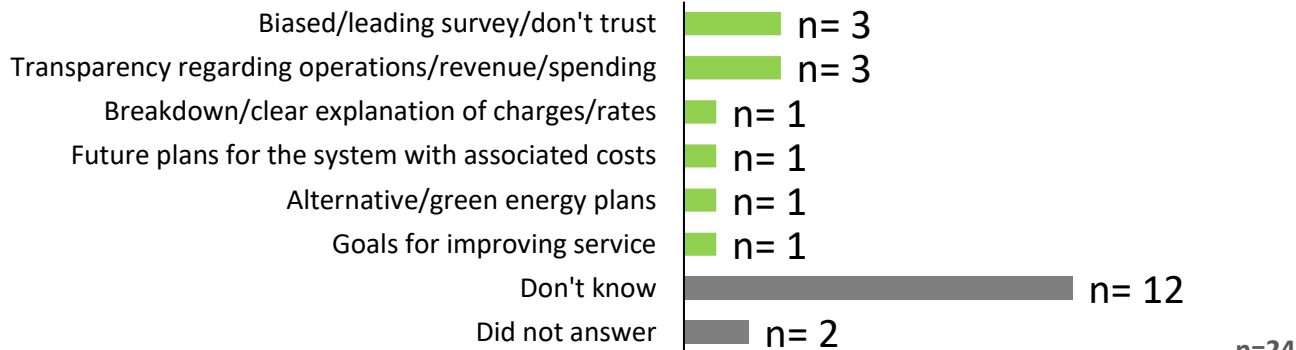
Q

Is there anything that you would still like answered?





Was there any content missing that you would have liked to have seen included in this workbook?



Verbatim Responses: Chiefs

"More conversation around renewable/clean energy, the advancements and ideas on how Hydro One is tackling and how we see renewable energy integrating into Hydro One."

"A statement on Hydro One's profits."

"No, just was hard to answer objectively when a cost was attached, felt like improvements to any hydro service would cost us more money."

"Costing - more information regarding residential billing"

"Better wording of questions."

"Need more info on the existing investment plan to understand what we are doing. We need more of the costing. We believe management should have the knowledge to make the right decisions."

"I feel this would be better served to every individual. This survey should be attached to their bill to have a clearer picture."

"Although we are located in a small community and experience the outages and surges upon occurrence, something more is needed to measure the flow of electricity to our community and ensure that these things are addressed"

"Acknowledging indigenous areas in which the majority of this system is situated on and providing services through. In a time of Truth and Reconciliation it is important to open the discussion in a broader sense and take the opportunity to educate the broader public and social responsibility of Hydro One towards Indigenous People of Ontario/Canada."

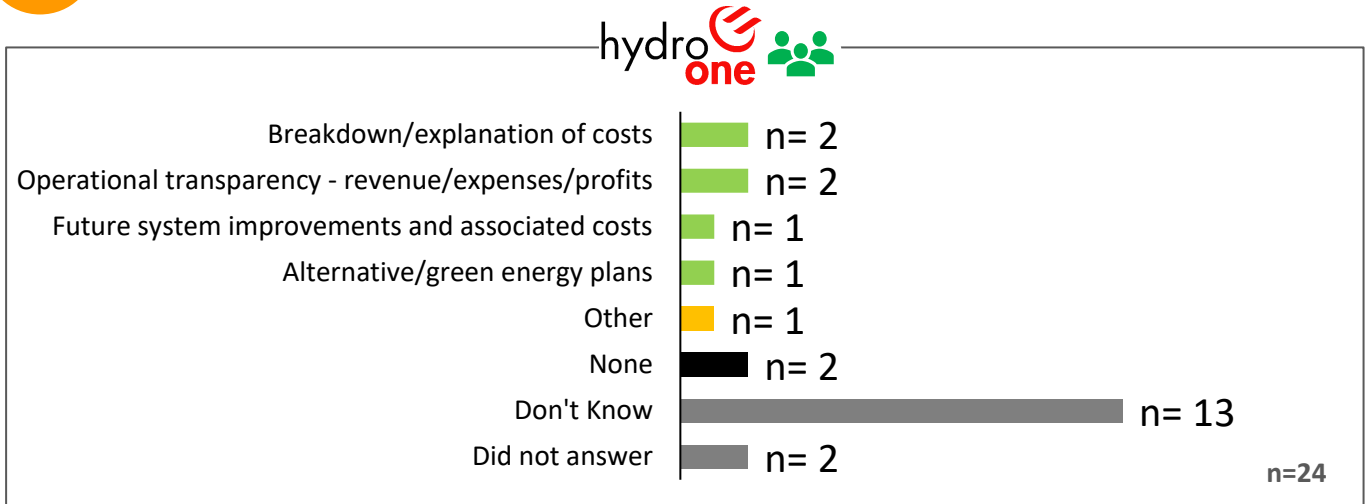
"I would have liked to have more back ground on issues. There needs to be a better effort in putting these questions together as a lot of them lead you to what Hydro One wants to hear."

"It's no secret that salaries and board expenses add to the operating costs of HONI, would have liked to have seen some input requested on HR planning and the trend HONI is seeing in its workforce and overall management costs and how it impacts the rate payer."



Feedback on Hydro One's Customer Engagement

Q Is there anything that you would still like answered?



Verbatim Responses: Chiefs

"What is the future of renewable energy sat Hydro One?"

"Why is delivery and other charges nearly double of your usage."

"Incentives for First Nations"

"Public interest in what directors and management are being paid. This should be addressed. First Nations communities should have been addressed specifically in this survey, in the spirit of reconciliation. There should be one rate for all of the province, not a rural and an urban one. Cities have other options for heating whereas the rural population is limited. Should address goodwill agreements with FN. Buying Hydro from Quebec should be considered. Nuclear waste disposal is a major issue. It should be stored above ground where it can be monitored."

"I answered my questions fairly as to what I have heard from other Hydro One customers within my community. Technically, I can understand the challenge from Hydro One's view and I hope my answers offered you some quality input."

"Perhaps adding on Social Responsibility and Community Investments into sponsorship etc. could have customer input as well. Opens the opportunity for broader discussion on what Hydro One should focus its charitable and donations towards."

"Where does Six Nations stand regionally in regards to reliability and what is being done regionally to provide us with equitable service so that our members can have the same quality of life as municipalities around us?"

"With the questions about the aging equipment and updating things there will be costs that would apply, how is this determined? Would First Nation's be notified ahead of time of increases and how these increases are going to be expensed? Many are old people on fixed incomes."

"Related to the above comments, would be nice to see the trends in workforce and management costs and what HONI is planning in terms of these expenses and that impact on the rate payer so input could be provided on that topic."

"What is the future of renewable energy sat Hydro One?"

First Nations Residential Customers & Chiefs

Online Workbook Results



Online Workbook

About this Engagement

Welcome to Hydro One's Customer Engagement!

Hydro One needs your input on choices that will impact the services you receive and the rates that you pay.

- **Hydro One** is developing its investment plan for 2023 to 2027. This plan will determine the investments Hydro One will make in equipment and infrastructure, the services it provides, and the rates you pay.
- As **Hydro One** plans for the future, they must ensure their business decisions are aligned with customer priorities, preferences, and needs.
- **Hydro One** will be accountable to the public regulator, the Ontario Energy Board (OEB), both in terms of sharing what customers say and demonstrating how they considered those views.
- **You don't need to be an electricity expert** to participate in this engagement. This workbook is focused on basic choices and provides the background information you need to answer the questions.
- This customer engagement will take approximately 20-30 minutes to complete, depending on the level of feedback you wish to provide. Your progress will be saved as you move through the workbook, meaning you can leave and return to the customer engagement at any time.

All individual responses will be kept confidential. Innovative Research Group (INNOVATIVE), an independent research company, has been hired to gather your feedback.

Those who complete the questions that follow will be **[invited to enter a draw to win one of ten (10) \$100 cash prizes/able to choose a charity to which \$100 will be donated]* in appreciation of your time.

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

Electricity 101

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**. Hydro One is involved in both electricity transmission across Ontario and distribution in many communities.

Generation

Where electricity comes from.

Ontario gets its electricity from a mix of energy sources. About half of our electricity comes from nuclear power. The remainder comes from a mix of hydroelectric, natural gas, wind and solar.

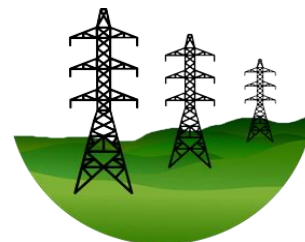


Ontario Power Generation, a government-owned company, generates almost half of Ontario's electricity. The other half comes from multiple generators who have contracts with the grid operator to provide power from a variety of sources.

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. Often these lines are suspended on large, steel lattice towers. The province has more than 30,000 km of transmission lines, and almost all are owned by Hydro One.



Hydro One provides transmission services to most electricity customers in Ontario.

Local Distribution

Delivering power to homes and businesses in your community.

In many communities, Hydro One is also responsible for the last step of the journey: delivering 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.



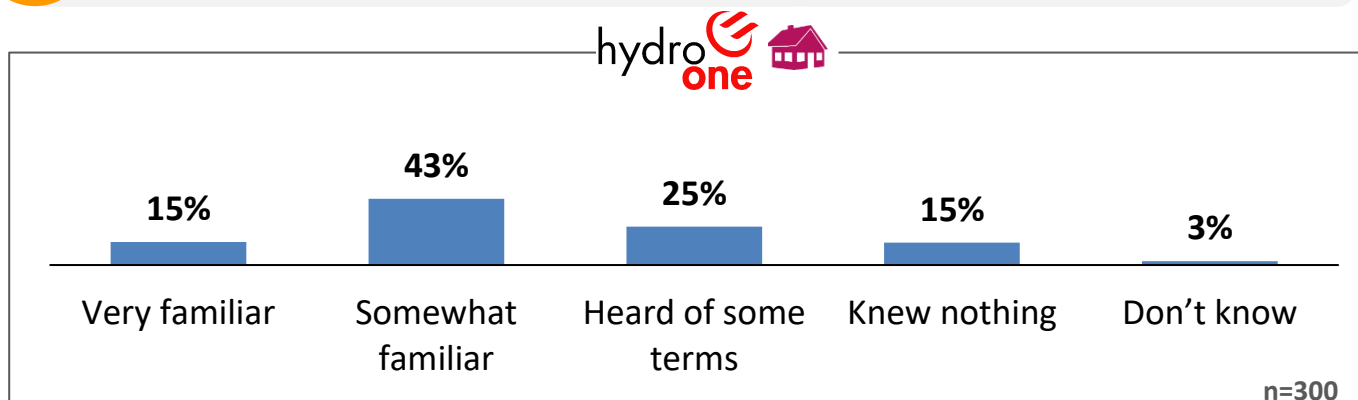
While there are many distributors across Ontario, Hydro One builds, operates and maintains this distribution system that serves you. Hydro One reads meters, calculates and collects bills for all parts of the electricity system and answers customer calls.

Online Workbook

Electricity 101

Q

Before this survey, how familiar were you with the various parts of the electricity system and how they work together?



Residential

	Total	Southern	Central	Eastern	Northern
Very familiar and could explain the details of Ontario's electricity system to others	15%	14%	12%	6%	18%
Somewhat familiar with the system but could not explain all the details to others	43%	42%	52%	24%	42%
Had heard of some of the terms and organizations mentioned, but knew very little about Ontario's electricity system	25%	28%	24%	53%	20%
Knew nothing about how the provincial electricity system works	15%	15%	11%	12%	17%
Don't know	3%	2%	1%	6%	3%

Chiefs

	Total
Very familiar and could explain the details of Ontario's electricity system to others	n= 6
Somewhat familiar with the system but could not explain all the details to others	n= 14
Had heard of some of the terms and organizations mentioned, but knew very little about Ontario's electricity system	n= 3
Knew nothing about how the provincial electricity system works	n= 1

Online Workbook

Who is Hydro One?

Electricity 101

- Hydro One is Ontario's largest electricity transmission and distribution service provider.
- Hydro One is a publicly traded corporation. Its largest shareholder is the Government of Ontario.
- Hydro One is regulated by the Ontario Energy Board (OEB) and must apply to the OEB for approval of the amount it charges for its services.

Hydro One's Transmission System

- Hydro One's transmission system takes electricity from generators (i.e. the Adam Beck facility at Niagara Falls or the Bruce Power nuclear power plant) and transports it via high-voltage transmission lines to local communities, where the voltage is lowered ("stepped-down") so you can use it in your home or business.
- Hydro One's transmission system serves 98% of electricity customers in Ontario.

Hydro One's Distribution System

- Hydro One is also required by law to distribute electricity across Ontario to any customer not otherwise served by a local distribution company. This means that Hydro One's nearly 1.4 million customers are predominantly rural customers.
- Hydro One's local distribution system, which brings electricity to your home through a network of wires, poles and other equipment, covers approximately 75% of the geographic area of Ontario.
- Compared to other electricity distributors in the province, Hydro One's service territory is much larger and includes more rural and remote areas.

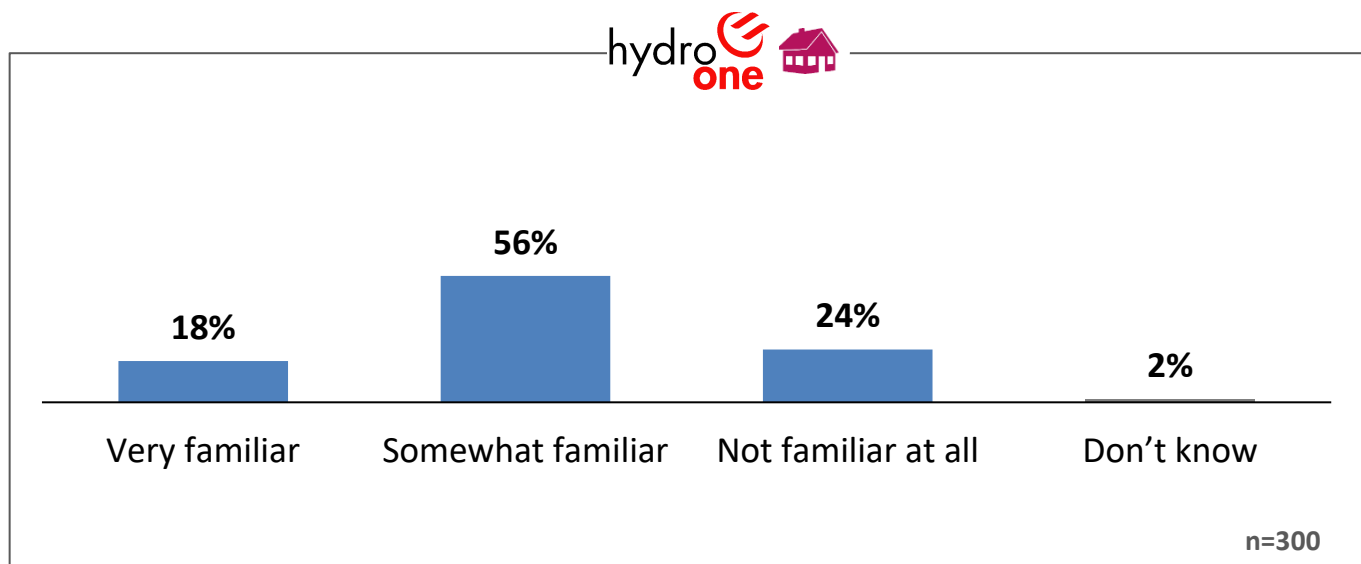



Online Workbook

Who is Hydro One?

Q

How familiar are you with Hydro One, which operates the transmission system across the province and the electricity distribution system in your community?



Residential 	Total	Southern	Central	Eastern	Northern
Very familiar	18%	18%	19%	12%	19%
Somewhat familiar	56%	52%	71%	53%	51%
Not familiar at all	24%	28%	8%	29%	29%
Don't know	2%	2%	2%	6%	1%

Chiefs 	Total
Very familiar	n= 7
Somewhat familiar	n= 16
Not familiar at all	n= 1
Don't know	-

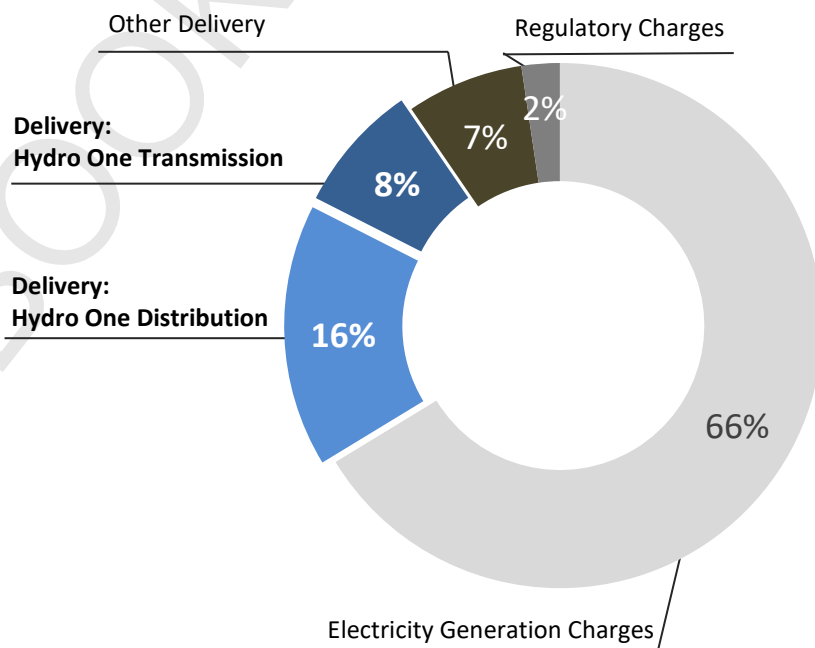
Online Workbook

How much of my bill goes to Hydro One?

Electricity 101

- 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 One is responsible for collecting payment for the entire electricity bill, it only keeps a portion of the “Delivery” charge. For a typical residential customer in a rural area that is about 24% or \$53.57 of the total electricity charges (before HST and the Ontario Electricity Rebate).
- This amount is split into 16% (\$35.91) for distribution, and 8% for transmission (\$17.66).
- The rest of the bill goes to power generation companies, taxes, and regulatory agencies.
- **As an Indigenous residential customer living on-reserve, you do not pay for delivery or HST. Since July 2017, the entire delivery charge is offset by the First Nations Delivery Credit. That means Hydro One’s portion of your bill is \$0.**

Breakdown of Monthly Bill
(before the First Nations Delivery Credit and the Ontario Electricity Rebate)



Hydro One Sample Monthly Bill*

(Based on monthly usage of 1150 kWh)

Account Number:
000 000 000 000 0000

Meter Number:
00000000

Your Electricity Charges

Electricity

Off-Peak @ 10.1 ¢/kWh 74.34

Mid-Peak @ 14.4 ¢/kWh 29.81

On-Peak @ 20.8 ¢/kWh 43.06

Delivery 69.60

First Nations Delivery Credit (-69.60)

Regulatory Charges 5.21

Total Electricity Charges \$152.41

HST --

Ontario Electricity Rebate* (-48.47)

Total Amount \$103.94

**Hydro One's
portion of
Delivery is
\$53.57**

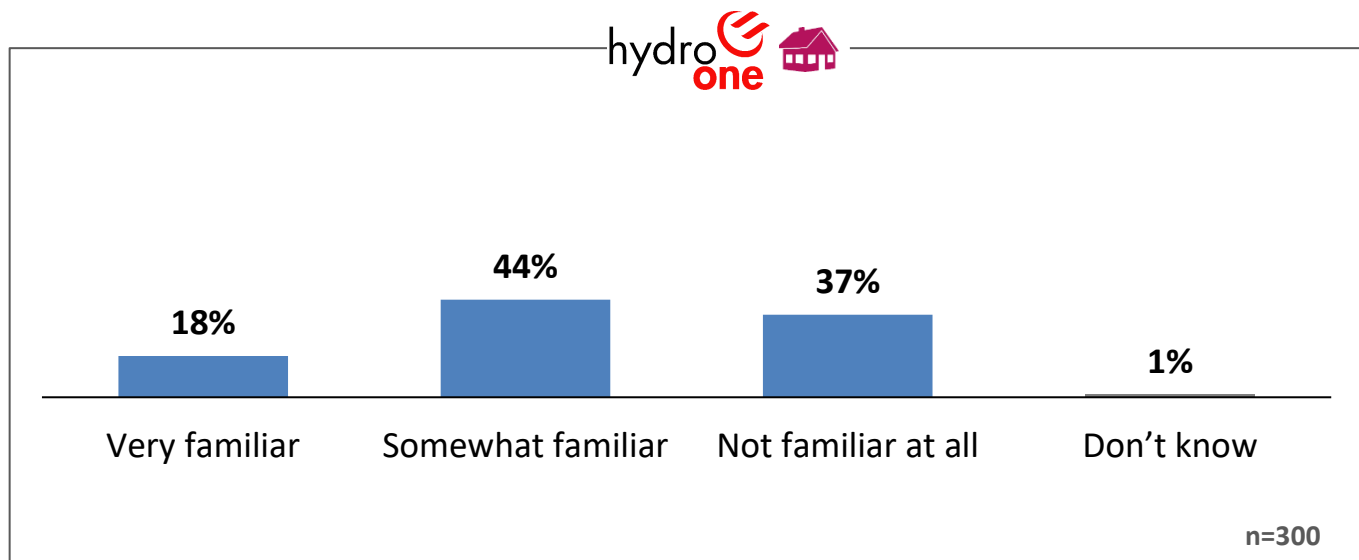
*Since November 1, 2019, the Ontario Electricity Rebate (OER) is applied to bills for most residential consumers, farms and small businesses. The OER is a provincial rebate equal to 31.8% of the base invoice amount.


Online Workbook

How much of my bill goes to Hydro One?

Q

Before this survey, how familiar were you with the amount of your electricity bill that went to Hydro One?



Residential 	Total	Southern	Central	Eastern	Northern
Very familiar	18%	18%	9%	18%	23%
Somewhat familiar	44%	35%	58%	41%	41%
Not familiar at all	37%	45%	33%	41%	34%
Don't know	1%	2%	-	-	2%

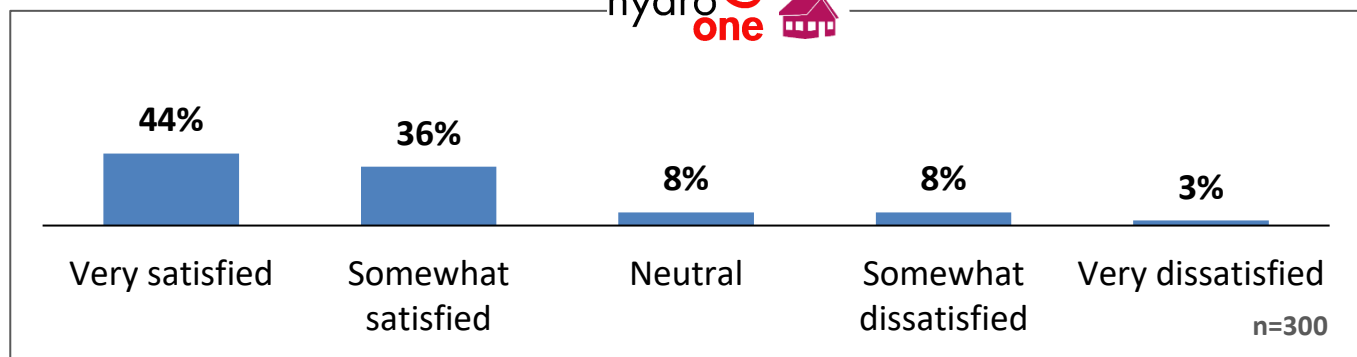
Chiefs 	Total
Very familiar	n= 4
Somewhat familiar	n= 13
Not familiar at all	n= 7
Don't know	-

Online Workbook

Satisfaction with Hydro One's Services

Q

Thinking specifically about the services provided to you and your community by Hydro One, overall, how satisfied or dissatisfied are you with the services that you receive?



Residential	Total	Southern	Central	Eastern	Northern
Very satisfied	44%	43%	44%	59%	43%
Somewhat satisfied	36%	42%	34%	18%	36%
Neutral	8%	6%	7%	12%	9%
Somewhat dissatisfied	8%	8%	12%	-	8%
Very dissatisfied	3%	2%	3%	12%	3%
Don't know	0%	-	-	-	1%
Overall satisfied	80%	85%	78%	76%	79%
Overall dissatisfied	12%	9%	15%	12%	11%

Chiefs

	Total
Very satisfied	n= 2
Somewhat satisfied	n= 13
Neutral	n= 2
Somewhat dissatisfied	n= 6
Very dissatisfied	n= 1
Overall satisfied	n= 15
Overall dissatisfied	n= 7

Note: First Nation Residential 'Don't know' (<1%) not shown.

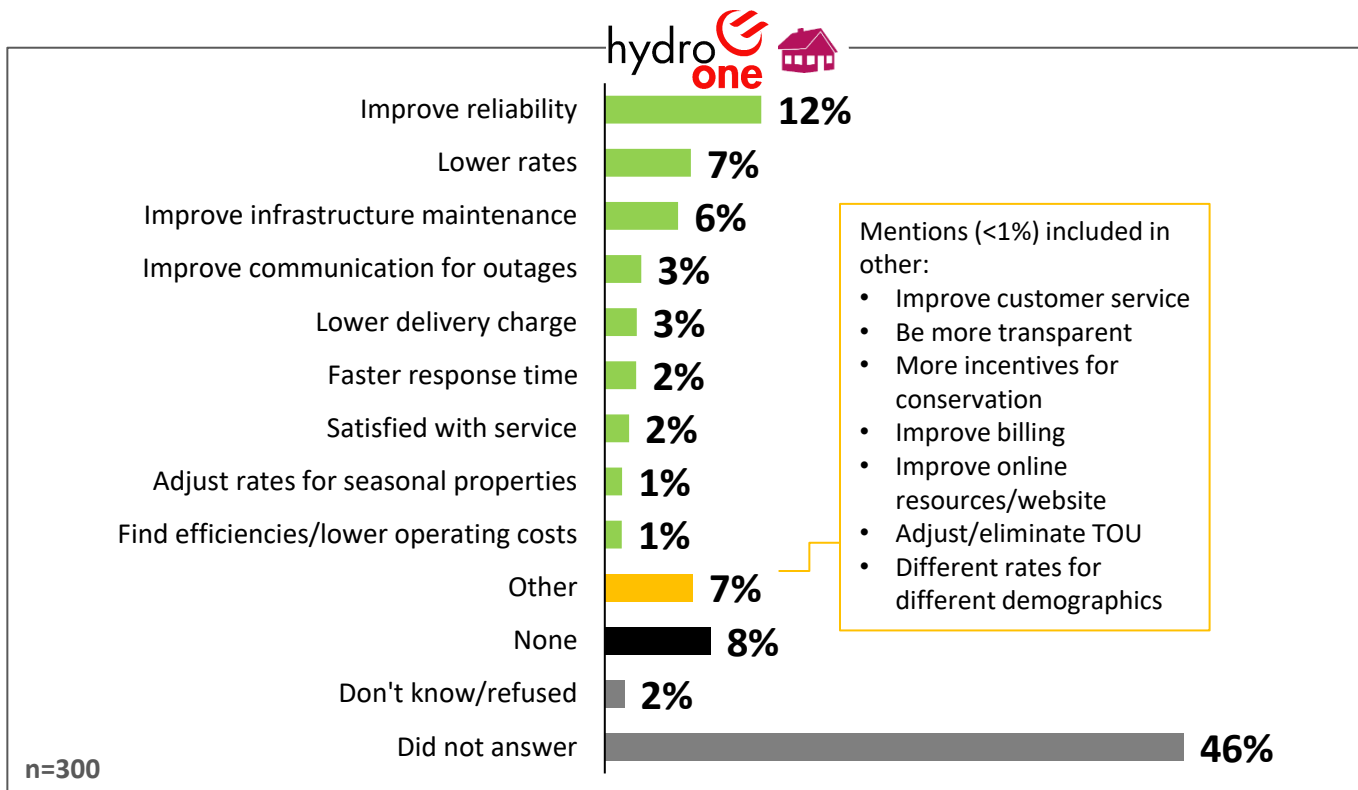
Online Workbook

Satisfaction with Hydro One's Services



Q

Is there anything in particular you would like Hydro One to do to improve its services to you?



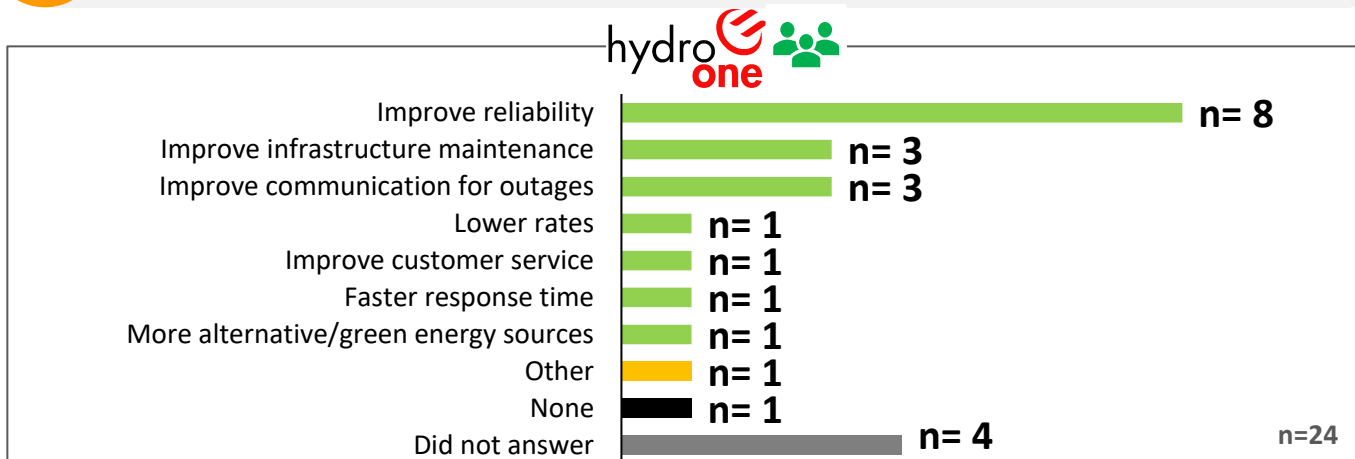
Needs	% agree the cost of my electricity bill has a major impact	% agree consumers are well served by the electricity system
Improve reliability	7%	5%
Lower rates	2%	3%
Improve infrastructure maintenance	1%	1%
Improve communication for outages	1%	0%
Lower delivery charge	2%	2%
Faster response time	8%	5%
Satisfied with service	1%	1%
Adjust rates for those who don't use energy	11%	10%



Satisfaction with Hydro One's Services



Is there anything in particular you would like Hydro One to do to improve its services to your community?



Needs	% agree the cost of my electricity bill has a major impact	% agree consumers are well served by the electricity system
Improve reliability	n= 8	n= 3
Improve infrastructure maintenance	n= 3	n= 1
Improve communication for outages	n= 2	n= 2
Lower rates	n= 1	n= 1
Improve customer service	n= 1	n= 1
Faster response time	n= 1	n= 1
More alternative/green energy sources	n= 1	n= 1

Verbatim Responses: Chiefs

“The community needs up to date and straight forward facts regarding the state of its grid in the area. It has been told for sometime that that grid is at capacity when it appear it is not. The misleading information provided seems to be a pressure tactic to have the community agree to more HONI infrastructure on its lands. Community members also deserve more frequent contact from HONI regarding information on their bills and services. HONI is permitted to operate on reserve by the community and should that ability to do so as a privilege and reflect that in its interactions and communications with customers on reserve. Costs and affordability are constant concerns, HONI needs to demonstrate it take those concerns seriously and is actively working to reduce overhead and future cost increases in a meaningful way.”


“To improve perhaps the Temagami First Nation community, because of it's location could be considered a high priority when power failure happens.”



Satisfaction with Hydro One's Services

Q

Is there anything in particular you would like Hydro One to do to improve its services to your community?

Verbatim Responses: Chiefs cont. 

"In particular the Hydro One app should be better managed and it should allow for customers to pay their bill via the app."

"Lines that are owned by hydro one are not maintained. There is a lot of growth on the lines and it will eventually break the line and cause power outages."

"We are regularly experiencing connectivity issues with any new builds. It sometimes takes months before a Hydro layout is completed and we find it very frustrating trying to operate."

"Costs have escalated over the past three years. It is taking too long for services for larger projects. We are currently constructing tri-plexes and we have to wait 4-6 weeks for medal polls. Project is being held up for months."

"Update poles and make sure wiring is up to date."

"Improvements can be made by making the hydro connection on new projects more efficient. We have waited upwards for 3-4 months to get a connection made to new house construction. This was not very good for the community as we had an empty house ready to be lived in for a long period of time - but couldn't because Hydro One is so slow. Improvements can also be made in terms of people to contact. We have a really hard time trying to contact Hydro One representatives. First Nation operated buildings and water treatment plants/waste water systems should also receive the First Nations Delivery Credit. Right now we continue to pay huge amounts of Delivery charges that take away from our already strained community budgets. We are underfunded and if our water treatment plants/waste water systems and band operated buildings like schools, daycare, band office, arena etc. could have the Credit that means that we can provide more services to our community especially our youth and elders. Hydro One needs to attend the community more to explain bills, credits etc. It would be good to have Hydro One at community events and have sessions to share knowledge and opportunities - not only as it applies to billing but to work with our youth to encourage them to work for Hydro One as a career option. We live in a rural area and are affected significantly by power outages. It would be good to have Hydro One address these issues, especially on Manitoulin Island. We also have a lot of violence in our community and the hydro we pay on our streetlights is huge, especially with the delivery charge. Our membership wants more lighting however our budgets cannot handle it as a result we have increased crime. Capacity Development on the types of low cost lighting for street lights we can use."

"As an employee of a First Nation, almost all of my interactions with Hydro One reps or employees have been positive, but one thing I've heard from Hydro One personnel is that there is a shortage of staff in Northern Ontario. More staff would cut wait times, allow for more proactive measures, etc. I assume a lot of the infrastructure in the North may also be fairly old, so just general upgrades to the systems in my area (although this assumption is based on anecdotal evidence only)."

"Engage our community to explore renewable energy sources that could compliment our community energy requirements. Either by assisting us with Solar/Wind/Biomass/Geothermal options (or all) to ensure that heating sources are always consistent - especially during Winter months - if the power ever is disrupted."


"Less outages, quicker response to outages"



Satisfaction with Hydro One's Services



Is there anything in particular you would like Hydro One to do to improve its services to your community?

Verbatim Responses: Chiefs cont. 

"Update poles and make sure wiring is up to date."

"We are regularly experiencing connectivity issues with any new builds. It sometimes takes months before a Hydro layout is completed and we find it very frustrating trying to operate."

"Costs have escalated over the past three years. It is taking too long for services for larger projects. We are currently constructing tri-plexes and we have to wait 4-6 weeks for medal polls. Project is being held up for months."

"Invest capital in First Nations for hydro poles, extension of lines for new roads and subdivisions; engage more local workforce; delivery credit or exemption for First Nations public buildings; eliminate global adjustment; this will help alleviate poverty in First Nations communities; build new lines to First Nations communities still not connected to the grid."

"Overall service is great. One thing that comes to mind is the older folks who are not connected to the internet or social media have a harder time finding out estimated times for power restoration during unplanned outages. Other than relying on family to update them (which works mostly)."

"Not too sure about those windmills"

"Eliminate the numerous power outages that frequently occur, There are two commercial buildings in Dokis that use three phase power, and when we lose one or more of the phases, the high lift pumps at the water plant burn out when starting and the PCL on our 3-year old Transfer switch is no longer working, both then require replacing, The other building has an elevator which trips and will not reset without the attention of a technician whom has to be called in at a cost"

"The timeline for new connections needs to be shortened. It impacts our ability to bring new community buildings into use and has a negative impact on funding due to buildings being left dormant. We have experienced issues caused by silos within Hydro One's bureaucracy where the people who review the drawings with us on site have issues with the "design department" which requires them to re-design the connection and creates a further delay in connecting the property. The process for getting a large development (i.e. Tusca Heights) needs to be simplified."

"Better quality service in regards to upgrades of hydro lines."

"When we design our subdivisions, Hydro One takes months to provide their design version. 2 different offices one for design and one for construction for hydro one and not in same vicinity"

"Costs have escalated over the past three years. It is taking too long for services for larger projects. We are currently constructing tri-plexes and we have to wait 4-6 weeks for medal polls. Project is being held up for months."

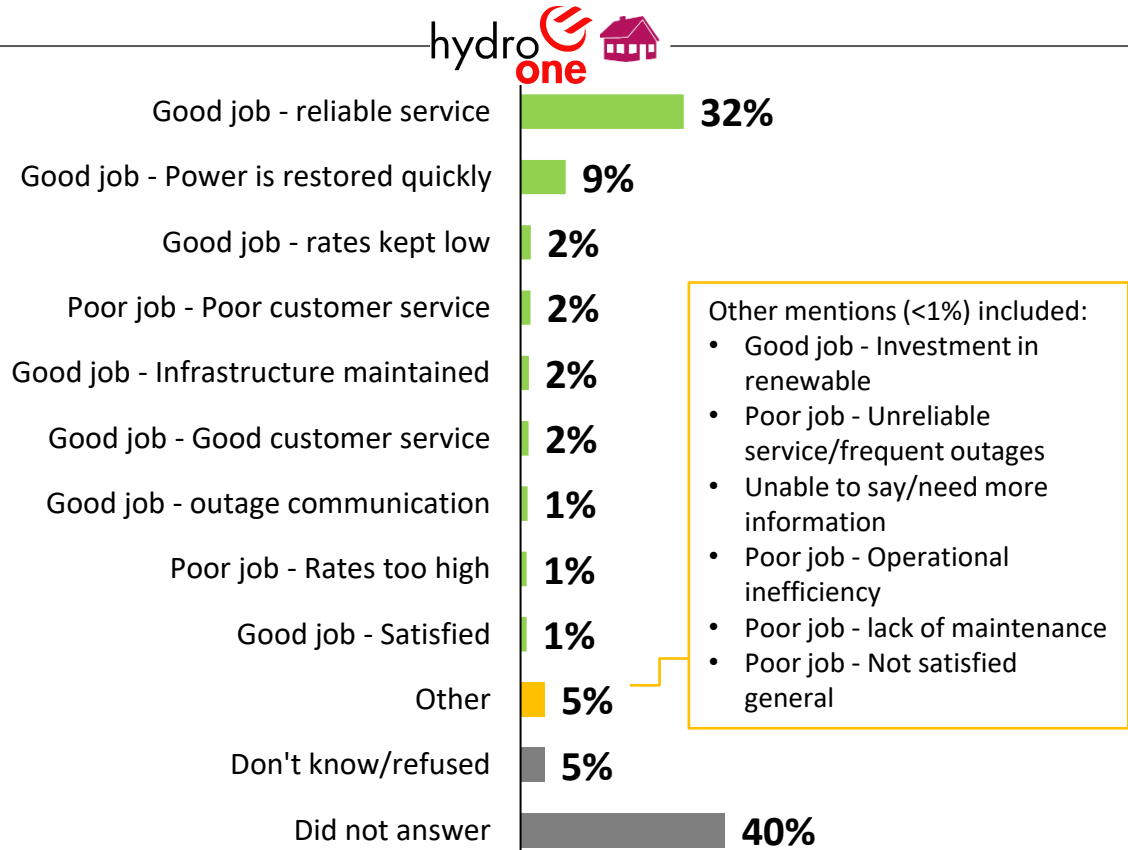
"Update poles and make sure wiring is up to date."

"Maintenance is big concern for our community. We understand the size and scale of Hydro One, however, this should be a catalyst to Hydro One to work with First Nation communities to help maintain the hydro lines to minimize downtime. Brushing and clearing trees in and around the lines by the communities in the north and far north would be a benefit to Hydro One's service."



Satisfaction with Hydro One's Services

Q How do you know if Hydro One is doing a good job for you, or not?



n=300

Online Workbook

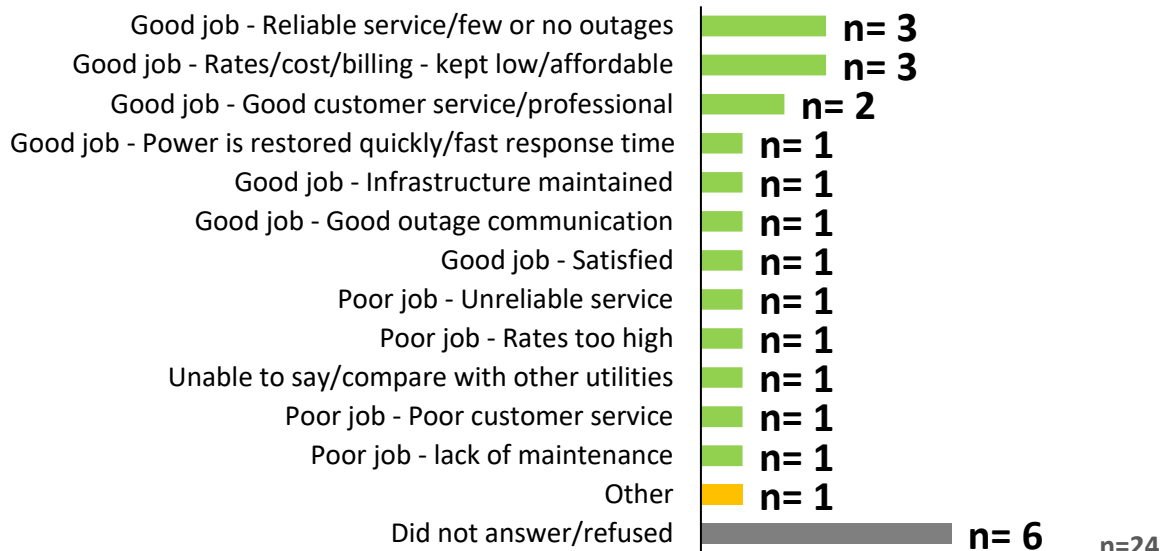
Satisfaction with Hydro One's Services

First Nations Chiefs



Q

How do you know if Hydro One is doing a good job for your community, or not?



Verbatim Responses: Chiefs

"I am responsible for the Energy Department at our First Nations community. I see the bills, I have read the Community Energy Plan completed by SBA."

"Where hydro is being provided and not out a lot"

"Majority of work is good just costs escalating and length of time to get service."

"By the hydro bill...though it has changed and rebates have been done...was the unnecessary charges of the service charge...it was outrageous."

"We know by the amount of complaints we get from the community. They often come to the band office and want to speak to the Chief and Council about Hydro Issues. I will say that Hydro has improved - however not enough at this point."

"Good working relationship with Sara Jane Souliere and Dylan Saylor; they respond to us promptly and give us good service; absence of complaints from community members suggests the community is happy."

"Community concerns are very minimal. Last concern I heard has been about a year ago which was a billing issue that was resolved in a very timely matter."

"The issue with this question I have, is we don't know how good of a job Hydro One is doing because we don't have anything to compare it to. There are power outages but the outages are usually due to inclement weather. This can be expected with climate change. Response times can't be compared to any other. The land base is large so we have some members in different boundaries so a power outage for some will last longer than others. Some features such as the power outage map, my account and programs to help people with low incomes are good, but there again we (as a community) don't have anything to compare it to."

"Always available if anything goes wrong."



How do you know if Hydro One is doing a good job for your community, or not?

Verbatim Responses: Chiefs cont.

"Lack of communication. Submitted an application for more added streetlights but process has been stalling"

"See their vehicles around"

"One, that the electricity is on - and second, the support to local programs and services to our community organizations through donations to events or youth initiatives."

"Lights are on!"

"When calls from community go out about a power failure, there is information available letting the caller know what area(s) are out of hydro, also an estimated time of restoration. This service is very helpful. When power outages are scheduled, Hydro One always notifies the First Nation of this ahead of time."

"Lack of service interruptions, or when they happen, short repair times. This seems to be the case in my community. Requests for feedback, or participation is another indicator, and has only been handled well by Hydro One over the last few years."

"Power outages and service restoration times would be a first signal of this. These are not readily or frequently available and should be to everyone in the community. HONI also needs to be a good corporate partner to the community and reflect this in its support to important community initiatives. Regular and direct customer engagement processes would be useful as well, ask your customers directly how you're doing."

"With prolonged power outages it may indicate of unreliable power infrastructure."

"Based on the amount of issues we have experienced with them."

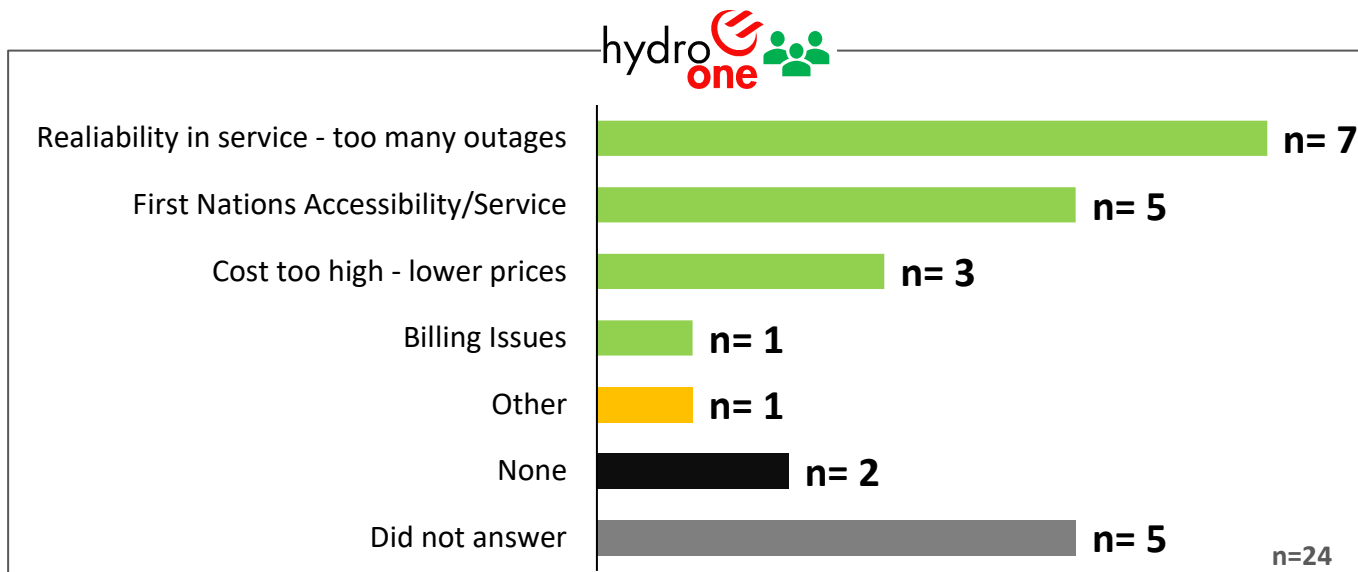
"This past year in 2019, we experienced three occasion where one the wooden mount securing the line, broke away and either crossed over the travelled roadway or along the side of the centerline, the other instance it appeared that a moose had walked into a low hanging transmission line"



Satisfaction with Hydro One's Services

Q

What are the main challenges your community faces currently, with respect to the electricity service it receives from Hydro One?

Verbatim Responses: Chiefs 

"The threat of power disruption as there is one source (power line) that provides service to the community. The Hospital and some of the Main Community buildings have back-up generators, but for the most part many community homes do not have back up power."

"None"

"Timing, our community needs a quicker turn around on new services to enable us to utilize community buildings and so that residents can move into their new homes as fast as possible."

"The Temagami First Nation is a semi isolated Reserve located in the hub of Lake Temagami. Transportation is mainly by water and in the winter, ice road. That said, the community appears to be the last community serviced for having hydro restored when there is a failure."

"Generally poor knowledge from members and First Nation Councils about how the energy regime in Ontario works. This leads to assumptions, and incorrect facts about various things, which are repeated until they become accepted "knowledge"."

"Costs and affordability. Not just for monthly bills but also the cost of providing service to new builds in the community. Funding available to build homes and needed infrastructure is limited in the community and the high costs of connecting and servicing these projects are an added pressure. Again, the state of the grid's capacity around community has been a mystery for a while. We're told its at capacity but new customers are being added consistently, leaves the community's leaders to believe other motives are at play for this messaging."

"We are a semi remote where hydro keeps getting dis connected. Sometimes half of First Nation is without lights. Not enough voltage."

"Reliability"

"One concern is the cost of hydro. Some members have expressed concern with the cost of the hydro and even though they do their part with conservation, energy costs still seem to increase."

"I myself hear very little complaints"

"Safe water distribution and heating for the community during the cold weather seasons"



Satisfaction with Hydro One's Services



What are the main challenges your community faces currently, with respect to the electricity service it receives from Hydro One?

Verbatim Responses: Chiefs cont. 

"If the bill payer is First Nations should be the deciding factor for whether or not the delivery fee is charged. Anyone whom is First Nations should not pay the delivery charge, whether or not they are on-reserve or off-reserve. This would allow the service to be more appropriate to reach the individuals who would better benefit from Hydro Ones services."

"The amount of time that power is lost and if winter the heat or summer if it is really hot"

"I feel that hydro rates are high for commercial buildings. The delivery charge exempted from hydro is not applied to commercial buildings."

"Catching up on their bills, majority are on Social Assistance...their are set amounts to assist with this but seems it will never be enough."

"1. Connectivity 2. Billing and disconnection notices 3. Change overs from community owned meters (when housing is being constructed) to individual owned meters (when the house is complete)."

"Repairs power interruptions - annual cost for usage."

"Hydro Connections are dismally slow. We are waiting for months and months. This builds tension and anger in our community. The Delivery Charges for water treatment plants/waste water, band operated buildings like schools, health centres, arenas, youth centres, elder centres, parks, schools, band office etc. Street lighting costs - delivery charge too high - hinders us from putting up more which is complicated for the community to understand - they are very upset but we do not have it in our budgets. Our crime rate is increasing due to lack of lighting in most areas Cost of Hydro connections, plans etc. has increased significantly - it seems that because the delivery charges were credited to FN's - that Hydro One is making up for it by increasing fees to an amount that is unmanageable."

"We wish that there was a dedicated person with whom we could work in a local office, someone dedicated and knowledgeable about our First Nations needs. We are currently serviced by at least three different offices and must go through the central directory each time we have an issue."

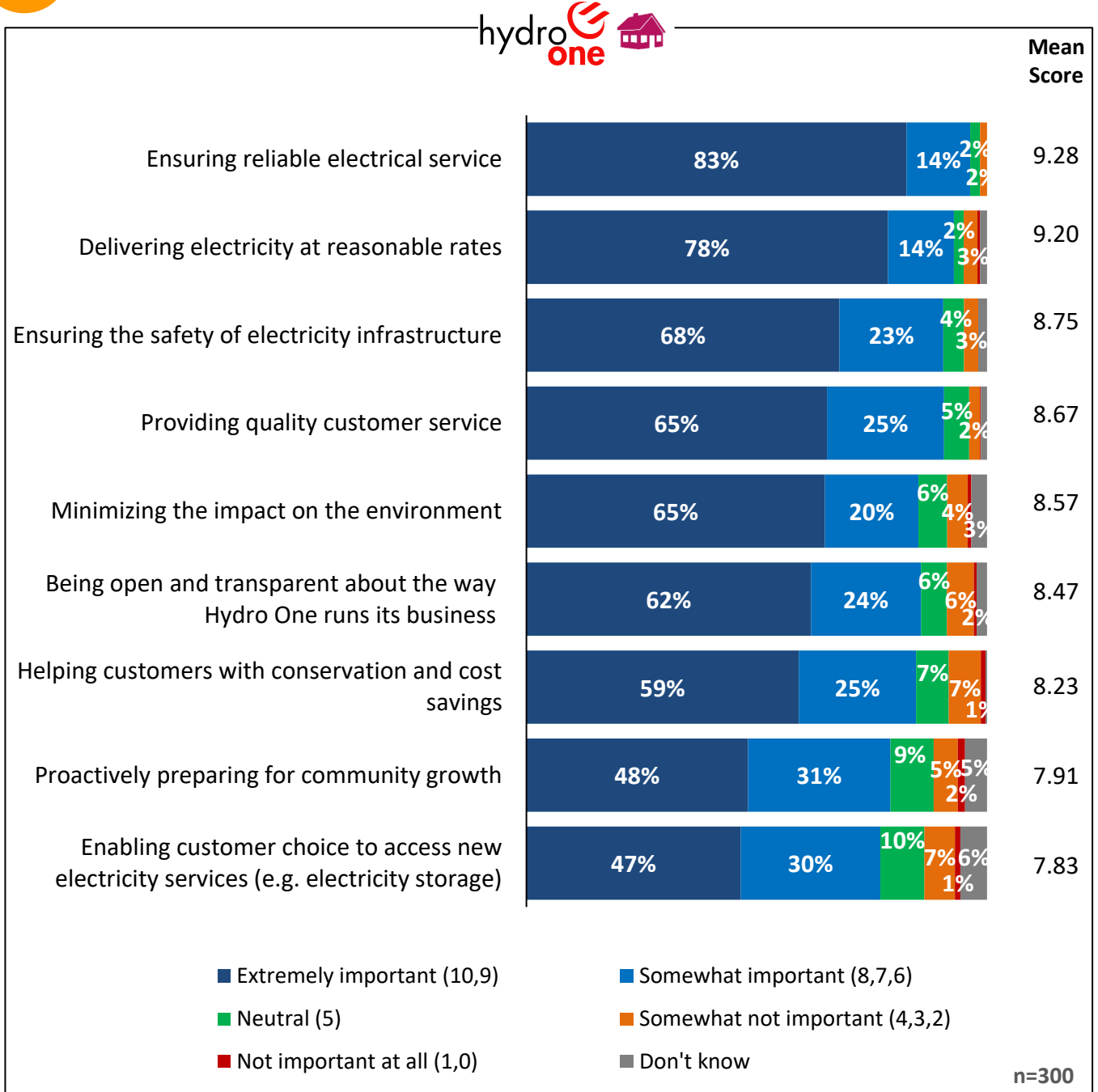
"Mother nature outages. Namely, residents who's only source of heating is electric. Provisions are made at the community's end to provide warmth, shelter and food."

"With a sub-station blow out at our next door municipality, leaves us vulnerable to entire power outage. I think we should look at having a sub-station in our community and provide enough power for future developments."

Outcome Priorities

Through previous customer research and contacts, a number of outcomes were identified by customers as priorities for Hydro One. We would like to check that list with you to ensure it is complete. We also want to understand the priorities you give to different outcomes.

Q How important are each of the following Hydro One priorities to you as a customer?

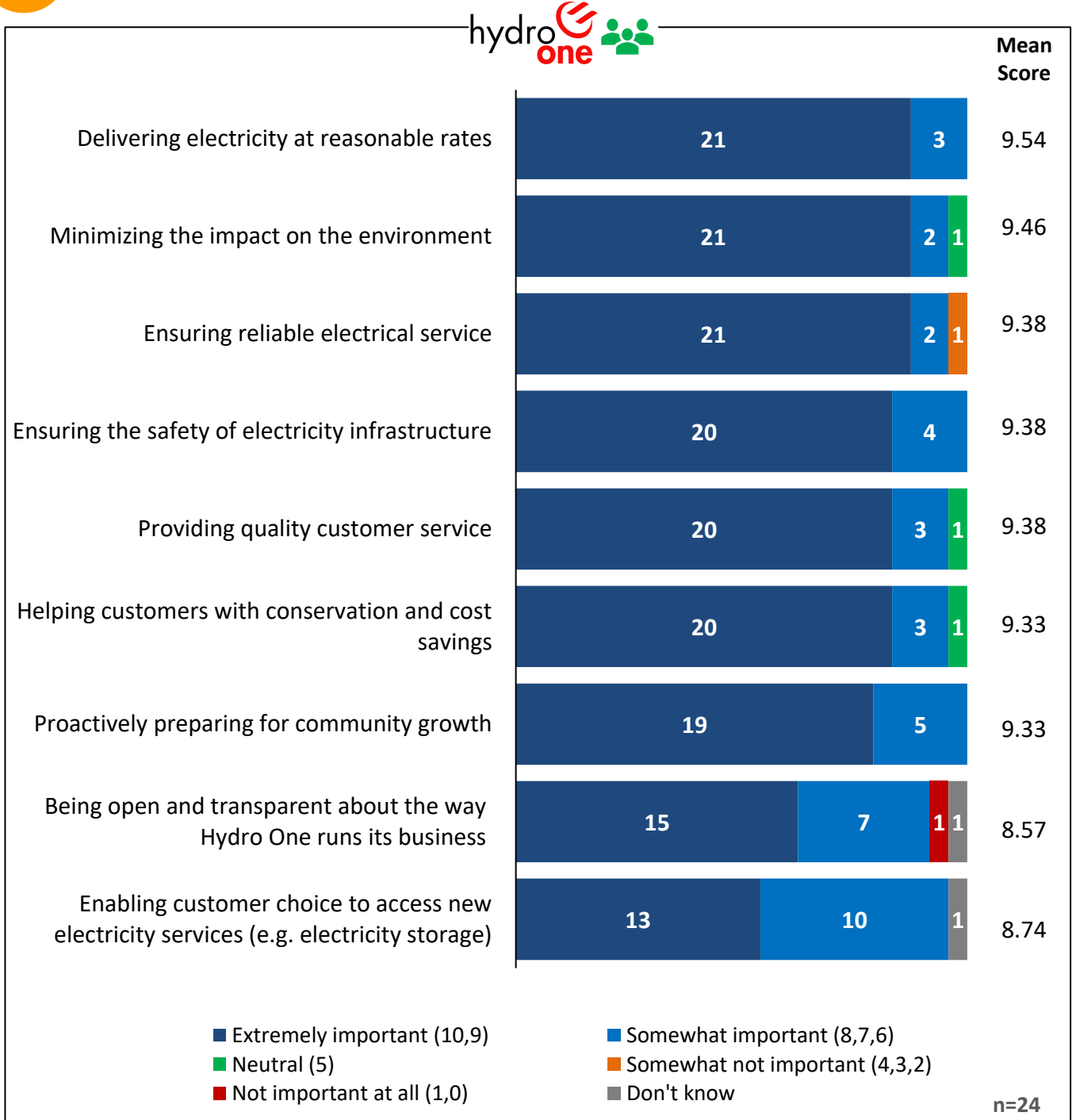




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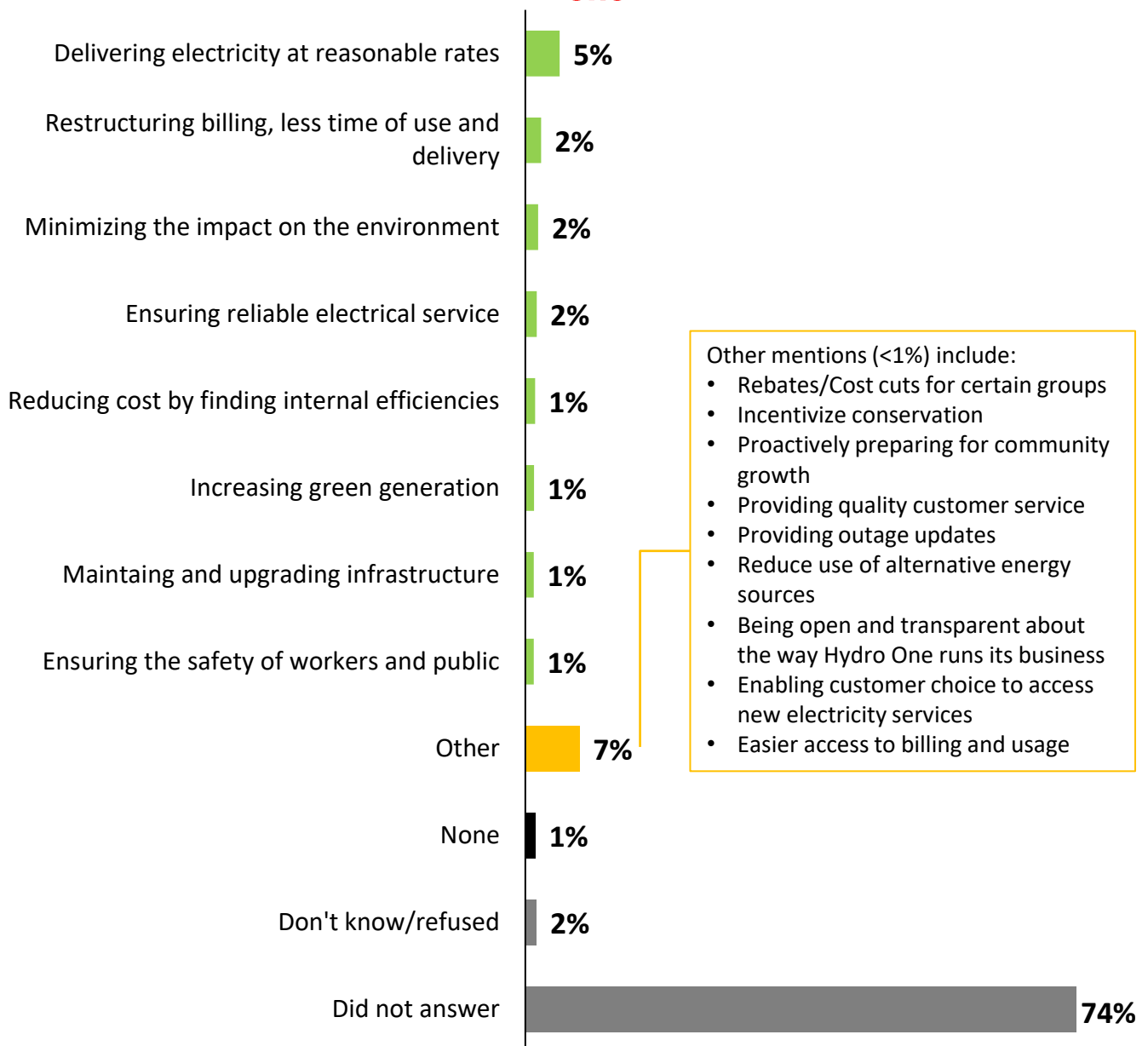


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The list above may not include all the outcomes that matter to you. Are there any other important priorities that Hydro One should be focusing on that weren't included in the list above?



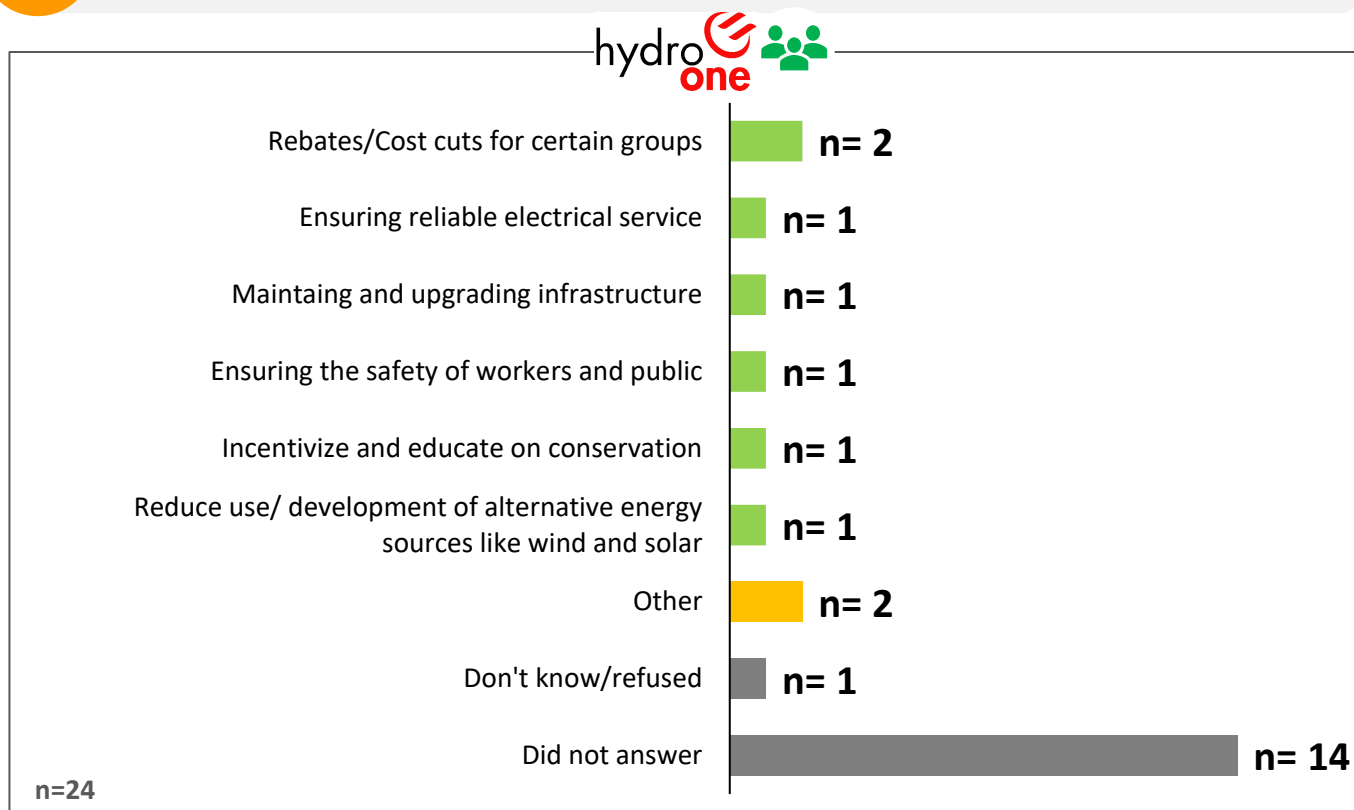


Outcome Priorities

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Q

The list above may not include all the outcomes that matter to you. Are there any other important priorities that Hydro One should be focusing on that weren't included in the list above?



Verbatim Responses: Chiefs

"Fair Pay - there should be a freeze on Senior Office and Board salaries to provide better pensions for the front-line employees that are the ones who provide our services."

"FN delivery credit to band operated entities – ie. water treatment plant, schools, youth centres, elders centres, arenas, streetlights, band offices etc."

"Affordability for First Nations especially given poverty issues"

"Employment opportunities"

"Education on alternative sources of energy"

"Response time"

"Ensuring the voltage flow to the community is acceptable"

"Reliable electrical service"

"Shorter time frame of hydro restoration when power outages location semi-isolated"



Outcome Priorities

Through previous customer research and contacts, a number of outcomes were identified by customers as priorities for Hydro One. We would like to check that list with you to ensure it is complete. We also want to understand the priorities you give to different outcomes.



The list above may not include all the outcomes that matter to you. Are there any other important priorities that Hydro One should be focusing on that weren't included in the list above?

Verbatim Responses: Chiefs cont.

"Affordable renewable/clean energy - more options should be made available and easy to understand the adoption of renewable energy, and how Hydro One may do this for the customer."

"Community youth and elder sponsorship"

"Need to invest in capital infrastructure to support First Nations community development and growth"

"Education on the impacts on the environment of the different energy sources"

"Taking down the line obstructions. That are causing concerns"

"Enabling a system where we as a resident can provide an exact transmission problem where a civic address does not exist"

"Reasonable rates"

"Discounts - if you are a Hydro One customer there should be discounts on third-party products such as Smart Thermostats, insulation and weather stripping."

"Community attendance to build capacity and share knowledge"

*"Revenue sharing for use of our traditional territory (*eliminate delivery charge, global investment would be a step toward reconciliation on that point)"*

"Minimizing nuclear waste and/or reusing nuclear waste to supply hydro"

"Reduce the time frame for interim inspection to allow to power up new services"

"Training our youth in Hydro One line maintenance"

"Minimizing the time it takes to connect a new service"

"Training our youth to become Hydro One workers"

"Making the process to obtain a new service simple and easy to navigate"

"Hydro One giving back to the communities"

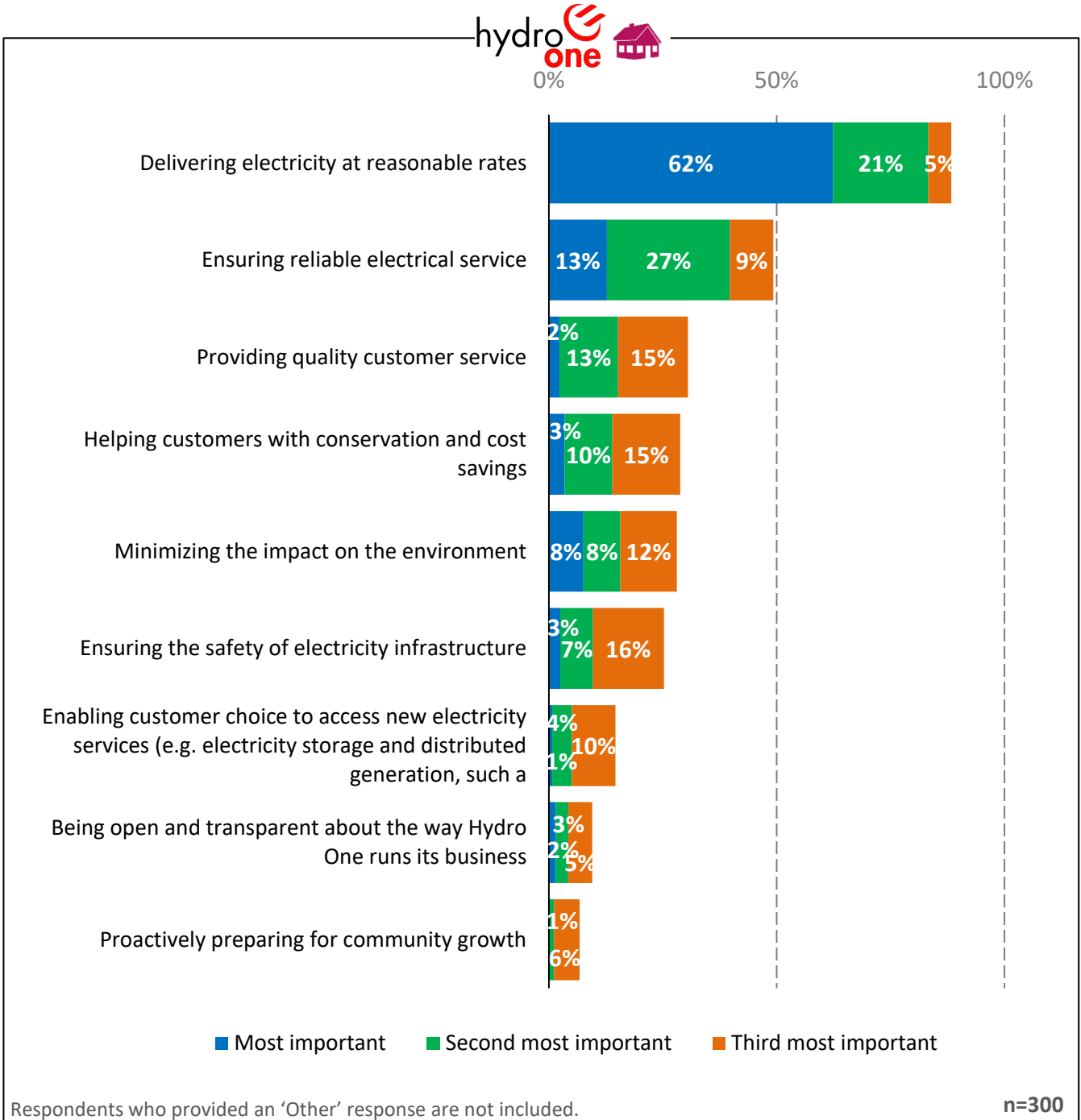
"Safety of infrastructure"



Outcome Priorities



Thinking again about the things Hydro One should be focusing on, please rank your top 3 priorities—where “1” would be the most important, “2” the second most important, and “3” the third most important.

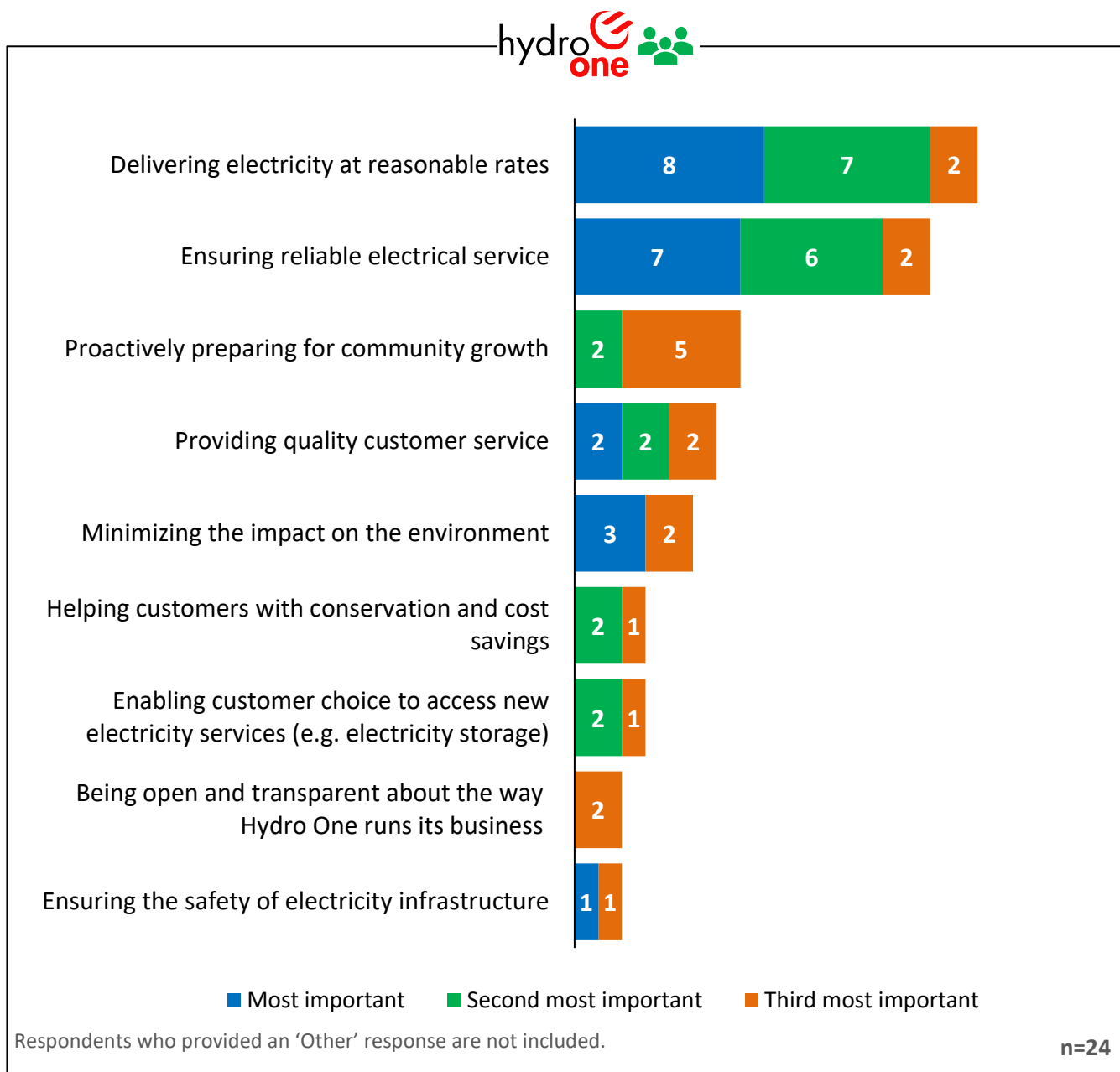


Note: Respondents were given the opportunity to choose priorities from the previous question, however none were ranked in top priorities against the other options. Page 44 of 99



Q

Thinking again about the things Hydro One should be focusing on, please rank your top 3 priorities—where “1” would be the most important, “2” the second most important, and “3” the third most important.



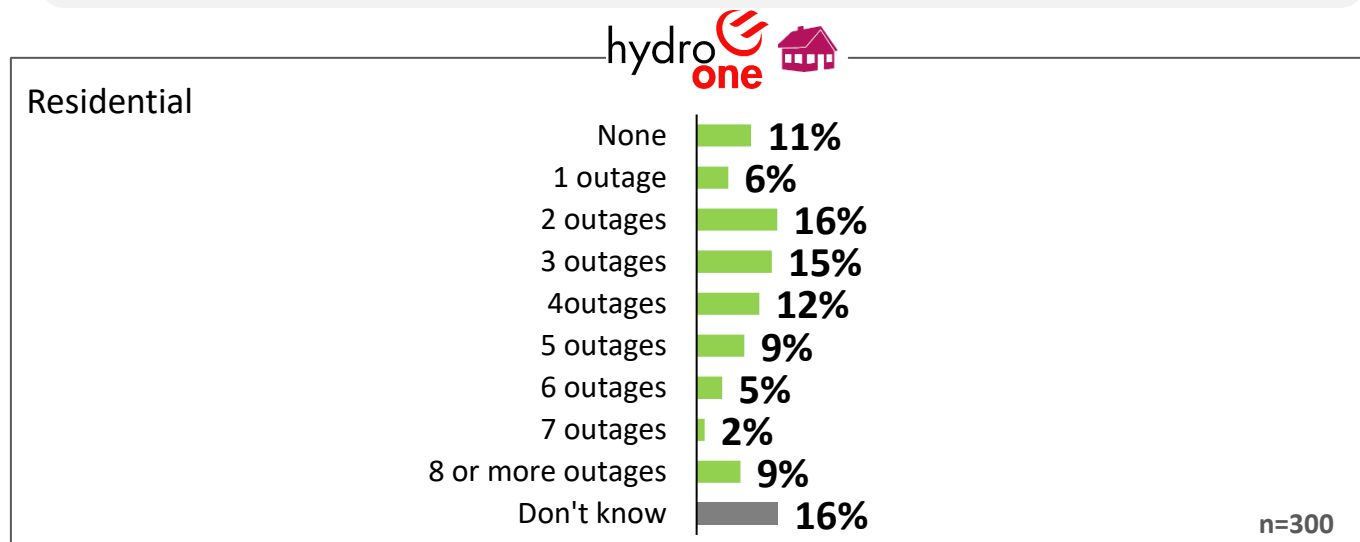
Note: Respondents were given the opportunity to choose priorities from the previous question, however none were ranked in top priorities against the other options.

Online Workbook

Reliability Experience and Priorities

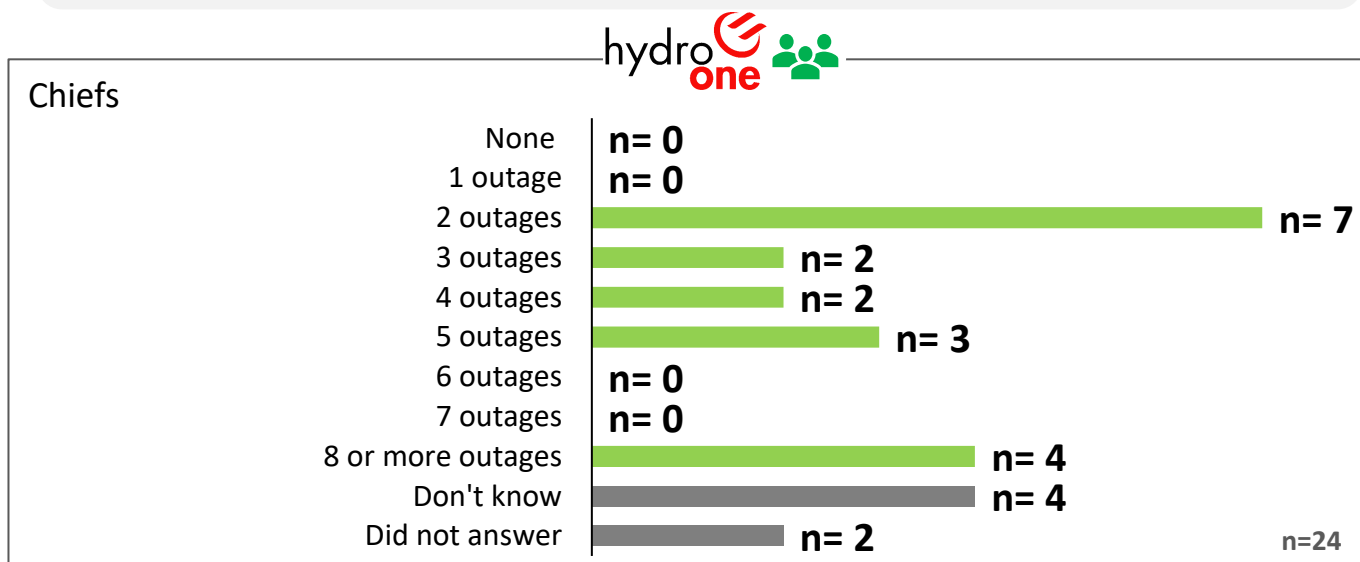
Q

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?



Q


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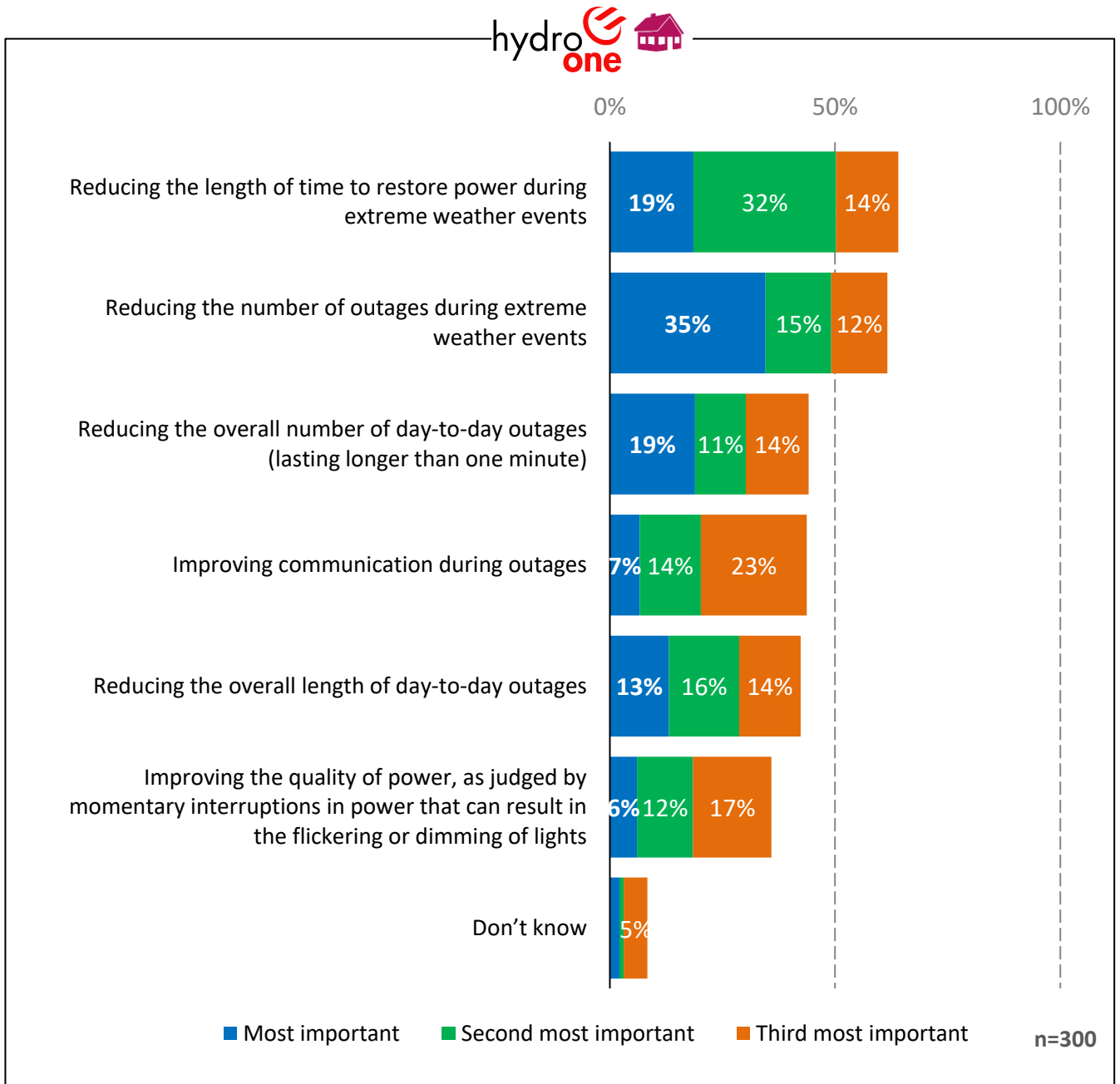
Residential 	Total	Southern	Central	Eastern	Northern
No outages	11%	9%	12%	18%	10%
1 outage	6%	11%	5%	6%	4%
2 outages	16%	9%	24%	24%	14%
3 outages	15%	14%	13%	29%	14%
4 outages	12%	14%	11%	6%	13%
5 outages	9%	9%	10%	-	10%
6 outages	5%	11%	3%	-	3%
7 outages	2%	-	-	-	3%
8 or more outages	9%	6%	3%	-	14%
Don't know	16%	17%	18%	18%	14%



Reliability Experience and Priorities

When it comes to reliability, there are a number of areas that Hydro One could focus on. For example, Hydro One could focus on improving day-to-day reliability and/or reducing interruptions during storms and other extreme weather.

Q Among the following reliability outcomes, please rank your top 3 priorities—where “1” would be the most important, “2” the second most important, and “3” the third most important.



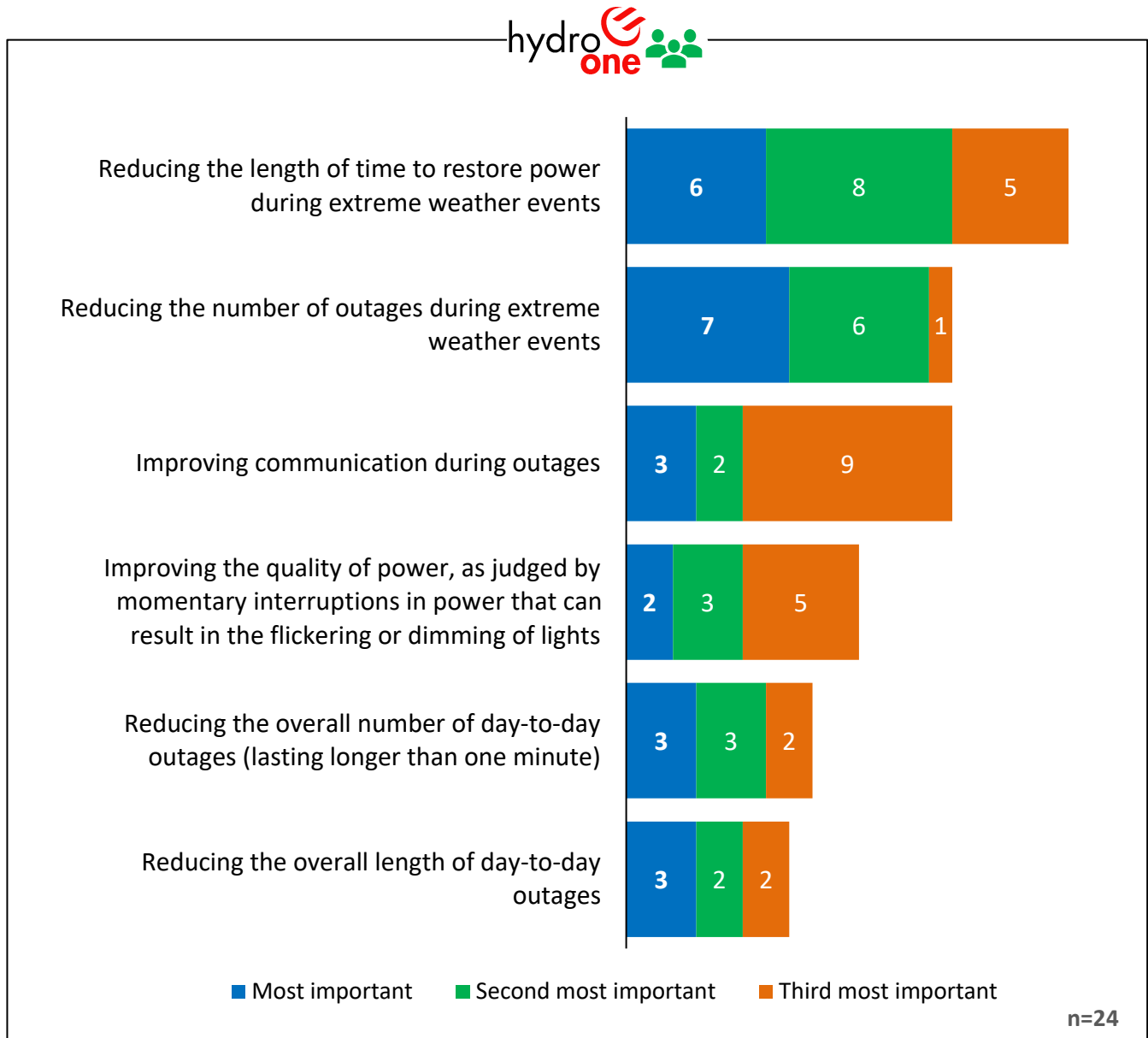


Reliability Experience and Priorities

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Q

Among the following reliability outcomes, please rank your top 3 priorities—where “1” would be the most important, “2” the second most important, and “3” the third most important.



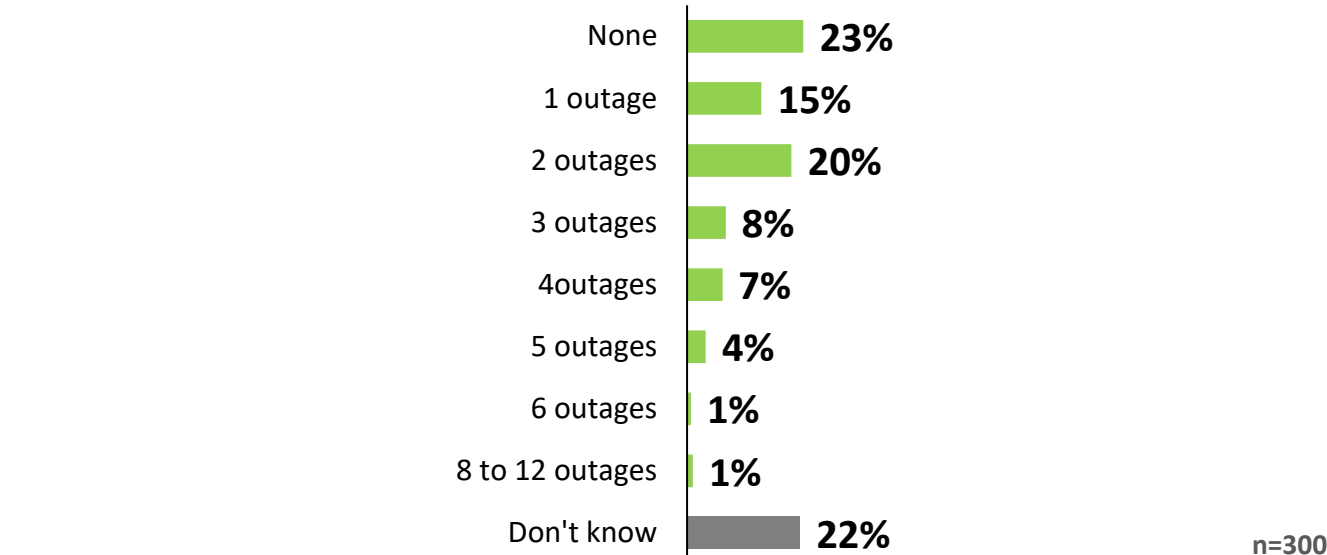
Online Workbook

Reliability Experience and Priorities

Q

What would you say is a reasonable number of outages that Hydro One customers should expect to experience every year?

Residential

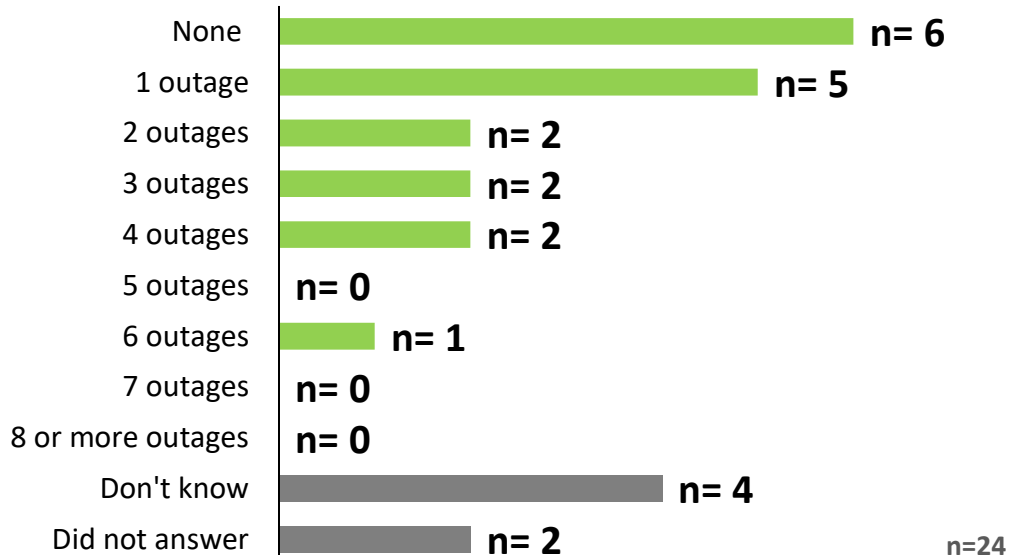


Q

What would you say is a reasonable number of outages that Hydro One customers should expect to experience every year?



Chiefs

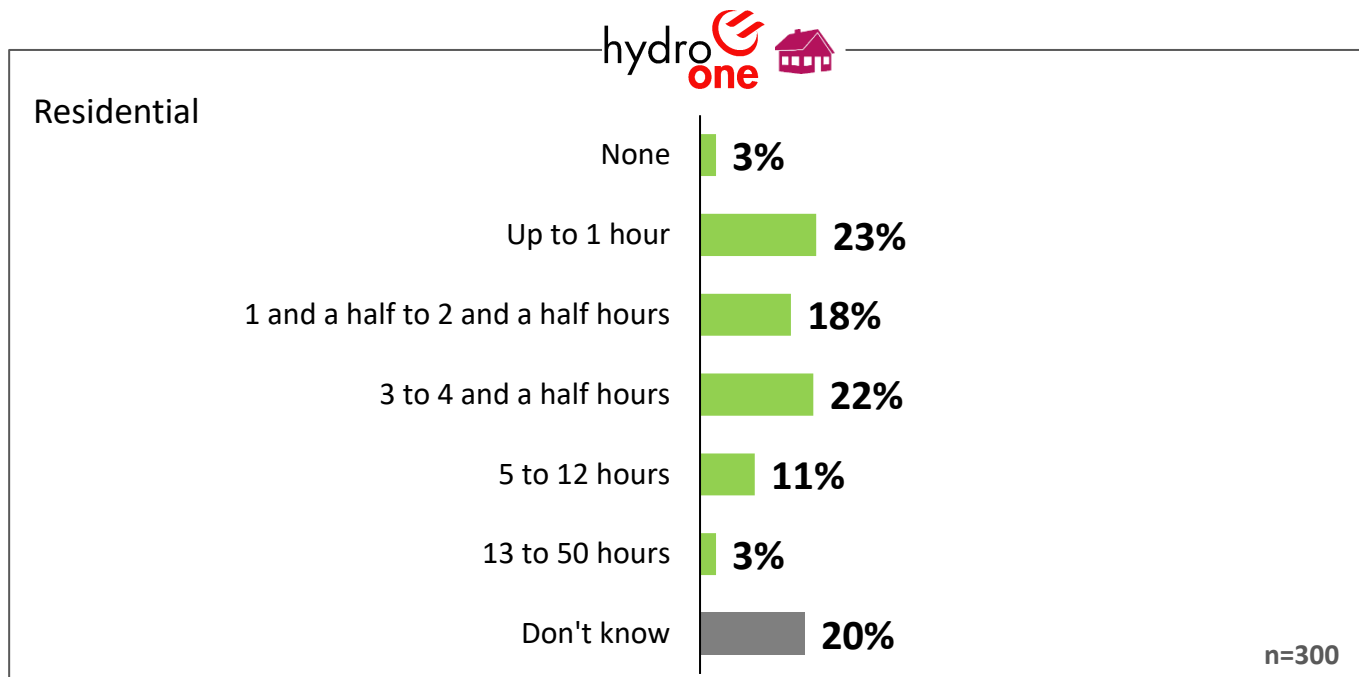


Online Workbook

Reliability Experience and Priorities

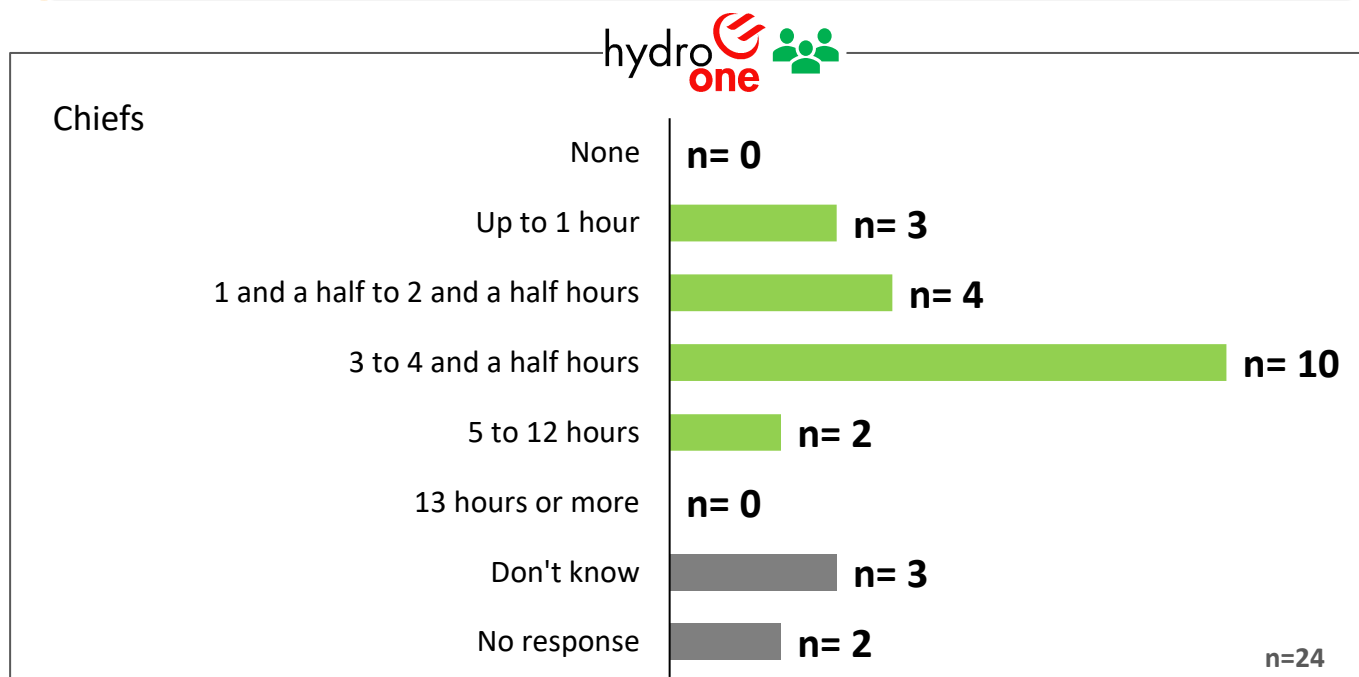
Q

What would you say is a reasonable total length of outages that Hydro One customers should expect to experience every year?



Q

What would you say is a reasonable total length of outages that Hydro One customers should expect to experience every year?



Online Workbook

Comparing Hydro One's Spending to Others

Hydro One's Investment Plan

On a yearly basis, Hydro One's spending for the distribution side of the business is benchmarked by the OEB against other electricity distributors in Ontario.

Servicing more sparsely populated areas means that, compared to urban areas, more equipment (e.g. wooden poles, transformers and wires) is needed to serve the same number of customers.

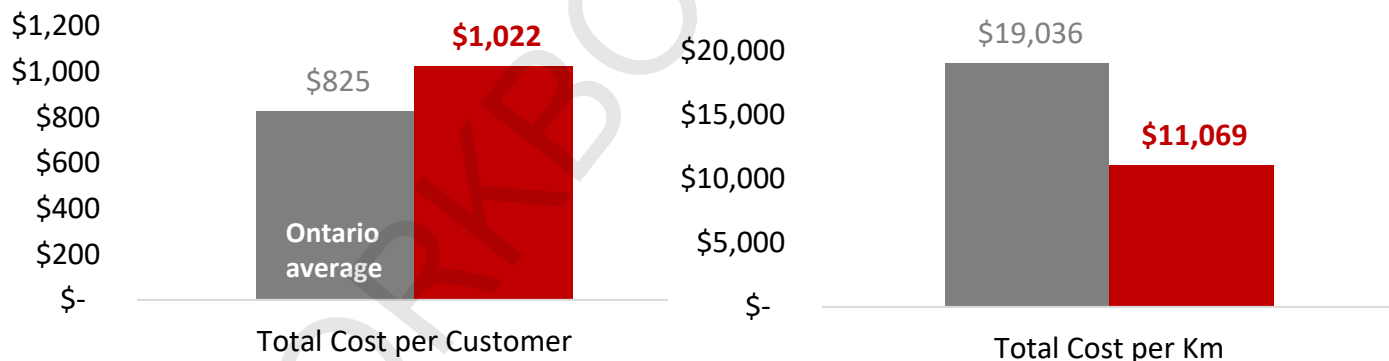
On average, across Ontario 23 customers are served per kilometer of distribution line; in Hydro One's territory it is only 11 customers per kilometer.

When we compare Hydro One to other electricity distributors, how well Hydro One compares depends on whether we look at cost per customer or cost per line km.

On a total cost per customer basis, it costs nearly \$200 more per customer for Hydro One to operate than the Ontario average. But when looking at the total cost per kilometer of distribution line, Hydro One's costs are \$8,000 below the Ontario average.

Comparing Hydro One to Other Electricity Distributors (2018)

Source: 2018 OEB Benchmarking Report



Online Workbook

Comparing Hydro One's Spending to Others

Benchmarking isn't the only way that Hydro One measures its operational efficiency.

Like most businesses, Hydro One manages its spending in two budgets – a **capital budget** and an **operating budget**.

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 and transmission systems, such as poles, wires, cables, transformers, computers and information systems, vehicles and facilities.

This phase of the engagement is focused on collecting your views on competing trade-offs in capital investments. These will be presented on the following pages.

Hydro One's **operating budget** covers recurring expenses, such as the maintenance of equipment and the cost of customer service and billing.

In Hydro One's last rate application, the OEB limited the rate of Hydro One's annual operating cost increases by an amount that is less than inflation to incent the company to find ways of achieving the same outcomes for less money. Since 2015, Hydro One's operating costs have fallen by 4%.

The OEB runs an open and transparent review process where experts from the Ontario Energy Board (OEB) and intervenor groups review and challenge every dollar that Hydro One proposes to spend. Detailed discussion of Hydro One's operating budget is left to experts from the OEB and intervenors in the formal rate application review.

Detailed questions about Hydro One's operating expenses will not be asked in this phase of the customer engagement.

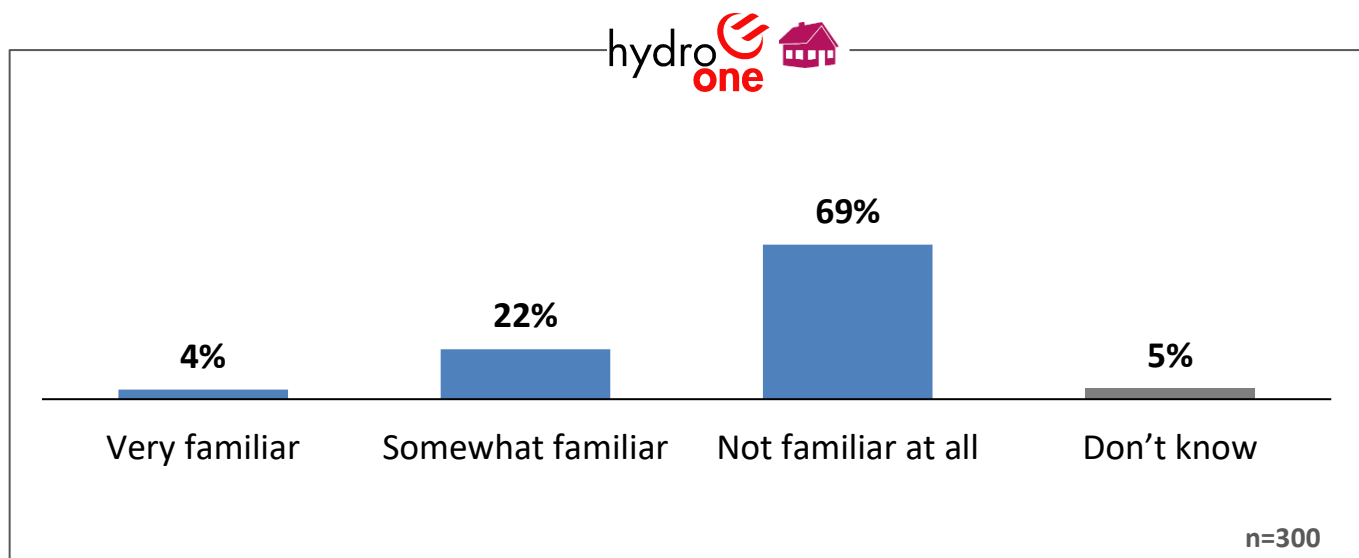
If you are interested in commenting on Hydro One's operating expenses, you are encouraged to participate in the OEB process when Hydro One files this application in 2021. Details will be available at that time at oeb.ca/participate.


Online Workbook

Comparing Hydro One's Spending to Others

Q

Before this survey, how familiar were you with the OEB review process and the requirement for Hydro One to find operating savings every year?



Residential 	Total	Southern	Central	Eastern	Northern
Very familiar	4%	6%	2%	-	5%
Somewhat familiar	22%	20%	28%	12%	22%
Not familiar at all	69%	72%	67%	82%	66%
Don't know	5%	2%	3%	6%	7%

Chiefs 	Total
Very familiar	n= 1
Somewhat familiar	n= 16
Not familiar at all	n= 7

Verbatim Responses: Chiefs

"Educating in this area makes for better understanding when business decisions are made. Namely, costs associated with inflation."



Comparing Hydro One's Spending to Others

Q

Before this survey, how familiar were you with the OEB review process and the requirement for Hydro One to find operating savings every year?

Residential



Additional Comments (n=22)

93% of respondents did not provide additional feedback

n-size

Additional Comments (n=22)	n-size
Inefficiencies in operation, especially salaries	5
Hydro One's varied demographic needs to be accounted for regarding service and billing	3
General positive comments	2
Need more info/didn't understand survey/critical of survey	2
Prices are too high, not decreasing	2
Make operation costs and comparisons with other providers available	2
Other	2
None	3

Online Workbook

Keeping Pace with Aging Distribution Infrastructure

Making Choices for Hydro One's Distribution System

First, we would like to speak to you about Hydro One's distribution system.

Most of Hydro One's distribution infrastructure (e.g. equipment like wooden poles, power transformers, and submarine cables) is now roughly 60 to 70 years old. Eventually, aging equipment deteriorates and has to be replaced to mitigate reliability, safety and environmental risks.



Hydro One has some control over when to make those investments.

Hydro One's **current approach** is to replace only the most critical aging equipment before it stops working. While Hydro One replaces aging equipment before it poses a safety, environmental or reliability risk, this still leaves 24% of station transformers and about 5% wooden poles currently in poor condition. Under Hydro One's current approach, the number of poles and station transformers in poor condition gets larger each year.

Hydro One's planners have identified **four options** for replacing aging equipment: Hydro One can continue its current level of investment, it can invest less, it can invest more to keep the percentage of aging equipment constant, or it can invest more to improve the percentage of aging equipment.

Investing less now would keep rate increases lower in the short term, but would lead to steeper rate increases in the future, as more equipment would need to be replaced later.

Investing more now, would mean higher rate increases now, but lower rate increases in the future, as Hydro One would replace more of its aging infrastructure now.

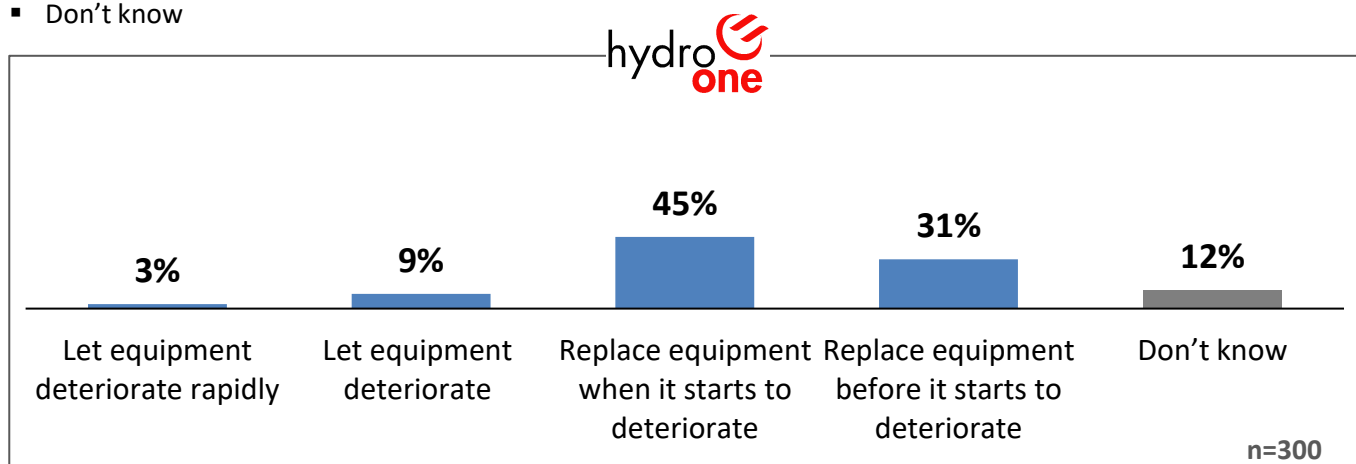


Keeping Pace with Aging Distribution Infrastructure

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

- **Let Equipment Deteriorate Rapidly:** Hydro One should **decrease its current level of investment** in aging equipment to keep annual rate increases for new equipment **under a dollar** on a typical residential customer's monthly bill, even if it means the share of aging equipment will grow rapidly and future rate increases will be very steep.
- **Let Equipment Deteriorate:** Hydro One should **maintain its current level of investment** in aging infrastructure to keep annual rate increases for new equipment **under \$1.50** on a typical residential customer's monthly bill, even if it means equipment will age faster than it is replaced (but less quickly than in the scenario above) and future rate increases will be steep.
- **Replace Equipment When It Starts to Deteriorate:** Hydro One should **increase its current level of investment** in aging infrastructure to keep annual rate increases for new equipment **under \$2** on a typical residential customer's monthly bill, to keep pace with aging equipment and enable smoother rate increases in the future.
- **Replace Equipment Before It Starts to Deteriorate:** Hydro One should **increase its current level of investment** in aging equipment to keep annual rate increases for new equipment **under \$2.50** on a typical residential customer's monthly bill, which will improve the average age of equipment and enable stable rate increases in the future.
- Don't know



Residential



	Total	Southern	Central	Eastern	Northern
Let equipment deteriorate rapidly	3%	3%	2%	-	3%
Let equipment deteriorate	9%	12%	10%	6%	8%
Replace equipment when it starts to deteriorate	45%	43%	45%	47%	46%
Replace equipment before it starts to deteriorate	31%	28%	35%	29%	31%
Don't know	12%	14%	8%	18%	11%



Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

- **Let Equipment Deteriorate Rapidly:** Hydro One should **decrease its current level of investment** in aging equipment to keep annual rate increases for new equipment **under a dollar** on a typical residential customer's monthly bill, even if it means the share of aging equipment will grow rapidly and future rate increases will be very steep.
- **Let Equipment Deteriorate:** Hydro One should **maintain its current level of investment** in aging infrastructure to keep annual rate increases for new equipment **under \$1.50** on a typical residential customer's monthly bill, even if it means equipment will age faster than it is replaced (but less quickly than in the scenario above) and future rate increases will be steep.
- **Replace Equipment When It Starts to Deteriorate:** Hydro One should **increase its current level of investment** in aging infrastructure to keep annual rate increases for new equipment **under \$2** on a typical residential customer's monthly bill, to keep pace with aging equipment and enable smoother rate increases in the future.
- **Replace Equipment Before It Starts to Deteriorate:** Hydro One should **increase its current level of investment** in aging equipment to keep annual rate increases for new equipment **under \$2.50** on a typical residential customer's monthly bill, which will improve the average age of equipment and enable stable rate increases in the future.
- Don't know

Chiefs 

	Total
Let equipment deteriorate rapidly	n= 0
Let equipment deteriorate	n= 2
Replace equipment when it starts to deteriorate	n= 9
Replace equipment before it starts to deteriorate	n= 9
Don't know	n= 4

Online Workbook

Keeping Pace with Aging Distribution Infrastructure

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

Residential 

Additional Comments (n=35)

88% of respondents did not provide additional feedback

n-size

Customers shouldn't pay more/extra for maintenance and upgrades

8

Decrease operation costs, salaries/alternative financing etc.

6

Replace equipment after getting it's value, but before it becomes a problem

4

Consider Cost

4

New Underground lines /Alternative materials for poles

2

Preventative Maintenance

2

Tech/Equipment Improvements

2

Better and More Reliable Electricity

2

Be transparent and accountable with plans and spending

1

Safety is paramount

1

None

1

Other

1

Don't Know

1

Chiefs 

Additional Comments (n=10)

14 respondents did not provide additional feedback

n-size

Replace equipment after getting its value, but before it becomes a problem

3

Customers shouldn't pay more/extra for maintenance and upgrades

3

Preventative Maintenance

1

Be Proactive

1

Safety is paramount

1

None

1



Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

Verbatim Responses: Chiefs

"I think it should be kept in mind that we are due for a recession very soon, and that is why I believe we should, 'Let Equipment Deteriorate', so that we are not faced with a massive amount of equipment that needs to be replaced immediately and when people do not have as much funds."

"why can you not use part of your profits to deal with aging infrastructure. why do the customers have to pay more. they are already paying a high delivery charge. can part of the delivery charge not be put against aging infrastructure."

"We need our service constantly maintained and replace as needed. Being a island community access is restricted during the winter months."

"Planning to replace in a asset management system not the customer incurring the cost"

In terms of equipment, there should be better training for Hydro One workers in preventative maintenance for the equipment. I do know many hydro one employees who do not care and also say they don't care. There needs to be conversations that happen with all staff from office to field to take care of all equipment in a better way that the equipment they use lasts a long time. Their disrespect and lack of care should not be the burden of the people paying for hydro.

"My selection is what most people understand. Just like buying a car people will replace once it starts breaking down."

"Transmission lines and distribution lines should not be a cost to the end customer. As a customer we are charged for inspections on our homes that ensures reliable to service into our homes. That is where "our" maintenance fees should stop."

"Safety first.. what else can you think.."

"Obviously there is no right answer and the weather plays a large part on impact to the system but it should minimally replace infrastructure before it fails when the obvious signs are visible"

"Hydro One should take a cue from Municipalities and take an asset management approach to its infrastructure. This involves replacing infrastructure at the right time so as not to endanger service or the environment. Capitalization should be better planned so that we don't have to decide whether to incur higher costs now or later. Ideally there should have been already an amount within the bill to build up a reserve to address these types of issues so that levels could remain consistent as far as charges to Hydro One customers."

Online Workbook

Ensuring Day-to-Day Reliability

Making Choices for Hydro One's Distribution System

As previously mentioned, Hydro One's service territory is much larger and includes more rural areas than those of other electricity distributors in Ontario. Due to this geography, Hydro One's distribution system looks different than other distribution systems in Ontario.

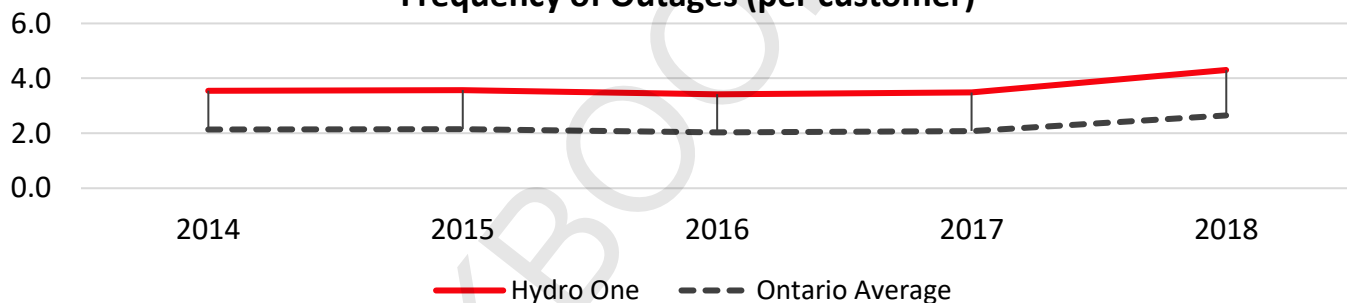
When Hydro One's system was first built, simple *radial lines* were constructed in rural areas. A radial line has only one power source for a group of customers. A power failure, short-circuit, or a downed power line interrupts power for all customers further down the line. While a *looped line* can restore power by bringing it in from another direction, power cannot be restored in a radial line until the source of the outage is found and repaired.

Compared to other local distribution companies, Hydro One now has more of those radial lines. They are less reliable than looped lines, which are standard in denser urban areas.

Hydro One tracks both the average number of power outages per customer and how long those outages last. The average Hydro One customer experiences more frequent and longer outages than the average Ontarian.

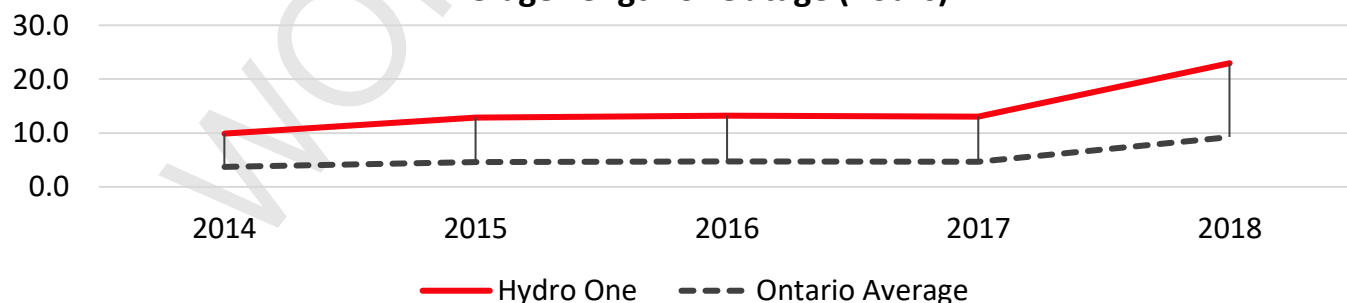
On average, between 2014 and 2018, the typical Hydro One customer has experienced 1.5 more outages per year compared to the Ontario average.

Frequency of Outages (per customer)



When it comes to total time spent without electricity each year, the typical Hydro One customer, since 2014, has been without power for 14.4 hours each year. That is 9 hours more than the Ontario average.

Average Length of Outage (hours)



There are investments that Hydro One can make to improve reliability, especially of radial lines, such as remote monitoring, remotely operable equipment and battery storage. While these investments are likely to reduce both the number and length of outages, they would add to the costs of the system.

Online Workbook

Ensuring Day-to-Day Reliability

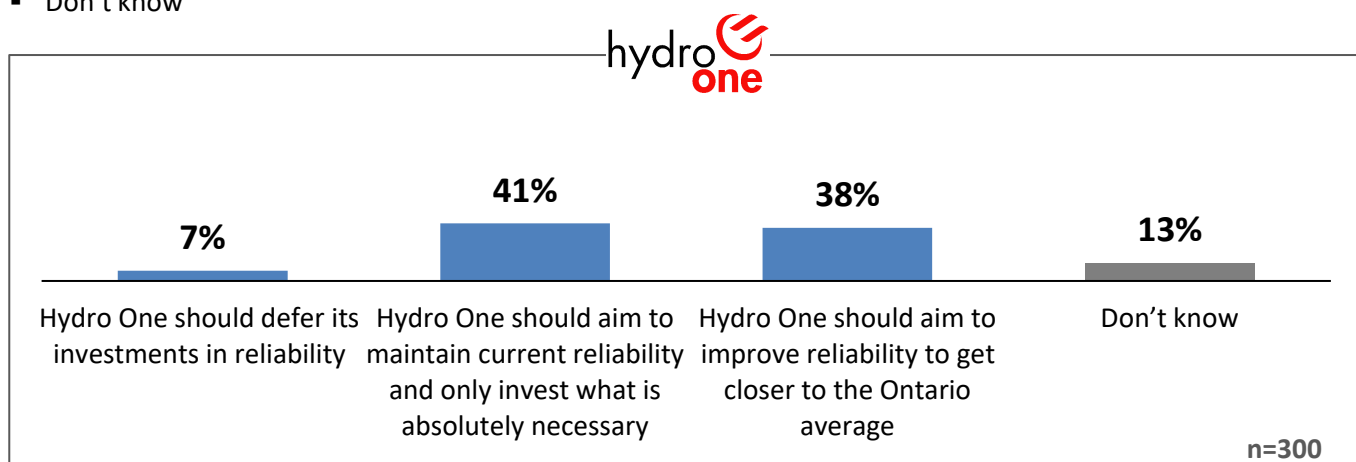
Residential



Q

Which of the following statements best represents your point of view regarding Hydro One's approach to ensuring day-to-day reliability?

- Hydro One should defer its investments in reliability to keep costs down, even if this could lead to more or longer power outages in the future.
- Hydro One should aim to maintain current reliability and only invest what is absolutely necessary to maintain the current level of reliability, even if that increases a typical residential customer's monthly bill by **less than a dollar** each year.
- Hydro One should aim to improve reliability to get closer to the Ontario average, even if that increases a typical residential customer's monthly bill by **more than a dollar** each year.
- Don't know

Residential 

	Total	Southern	Central	Eastern	Northern
Hydro One should defer its investments in reliability	7%	2%	5%	6%	12%
Hydro One should aim to maintain current reliability and only invest what is absolutely necessary	41%	49%	36%	47%	39%
Hydro One should aim to improve reliability to get closer to the Ontario average	38%	32%	49%	35%	37%
Don't know	13%	17%	10%	12%	12%



Q

Which of the following statements best represents your point of view regarding Hydro One's approach to ensuring day-to-day reliability?

- Hydro One should defer its investments in reliability to keep costs down, even if this could lead to more or longer power outages in the future.
- Hydro One should aim to maintain current reliability and only invest what is absolutely necessary to maintain the current level of reliability, even if that increases a typical residential customer's monthly bill by **less than a dollar** each year.
- Hydro One should aim to improve reliability to get closer to the Ontario average, even if that increases a typical residential customer's monthly bill by **more than a dollar** each year.
- Don't know

Chiefs 

	Total
Hydro One should defer its investments in reliability	n= 1
Hydro One should aim to maintain current reliability and only invest what is absolutely necessary	n= 8
Hydro One should aim to improve reliability to get closer to the Ontario average	n= 9
Don't know	n= 6

Online Workbook

Ensuring Day-to-Day Reliability

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to ensuring day-to-day reliability?

Residential 

Additional Comments (n=27)

91% of respondents did not provide additional feedback

n-size

Additional Comments (n=27)	n-size
91% of respondents did not provide additional feedback	
Find internal efficiencies	5
Reduce cost	4
Be transparent with plans/need more info needed	3
Undertake preventative maintenance	3
Differentiate service/billing between urban and rural	2
Use profits/customers should not pay	2
Poor planning/maintenance should have been ongoing	2
Protect/strengthen infrastructure	1
Look into alternative energy sources	1
Upgrade infrastructure only when necessary	1
Investment/improvements necessary	1
Consider climate change/extreme weather events	1
Reliability/safety over cost	1

Chiefs 

Additional Comments (n=6)

18 respondents did not provide additional feedback

n-size

Additional Comments (n=6)	n-size
18 respondents did not provide additional feedback	
Undertake preventative maintenance	1
Use profits/customers should not pay	1
Be transparent with plans/costs	1
Reliability/safety over cost	1
Other	1
None	1



Q

Which of the following statements best represents your point of view regarding Hydro One's approach to ensuring day-to-day reliability?

Verbatim Responses: Chiefs

"Again, what is the delivery charge used for. What does the charge per kw being used for, salaries?? Why is the customer expected to pay more"

"Hard question to answer...people needing electricity is like saying a baby needs diapers...we are going to pay. Hydro One gives electricity, something we need. They should want to deliver the best to their clients. Saying that and looking at options..Seems best answer would cost customers more money. Or the other option...leave the level of reliability to a minimum and we can decrease bill. My opinion improve reliability and save a dollar."

"Hydro One should not be asking the public these questions. Management of electricity infrastructure is well studied and you are paid enough to make the best decisions. These are practical business management decisions that you have the information for to guide the investment plan and the public does not have enough information to answer the question. Once beholden to the public to either increase or decrease rates a certain way, you turn what are practical decisions into democratic unpredictable ones."

"I feel this shouldn't be a burden on the end consumer. I feel money would be better spent on determining the cause of the outages and remedying the cause."

"Six Nations is subjected to many outages over the year, our average outages and downtime are significantly higher than the averages depicted here. These outages result in lost revenue for our businesses, loss of heating and cooking capabilities for our most vulnerable population, additional expenses for public service (i.e. water/sewer dept.), lost recreational opportunity for our youth (arena without power) and greater expenses on home owners (throwing out spoiled food, having to buy generators). Six Nations needs to be specifically looked at through a power reliability lens and steps have to be taken to improve this ASAP."

"Increases typical residential monthly bill by more that a dollar...that's open ended. When saying more that a dollar, that can be way more than a dollar...i.e.: 5 dollars. Agree that Hydro One improve reliability, but be clear on what the increase would be. The more than a dollar could be as stated above could be high."

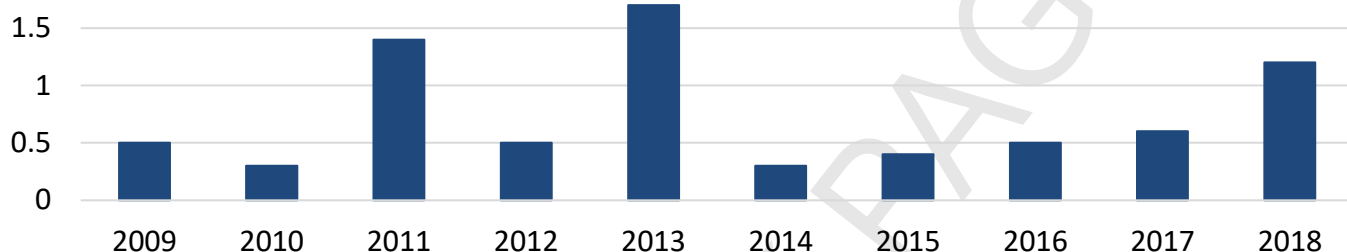
Online Workbook

Responding to Severe Weather

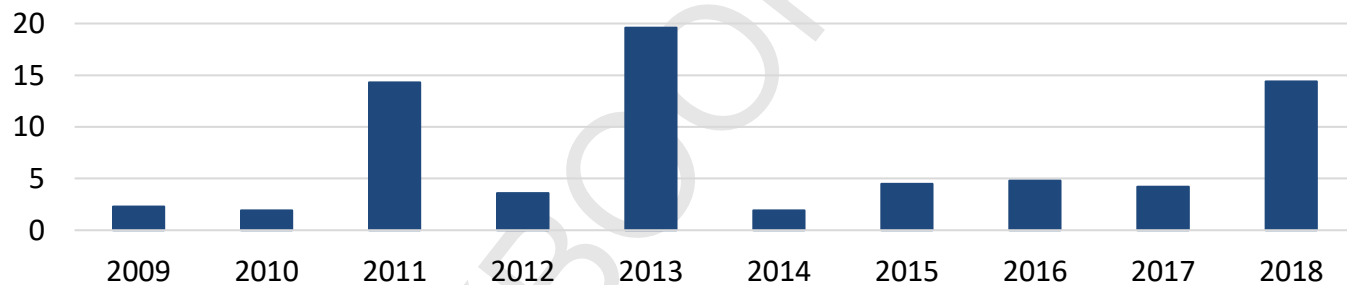
Making Choices for Hydro One's Distribution System

Over the past ten years, severe weather, such as ice storms, windstorms or thunderstorms, has caused multiple outages that tended to last longer than regular day-to-day outages. In 2018, the average Hydro One customer was without power for an average total of 7 hours due to day-to-day outages. When the effect of storms are included, the total average duration was 23 hours for the average Hydro One customer.

Frequency of Outages (per customer) Caused by Severe Weather



Average Duration of Outages (hours) Caused by Severe Weather



The occurrence and severity of weather events are largely unpredictable. The number and duration of outages caused by severe weather have varied year-by-year.

Currently, Hydro One does not have a designated program to focus on minimizing the impacts of severe weather. However, there are investments Hydro One could make to make the system more resilient to help mitigate the potential impacts of severe weather. These types of investments could include building infrastructure to a higher, more redundant standard.

Any investments Hydro One would make would be based on previous experience and estimates of future major events. However, because major events are unpredictable, these investments may not match the events Hydro One actually experiences.

Online Workbook

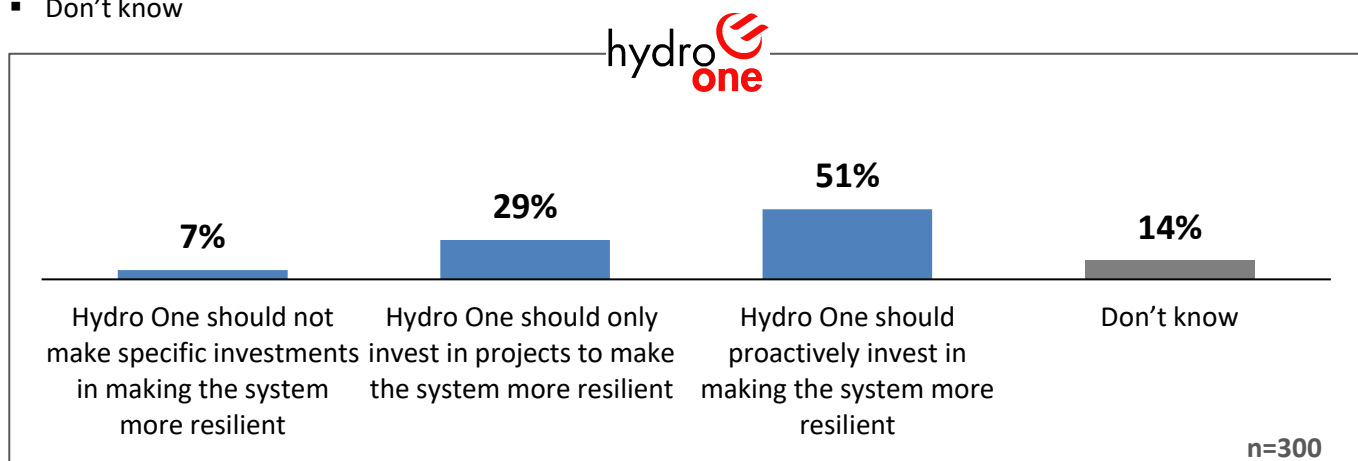
Responding to Severe Weather

Residential



Q Which of the following statements best represents your point of view?

- In order to keep rates down, Hydro One should not make specific investments in making the system more resilient to severe weather, even if that means no improvements or potential increases in the length and number of outages caused by severe weather.
- Hydro One should only invest in projects to make the system more resilient to severe weather as part of the ongoing replacement of old or failing equipment, but not more, even if that increases a typical residential customer's monthly bill by **less than 25 cents** each year.
- Hydro One should proactively invest in making the system more resilient in order to reduce the length and number of outages caused by severe weather, even if that increases a typical residential customer's monthly bill by **less than 50 cents** each year.
- Don't know



Residential

	Total	Southern	Central	Eastern	Northern
Hydro One should <u>not</u> make specific investments in making the system more resilient	7%	8%	2%	6%	9%
Hydro One should only invest in projects to make the system more resilient	29%	25%	29%	29%	30%
Hydro One should proactively invest in making the system more resilient	51%	52%	61%	47%	45%
Don't know	14%	15%	7%	18%	16%

Online Workbook

Responding to Severe Weather



Q Which of the following statements best represents your point of view?

- In order to keep rates down, Hydro One should not make specific investments in making the system more resilient to severe weather, even if that means no improvements or potential increases in the length and number of outages caused by severe weather.
- Hydro One should only invest in projects to make the system more resilient to severe weather as part of the ongoing replacement of old or failing equipment, but not more, even if that increases a typical residential customer's monthly bill by **less than 25 cents** each year.
- Hydro One should proactively invest in making the system more resilient in order to reduce the length and number of outages caused by severe weather, even if that increases a typical residential customer's monthly bill by **less than 50 cents** each year.
- Don't know

Chiefs 

	Total
Hydro One should <u>not</u> make specific investments in making the system more resilient	n= 1
Hydro One should only invest in projects to make the system more resilient	n= 8
Hydro One should proactively invest in making the system more resilient	n= 13
Don't know	n= 2

Verbatim Responses: Chiefs 

"But also same concept as previous question."

"Hydro one needs to be less top heavy and improve their procurement ways."

"This needs a balanced approach to keep bills affordable, but to prepare for the future of weather with climate change."

"I feel this should be again an issue for Hydro One to do some research and development to address the issue. Climate change is going to continue and resources should be spent on addressing and reversing climate change. Develop products that will prevent outages and combat climate change."

"The impacts of these outages should be studied to determine whether or not Hydro One needs to proactively invest in making the system more resilient."

Online Workbook

Responding to Severe Weather

Q Which of the following statements best represents your point of view?

Residential 

Additional Comments (n=27)	n-size
91% of respondents did not provide additional feedback	
Consider climate change, more severe weather, environment	8
Incentivize customers adopting generation, conservation methods	3
Use profits to improve system, not higher bills	3
Find efficiencies to reduce cost in operations, especially salaries	3
Protect and strengthen infrastructure, especially burying lines	2
Reduce cost for customer	1
Improve service reliability	1
Survey is leading, just about raising bills, otherwise critical of survey	1
None	1
Don't know/refused	2

Chiefs 

Additional Comments (n=5)	n-size
19 respondents did not provide additional feedback	
Reduce cost for customer	1
Consider climate change, more severe weather, environment	1
Find efficiencies to reduce cost in operations, especially salaries	1
None	2

Online Workbook

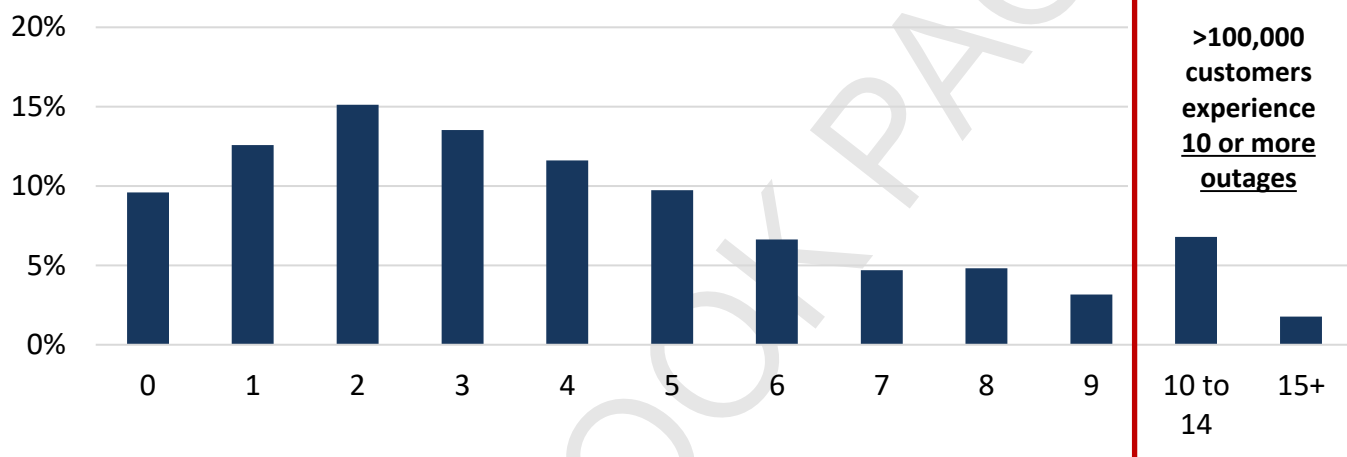
Helping Customers with Poor Reliability

Making Choices for Hydro One's Distribution System

Hydro One customers experience different levels of reliability, depending on where they live, equipment and the historical legacy of when the system was built.

While some Hydro One customers didn't experience any outages in 2017 or 2018, others were without power more than 15 times per year. Similarly, the total length of time that customers were without power ranged from less than one hour to more than 50 hours per year.

Average Number of Outages Per Customer (2018)



There are investments Hydro One can make to bring customers experiencing poor reliability closer to the system average. This includes modernizing certain distribution lines by adding remote monitoring, switches to detect and isolate the cause of a power interruption, and batteries to minimize the impact on customers.

There are two ways Hydro One can fund improvements for these customers:

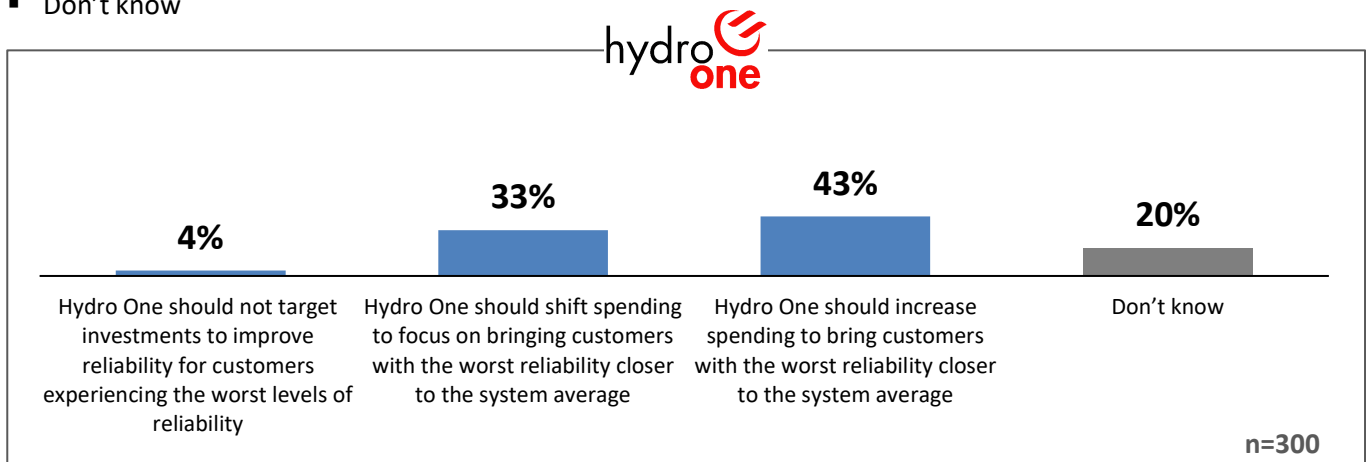
- Hydro One can shift spending away from circuits that experience average or better reliability to those with poor reliability. That will mean customers on circuits with average or better reliability will likely experience small declines in reliability, while customers with the worst reliability will see significant improvements.
- Hydro One can increase spending to provide additional resources for customers with the worst reliability and keep spending the same on circuit with average or better reliability. With this approach, no customer will be worse off, while customers with the worst reliability will see significant improvements.



Helping Customers with Poor Reliability

Q Which of the following statements best represents your point of view?

- Hydro One should not target investments to improve reliability for customers experiencing the worst levels of reliability in order to keep costs down, even if that leaves some with worse reliability than others.
- Hydro One should shift spending to focus on bringing customers with the worst reliability closer to the system average without raising prices, even if that means that reliability may go down for customers whose reliability is currently average or above.
- Hydro One should increase spending to bring customers with the worst reliability closer to the system average, even if that increases a typical residential customer's monthly bill by **less than 25 cents** each year.
- Don't know



Residential

	Total	Southern	Central	Eastern	Northern
Hydro One should <u>not</u> target investments to improve reliability for customers experiencing the worst levels of reliability	4%	5%	2%	12%	3%
Hydro One should shift spending to focus on bringing customers with the worst reliability closer to the system average	33%	38%	36%	29%	29%
Hydro One should increase spending to bring customers with the worst reliability closer to the system average	43%	38%	52%	41%	41%
Don't know	20%	18%	10%	18%	27%



Q Which of the following statements best represents your point of view?

- Hydro One should not target investments to improve reliability for customers experiencing the worst levels of reliability in order to keep costs down, even if that leaves some with worse reliability than others.
- Hydro One should shift spending to focus on bringing customers with the worst reliability closer to the system average without raising prices, even if that means that reliability may go down for customers whose reliability is currently average or above.
- Hydro One should increase spending to bring customers with the worst reliability closer to the system average, even if that increases a typical residential customer's monthly bill by **less than 25 cents** each year.
- Don't know

Chiefs 

	Total
Hydro One should <u>not</u> target investments to improve reliability for customers experiencing the worst levels of reliability	n= 1
Hydro One should shift spending to focus on bringing customers with the worst reliability closer to the system average	n= 7
Hydro One should increase spending to bring customers with the worst reliability closer to the system average	n= 12
Don't know	n= 4

Verbatim Responses: Chiefs 

"Everyone should have fair access to Hydro One services, that means that when service is the same for all customers, then improvements for across the board get happen at larger scales."

"Upgrades should be based on quality service and not at the cost of the end consumer. If the LDC is part of the issue then costs should be shared with the people profiting. The end user should not have to pay while the owners of the company are profiting."

"Every effort should be made to provide equitable services to everyone so all may enjoy the same quality of life. Especially the most vulnerable population such as Indigenous communities."

Online Workbook

Helping Customers with Poor Reliability

Q Which of the following statements best represents your point of view?

Residential 

Additional Comments (n=15)

95% of respondents did not provide additional feedback

n-size

Hydro one should pay- make cuts from within

5

Reliability is critical and should be equal for all customers

4

Keep rates low - stop increasing

1

Some outages are to be expected

1

Money should be spent for the biggest improvement for the most people

1

Issues with survey / need more information

1

Other

1

Chiefs 

Additional Comments (n=3)

21 respondents did not provide additional feedback

n-size

Keep rates low - stop increasing

1

Reliability is critical and should be equal for all customers

1

None

1

Online Workbook

Enabling Economic Growth

Making Choices for Hydro One's Distribution System

One of the issues that Hydro One planners face is whether to continue building out the distribution system in areas where economic development is expected to lead to future growth. Certain pockets across Ontario are experiencing regional growth and economic development, which leads to the need for greater investments in infrastructure to meet the demand for electricity.

Currently, in order to keep rates low, Hydro One **reactively increases the capacity of its system** to address community and economic growth. That means Hydro One only adds new capacity to its system when there are firm expectations of new demand and most of the costs to expand are borne by the connecting customers.

Some communities have expressed concern that, with this approach, it is difficult to attract new businesses to their community. For instance, not all communities currently have access to the level of power needed to grow and attract new businesses. While the level of power required to service a home is available across Hydro One's service territory, some businesses, including gas stations, grocery stores, and motels, require a greater electrical capacity to operate.

To help regional and economic development, Hydro One could take on a more **proactive role** and make the investments necessary to increase the capacity needed to supply communities where future growth is projected. If Hydro One responds to these communities and builds that capacity, all Hydro One customers will share the cost of adding this infrastructure, particularly if no businesses come. Communities say that attracting new business will increase demand and that will spread the costs out.

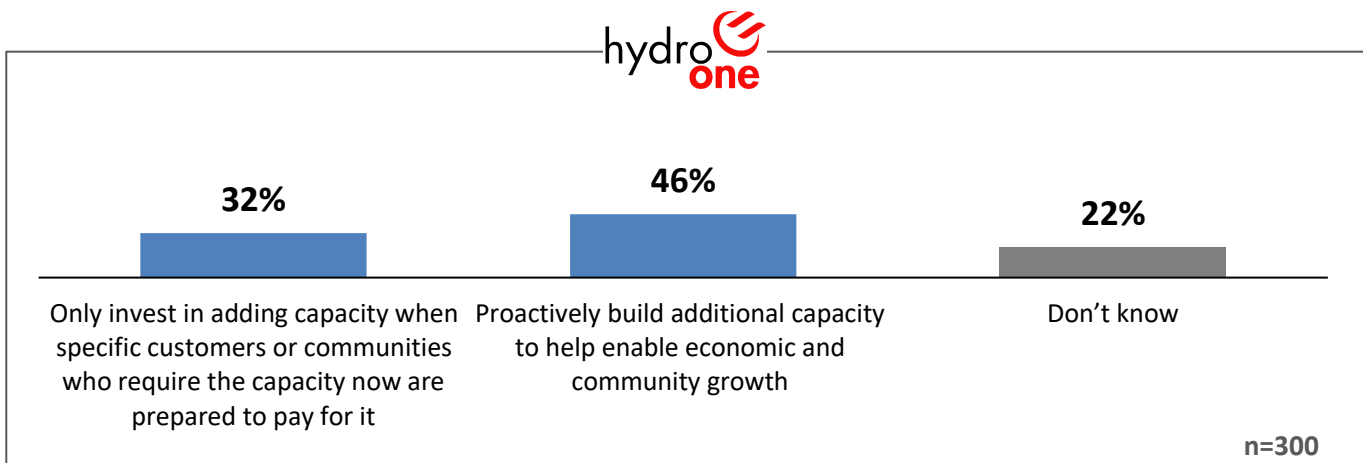
The question is whether customers would like Hydro One to promote or react to economic growth in the communities it operates in.





Q Which of the following statements best represents your point of view?

- Hydro One should only invest in adding capacity when specific customers or communities who require the capacity now are prepared to pay for it.
- Where a local community asks for it, Hydro One should proactively build additional capacity to help enable economic and community growth based on a forecast of the area's future requirements, even if these investments increase a typical residential customer's monthly electricity bill by **about 50 cents** each year.
- Don't know



Residential

	Total	Southern	Central	Eastern	Northern
Only invest in adding capacity when specific customers or communities who require the capacity now are prepared to pay for it	32%	35%	36%	47%	26%
Proactively build additional capacity to help enable economic and community growth	46%	40%	47%	29%	50%
Don't know	22%	25%	17%	24%	23%



Q Which of the following statements best represents your point of view?

- Hydro One should only invest in adding capacity when specific customers or communities who require the capacity now are prepared to pay for it.
- Where a local community asks for it, Hydro One should proactively build additional capacity to help enable economic and community growth based on a forecast of the area's future requirements, even if these investments increase a typical residential customer's monthly electricity bill by **about 50 cents** each year.
- Don't know

Chiefs 

	Total
Only invest in adding capacity when specific customers or communities who require the capacity now are prepared to pay for it	n= 6
Proactively build additional capacity to help enable economic and community growth	n= 14
Don't know	n= 4

Verbatim Responses: Chiefs 

"Better service overall will always cost extra it seems"

"This question should have other options - this feels like a threatening question. For example: Hydro One should work with communities for a point person and voluntarily build capacity that can be shared by that person. Or a point person for a geographical area."

"We believe there is sufficient capacity"

"In today's standards everyone should have equal access. Government funding and tax credits should be used to expand the network. Or another solution should be made to address growth."

"It seems that there should be better planning and a procedure in place where the community planners reach out to Hydro One at the outset of their project in order to advise them early of any additional capacity needed. Having said that Hydro One could be actively providing the community planners with information of the capacity that they have in order to determine whether or not they need to consider upgrading this capacity within some of their major projects. That is not something we know right now."

"I don't feel the answer to this issue is as clear cut as the statements provided to choose from. I think need should be demonstrated to an extent where it is backed with evidence with costs for doing recouped from the additional customers added to that load. I feel the answer lies somewhere between the statements provided, power increases should go where necessary, including where growth is reasonable and predictable with additional customers added to the load offsetting those costs."

Online Workbook

Enabling Economic Growth

Q Which of the following statements best represents your point of view?

Residential 

Additional Comments (n=17)

94% of respondents did not provide additional feedback

n-size

Keep rates down	5
Work with developers/cities/other professionals or organizations	3
Good planning and working with communities	1
Businesses requiring service should pay	1
Hydro one should pay- make cuts from within	1
Upgrade services/capacity	1
Developers / communities requiring services should pay	1
Other	4

Chiefs 

Additional Comments (n=6)

18 respondents did not provide additional feedback

n-size

Critical of question/survey	2
Upgrade services/capacity	1
Work with developers/cities/other professionals or organizations	1
Other	1
None	1

Online Workbook

Keeping Hydro One's Business Running

Making Choices for Hydro One's Distribution System

Hydro One is more than just poles and wires – it's a business that needs to invest in equipment such as tools, trucks, buildings, computers and software.

When deciding whether to continue to maintain existing equipment or replace them, Hydro One considers whether the risks and costs of continuing to use it outweigh the benefits of waiting longer to replace it. Delaying investments may make it harder for staff to do their jobs safely and maintain reliability and security standards.

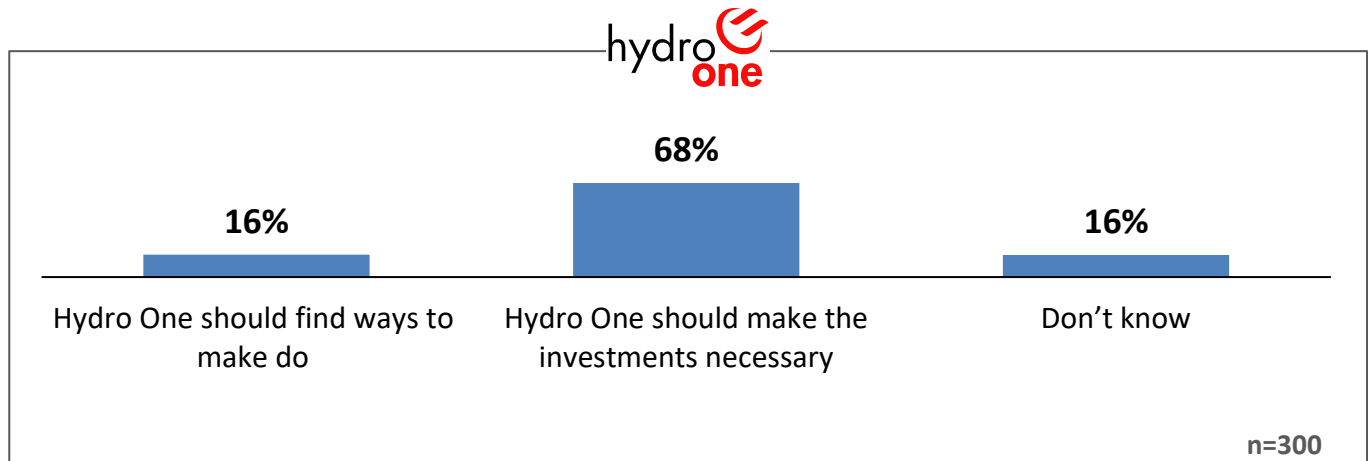





Keeping Hydro One's Business Running

Q Which of the following statements best represents your point of view?

- Hydro One's should find ways to make do with the facilities, equipment, vehicles and IT and computer systems it already has and only replace the equipment with the most urgent needs, even if that means increasing risk to safety, reliability, and security.
- Hydro One's should make the investments necessary to ensure its staff will have access to equipment of the same standard as similar sized businesses.
- Don't know



Residential 	Total	Southern	Central	Eastern	Northern
Hydro One should find ways to make do	16%	17%	11%	12%	19%
Hydro One should make the investments necessary	68%	69%	74%	82%	62%
Don't know	16%	14%	15%	6%	19%



Keeping Hydro One's Business Running

Q Which of the following statements best represents your point of view?

- Hydro One's should find ways to make do with the facilities, equipment, vehicles and IT and computer systems it already has and only replace the equipment with the most urgent needs, even if that means increasing risk to safety, reliability, and security.
- Hydro One's should make the investments necessary to ensure its staff will have access to equipment of the same standard as similar sized businesses.
- Don't know

Chiefs 

	Total
Hydro One should find ways to make do	n= 3
Hydro One should make the investments necessary	n= 18
Don't know	n= 3

Verbatim Responses: Chiefs 

"Again another unfair question. There should be more options and Hydro One should take more responsibility in training their staff in preventative maintenance regime. There are other ways to save money that can benefit the customers"

"Not enough info"

"The deliverables go hand in hand and safe equipment being one."

"This should go back to a research and development to address inefficient methods of getting the job done."

"This is a loaded question misleading respondents to choose the option to support investment into more equipment I am guessing so Hydro One can justify this expense. I don't believe that health and safety should ever be compromised BUT I don't believe that Hydro One needs to buy all new equipment to provide their services. Again, an asset management plan should be put in place so that their assets are replaced or upgraded at the right time."

"Having worked for HONI I know the waste that happens with tools, equipment and vehicle use. The company should look internally to clean these practices up and ensure proper stewardship of what they have before asking rate payers to foot the bill for newer or nicer equipment only to be misused in the current system."

Online Workbook

Keeping Hydro One's Business Running

Q Which of the following statements best represents your point of view?

Residential 

Additional Comments (n=20) 93% of respondents did not provide additional feedback	n-size
Find efficiencies in operation cost, especially salaries	5
Workers need safe, reliable equipment	4
Survey is leading, not giving enough options, biased	2
Perform thorough maintenance to get more value	1
Invest in worker training, not just equipment and tech	1
Lower cost for consumer	1
Keep tech and equipment up to date, prioritize service	1
Invest prudently, only in most necessary equipment	1
Other	3
Refused	1

Chiefs 

Additional Comments (n=6) 18 respondents did not provide additional feedback	n-size
Find efficiencies in operation cost, especially salaries	2
Workers need safe, reliable equipment	1
Survey is leading, not giving enough options, biased	1
None	1
Don't know	1

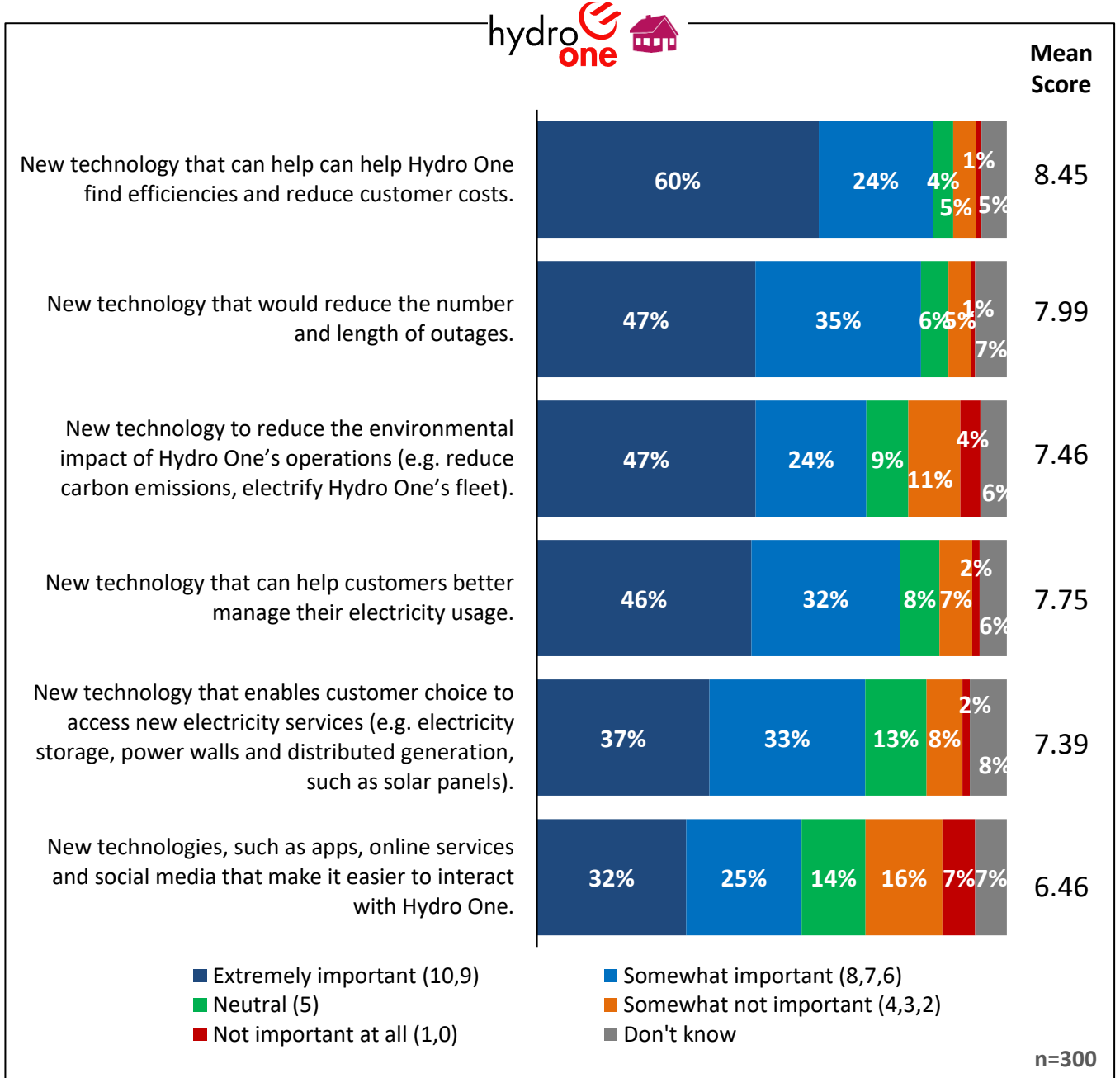
Online Workbook

Investing in New Technology



Another investment category is related to new technology that Hydro One could invest in to address a range of issues. These include reliability, efficiency, customer service, Hydro One’s impact on the environment, new service offerings and tools to manage electricity usage.

Q How important are each of the following investments in new technology that Hydro One could focus on?



Online Workbook

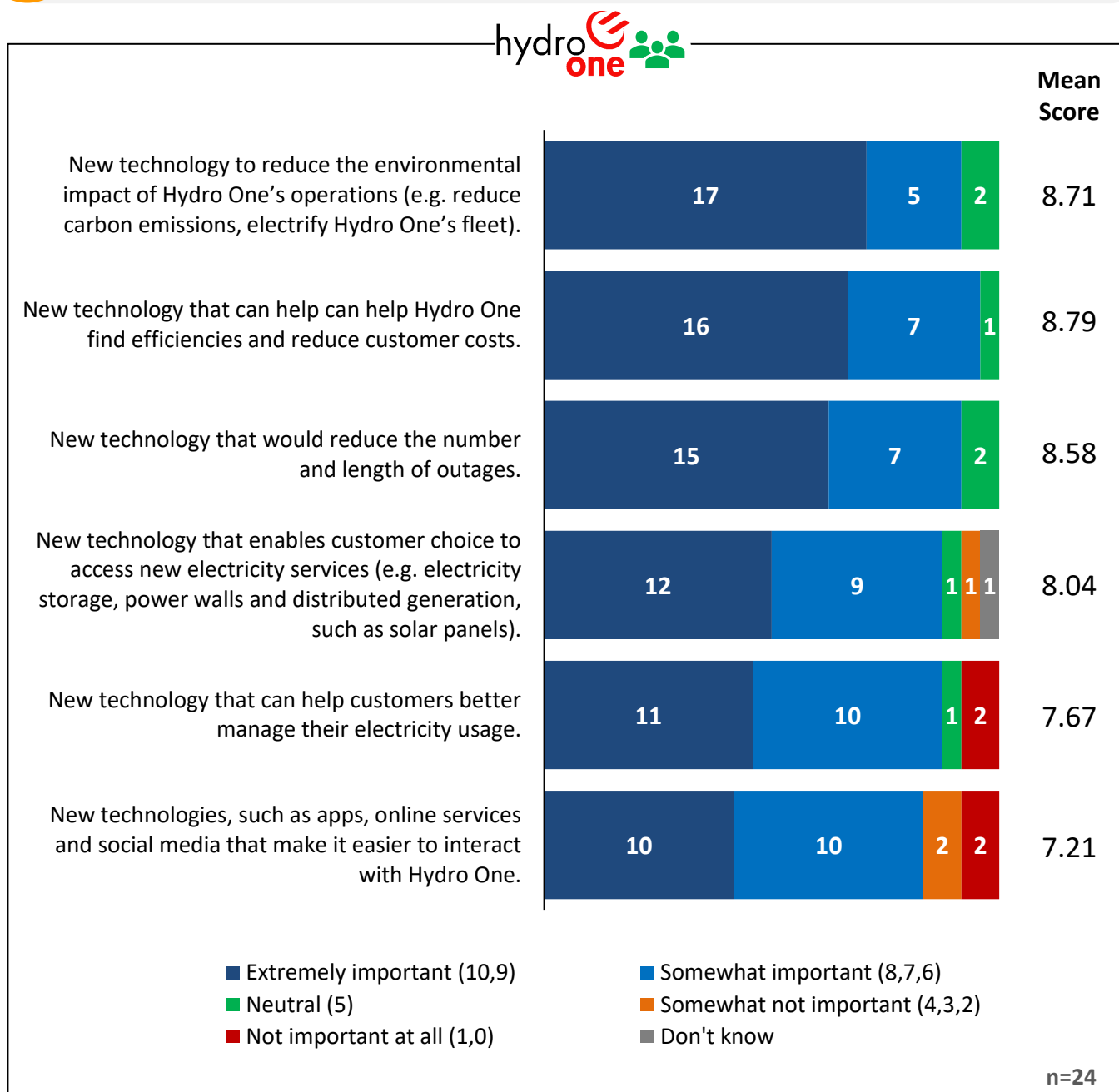
Investing in New Technology



Another investment category is related to new technology that Hydro One could invest in to address a range of issues. These include reliability, efficiency, customer service, Hydro One's impact on the environment, new service offerings and tools to manage electricity usage.

Q

How important are each of the following investments in new technology that Hydro One could focus on?



Online Workbook

Investing in New Technology

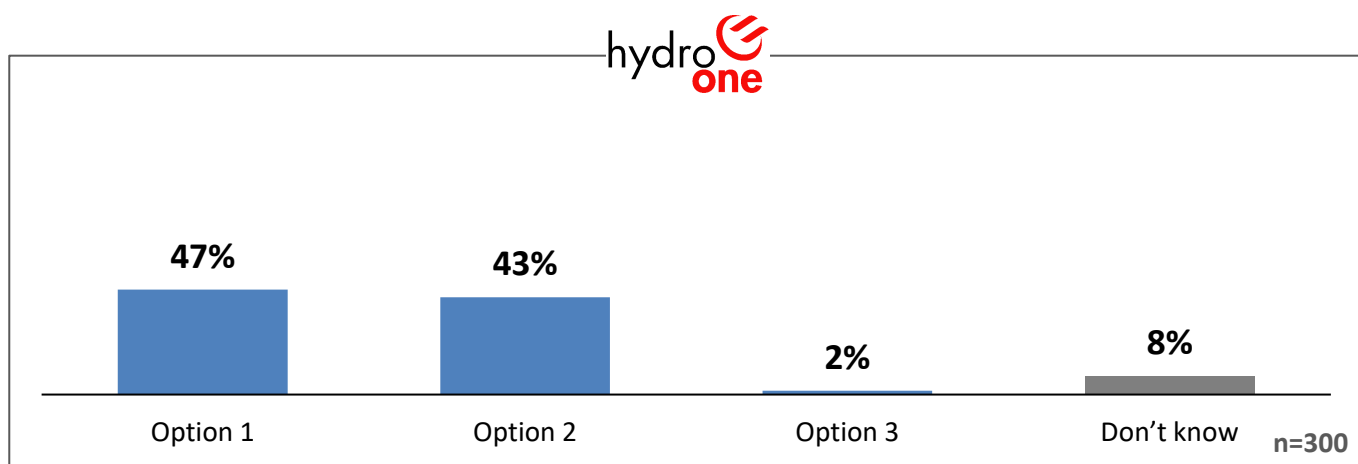
Residential




Q

Which of the following statements best represents your point of view when it comes to investing in new technologies?

- **Option 1:** Hydro One should only invest in new technologies if there is clear evidence that these technologies will lead to positive outcomes.
- **Option 2:** Hydro One should pursue Option 1 and also invest in pilot projects for new technologies where the company sees a good chance that it would lead to positive outcomes.
- **Option 3:** Hydro One should not invest in these new technologies.
- Don't know



Residential 	Total	Southern	Central	Eastern	Northern
Option 1	47%	31%	51%	47%	53%
Option 2	43%	54%	44%	35%	38%
Option 3	2%	5%	1%	-	1%
Don't know	8%	11%	4%	18%	8%



Q

Which of the following statements best represents your point of view when it comes to investing in new technologies?

- **Option 1:** Hydro One should only invest in new technologies if there is clear evidence that these technologies will lead to positive outcomes.
- **Option 2:** Hydro One should pursue Option 1 and also invest in pilot projects for new technologies where the company sees a good chance that it would lead to positive outcomes.
- **Option 3:** Hydro One should not invest in these new technologies.
- Don't know

Chiefs 

	Total
Option 1	n= 9
Option 2	n= 14
Option 3	n= 0
Don't know	n= 1

Verbatim Responses: Chiefs 

"Invest when - cost savings could be end result - for growth & advancement"

"What is the definition of "positive outcomes" - for the benefit of who? Hydro One or the Customer?"

"This would be the ideal option to make fact based business decisions instead of forcing the end consumer to pay the price."

"Pilot projects should look to employ Indigenous people and bring value back to those First Nations where work is being done within their traditional territories."

Online Workbook

Investing in New Technology

Q

Which of the following statements best represents your point of view when it comes to investing in new technologies?

Residential 

Additional Comments (n=4)

99% of respondents did not provide additional feedback

n-size

Allow or incentivize customer local generation and conservation technology

2

Only make investments that are proven to work and improve service

1

Invest more in green and alternative energy, environmental protection

1

Growth and new technology is essential

1

Chiefs 

Additional Comments (n=4)

20 respondents did not provide additional feedback

n-size

Make investments that are proven to reduce customer bills

2

Only make investments that are proven to work and improve service

1

None

1

Online Workbook

Keeping Pace with Aging Transmission Infrastructure

Making Choices for Hydro One's Transmission System

Now, we would like to talk about the provincial transmission system. That is the part of the system that uses high voltage transmission lines that serve as highways for electricity, bringing power from generation stations like Darlington and Niagara Falls to your community.



Portions of Hydro One's transmission system date back 50 to 100 years. Up until now Hydro One has focused on maintaining this equipment, but it will soon be time to replace much of this aging equipment. Aging equipment eventually deteriorates, increasing the risk of equipment failures.

Currently, one in four transformers are at the end of their expected service lives, and nearly 10,000 steel towers are over 80 years old. If Hydro One continues with its current levels of investment, the share of aging equipment will increase.

Hydro One has some flexibility over when to replace this aging infrastructure:

Hydro One can address only the most pressing needs now and push most investments further into the future. This would keep rates lower in the short term but will lead to the need for greater investments and steeper rate increases in the future.

Alternatively, Hydro One can organize the work to spread the costs out more evenly. This would mean higher rates in the short term but more stable rates in the future.

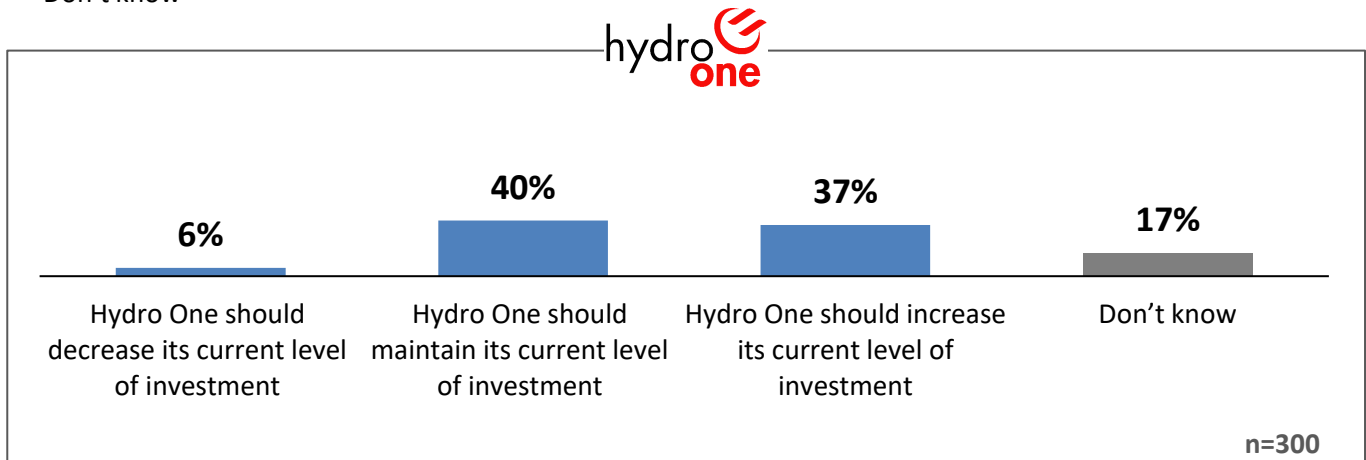


Keeping Pace with Aging Transmission Infrastructure

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

- Hydro One should **decrease its current level of investment** and slow down the pace at which it replaces aging equipment to keep annual rate increases for new equipment at **less than 50 cents** on a typical residential customer's monthly bill, even if that means steeper rate increases in the future.
- Hydro One should **maintain its current level of investment** and replace equipment at the same pace to keep annual rate increases for new equipment at **slightly more than 50 cents** on a typical residential customer's monthly bill, even if that means rates will continue to increase at that level in the future.
- Hydro One should increase its current level of investment in the transmission system to keep pace with aging infrastructure, even if that means annual rate increases for new equipment **under a dollar** on a typical residential customer's monthly bill and lower rate increases in the future.
- Don't know



Residential	Total	Southern	Central	Eastern	Northern
Hydro One should decrease its current level of investment	6%	4%	9%	4%	8%
Hydro One should maintain its current level of investment	40%	38%	35%	23%	48%
Hydro One should increase its current level of investment	37%	47%	49%	48%	24%
Don't know	17%	12%	7%	26%	20%



Keeping Pace with Aging Transmission Infrastructure

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

- Hydro One should **decrease its current level of investment** and slow down the pace at which it replaces aging equipment to keep annual rate increases for new equipment at **less than 50 cents** on a typical residential customer's monthly bill, even if that means steeper rate increases in the future.
- Hydro One should **maintain its current level of investment** and replace equipment at the same pace to keep annual rate increases for new equipment at **slightly more than 50 cents** on a typical residential customer's monthly bill, even if that means rates will continue to increase at that level in the future.
- Hydro One should increase its current level of investment in the transmission system to keep pace with aging infrastructure, even if that means annual rate increases for new equipment **under a dollar** on a typical residential customer's monthly bill and lower rate increases in the future.
- Don't know

Chiefs 

	Total
Hydro One should decrease its current level of investment	n= 2
Hydro One should maintain its current level of investment	n= 10
Hydro One should increase its current level of investment	n= 8
Don't know	n= 4

Verbatim Responses: Chiefs 

"Again, Hydro One should use some of its profits to repair the aging infrastructure. Any other business uses their own dollar to advance, update or repair equipment for their business in order to continue to make a profit. Why not Hydro One?"

"Maintain your Level of Service (LOS)"

"Ensure reliability of the system"

"This is not the responsibility of the end consumer, this is the cost of doing business. This cost could be distributed to entities purchasing power in other provinces and America."

"There should be an infrastructure replacement reserve set up now in order to replace infrastructure that needs it immediately and to put away funds in high interest savings accounts to replace infrastructure in the future that will need it. There needs to be an asset management plan in place so these replacements are planned well ahead of time and replaced at the right time."

Online Workbook

Keeping Pace with Aging Transmission Infrastructure

Q

Which of the following statements best represents your point of view regarding Hydro One's approach to dealing with aging infrastructure?

Residential 

Additional Comments (n=17)

94% of respondents did not provide additional feedback

n-size

Pay with Profits/find other revenue streams/customers should not pay

3

Need transparency in plans/costs

2

Undertake maintenance/upgrades planning

2

Maintenance/upgrades should have been ongoing

2

Biased leading question, only looking to raise rates

2

Reduce rates/no increase

2

Find efficiencies/reduce operating costs

2

Small increase acceptable if necessary

1

Other

2

Chiefs 

Additional Comments (n=5)

19 respondents did not provide additional feedback

n-size

Pay with profits/Find other revenue streams/customers should not pay

2

Investment is necessary, reliability/safety over cost

2

None

1

Online Workbook

Investing in a More Reliable Transmission System

Making Choices for Hydro One's Transmission System

As with the distribution system, when it comes to transmission, not all customers are experiencing an equally reliable level of service. This can be attributed to a number of factors, including the type of lines your community is connected to, the age of the equipment or simply geography.

Outages due to transmission system failure are less frequent than distribution related outages. However, outages in the transmission system tend to affect a larger number of customers.

In order to provide more reliable service for all customers, Hydro One has identified two areas that could benefit from additional investments.

- 1. More Backup Supply:** Most of Hydro One's transmission system has been built with multiple sources of supply (backup capabilities). Meaning, if one line goes down, another one is there to back it up and therefore reduce the length of an outage. That said, some communities are still serviced by single lines without an alternate source of supply (no backup).

Customers on lines with multiple sources of supply (backup capabilities) are much less likely to experience outages. Also, when interruptions do happen, power is restored significantly faster.

Reliability Measurements	Lines with backup	Lines without backup	Average
Number of interruptions (per customer)	0.5	3.5	1.33
Total duration of interruptions (minutes)	15 minutes	200 minutes	70 minutes

- 2. Storm Hardening:** In cases of extreme weather, a transmission system failure can leave thousands without power for days, as was the case with the tornado in the Ottawa region in September 2018. While it's difficult to predict when or how often these types of storms will occur, Hydro One can increase its building standards to be more resilient.

This could include replacing wood poles with steel, or using thicker, more expensive wires to prevent losses.

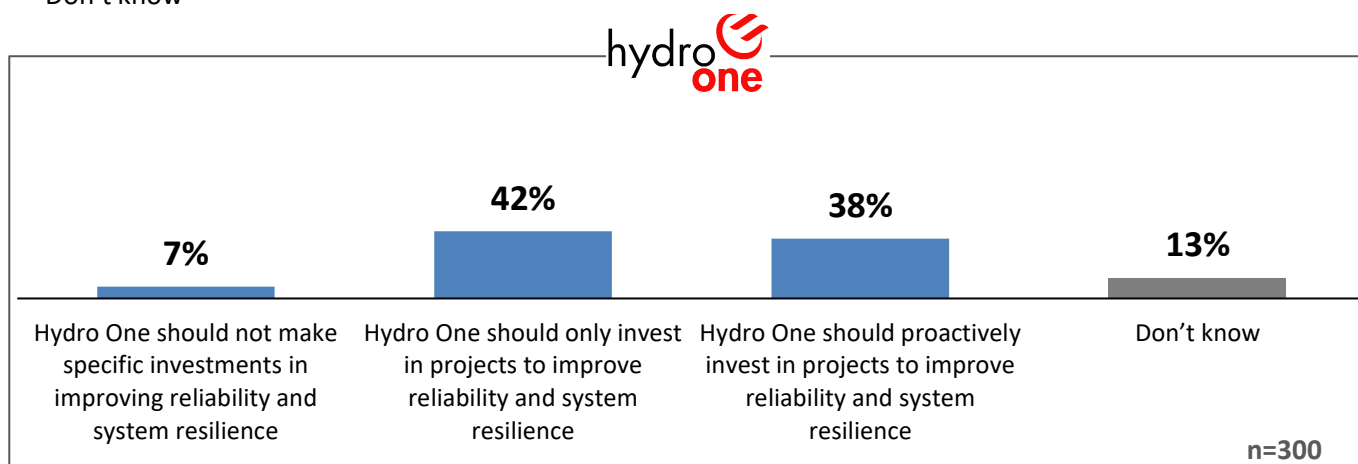
While these types of investments aren't necessary to maintain current levels of reliability, they could benefit specific customers on lines without backup capabilities, as well prepare for more frequent severe weather events.




Investing in a More Reliable Transmission System

Q Which of the following statements best represents your point of view?

- In order to keep rates down, Hydro One should not make specific investments in improving reliability and system resilience, even if that could leave some customers worse off than others, and result in more and longer outages during severe weather.
- Hydro One should only invest in projects to improve reliability and system resilience as part of the ongoing replacement of old or failing equipment, even if that increases a typical residential customer's monthly electricity bill by **less than 25 cents** each year.
- Hydro One should proactively invest in projects to improve reliability and system resilience, even if that increases a typical residential customer's monthly electricity bill by **a little more than 25 cents** each year.
- Don't know



Residential 	Total	Southern	Central	Eastern	Northern
Hydro One should <u>not</u> make specific investments in improving reliability and system resilience	7%	6%	5%	5%	10%
Hydro One should only invest in projects to improve reliability and system resilience	42%	45%	42%	39%	41%
Hydro One should proactively invest in projects to improve reliability and system resilience	38%	40%	49%	30%	35%
Don't know	13%	9%	5%	26%	14%



Investing in a More Reliable Transmission System

Q Which of the following statements best represents your point of view?

- In order to keep rates down, Hydro One should not make specific investments in improving reliability and system resilience, even if that could leave some customers worse off than others, and result in more and longer outages during severe weather.
- Hydro One should only invest in projects to improve reliability and system resilience as part of the ongoing replacement of old or failing equipment, even if that increases a typical residential customer's monthly electricity bill by **less than 25 cents** each year.
- Hydro One should proactively invest in projects to improve reliability and system resilience, even if that increases a typical residential customer's monthly electricity bill by **a little more than 25 cents** each year.
- Don't know

Chiefs 

	Total
Hydro One should <u>not</u> make specific investments in improving reliability and system resilience	n= 2
Hydro One should only invest in projects to improve reliability and system resilience	n= 10
Hydro One should proactively invest in projects to improve reliability and system resilience	n= 10
Don't know	n= 2

Verbatim Responses: Chiefs 

"Hydro One should proactively invest in projects to improve reliability and system resilience, even if that increases a typical residential customer's monthly electricity bill by a little more than 25 cents each year. - ONLY if the projects have a clean Life Cycle Assessment (LCA)."

"Hydro One should selloff excess power to the US - currently they send it to the US at no cost."

"Ensure reliability"

"I have a little more sympathy and would agree to a small increase to minimize down time. Redundancy would be a worthwhile investment."

"Reliability of power is a critical component of quality of life and with climate change Hydro One should work on preparing for more extreme weather. This investment will offset costs in responding to public issues and notification of outages."

Online Workbook

Investing in a More Reliable Transmission System

Q Which of the following statements best represents your point of view?

Residential 

Additional Comments (n=12)

96% of respondents did not provide additional feedback

n-size

Hydro one should pay- make cuts from within

3

Critical of question/survey

2

Improve/maintain the system - long term cost savings/reliability

2

Reduce excessively high rates and stop increasing rates

1

Replace overhead service lines / bury lines to provide reliable service

1

Other

1

Don't know

1

Chiefs 

Additional Comments (n=5)

19 respondents did not provide additional feedback

n-size

Improve/maintain the system - long term cost savings/reliability

3

Other

1

None

1

Online Workbook

Reducing the Number of Momentary Outages

Making Choices for Hydro One's Transmission System

Beyond the number and duration of outages, Hydro One measures the quality of the electricity it delivers. Power quality is judged by momentary interruptions.

For residential customers, this can result in the flickering or dimming of lights or might mean re-setting your clock. However, for many businesses and manufacturers across Ontario, poor power quality can have significant impacts. Because their equipment is very sensitive, a momentary outage or power surge on a transmission line can cost manufacturers millions of dollars.

Some businesses see good power quality as a competitive advantage that can contribute to attracting new businesses to the Hydro One service territory. Manufacturers and businesses that require more stable voltage than Hydro One currently delivers need to invest in their own equipment to monitor and regulate momentary fluctuations.

However, Hydro One is looking at making investments to focus on reducing momentary outages. Specifically, Hydro One is considering two types of investments:

1. **Remote switches** can be used to quickly re-route power when a momentary outage does occur, reducing the impact on sensitive equipment such as robotics.
2. **Battery storage** can be used to store electricity that can be used when it is most needed, including during momentary outages.

While the benefits of these types of investments will mostly be felt for business and manufacturing customers, all Hydro One customers would share the associated costs. These types of investments could attract new businesses, which would lower the costs per customer, but there is no guarantee.



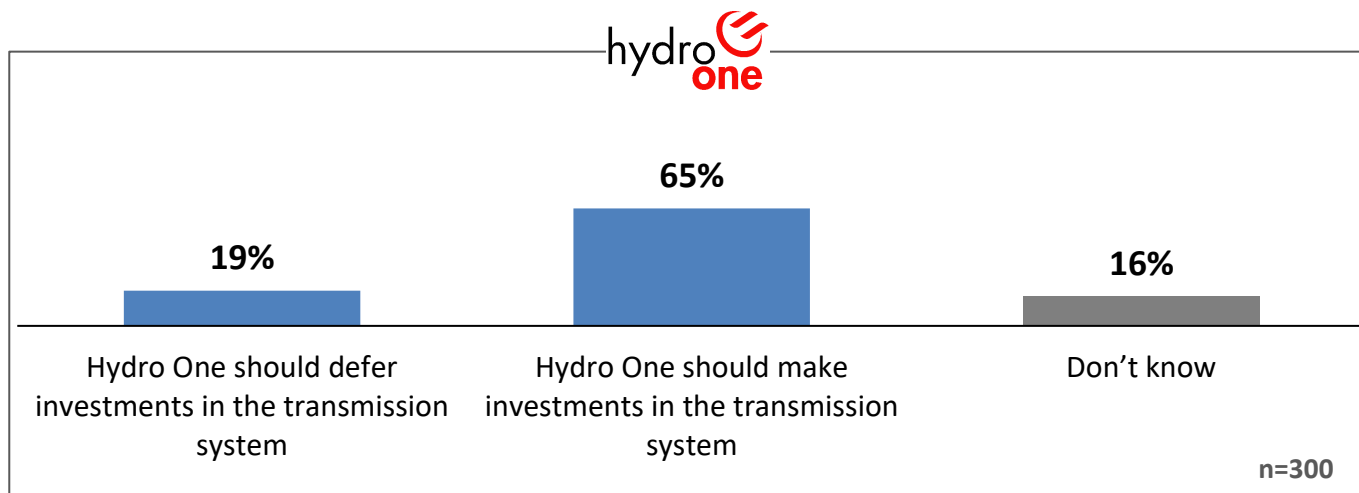



Reducing the Number of Momentary Outages



Which of the following statements best represents your point of view regarding investments in facilities and infrastructure?

- Hydro One should defer investments in the transmission system aimed at improving power quality to keep costs down, even if that creates problems for manufacturers.
- Hydro One should make investments in the transmission system aimed at improving power quality, even if that increases a typical residential customer's monthly electricity bill **by a few cents** each year.
- Don't know



Residential 	Total	Southern	Central	Eastern	Northern
Hydro One should defer investments in the transmission system	19%	24%	16%	10%	19%
Hydro One should make investments in the transmission system	65%	62%	74%	58%	66%
Don't know	16%	14%	9%	31%	15%



Reducing the Number of Momentary Outages

Q

Which of the following statements best represents your point of view regarding investments in facilities and infrastructure?

- Hydro One should defer investments in the transmission system aimed at improving power quality to keep costs down, even if that creates problems for manufacturers.
- Hydro One should make investments in the transmission system aimed at improving power quality, even if that increases a typical residential customer's monthly electricity bill **by a few cents** each year.
- Don't know

Chiefs 

	Total
Hydro One should defer investments in the transmission system	n= 3
Hydro One should make investments in the transmission system	n= 17
Don't know	n= 4

Verbatim Responses: Chiefs 

"This again would be the cost of doing business and should be a business case for Hydro One. More research should be done. This should be a product that Hydro One offers to the end consumer as an option, not something that is forced on them."

"Why can't this expense be borne solely by manufacturers and businesses if it is meant to improve the system specifically for them? It doesn't seem fair that households are impacted financially by this."

Online Workbook

Reducing the Number of Momentary Outages

Q

Which of the following statements best represents your point of view regarding investments in facilities and infrastructure?

Residential 

Additional Comments (n=16)

95% of respondents did not provide additional feedback

n-size

Businesses should pay/make the investment

5

Manufacturing is good for economy/keep in Ontario

4

More options required

2

Don't trust the question / issues with survey

2

Make investment without any increases

1

Provide reliable power (quality)

1

Invest but not at the cost of service to residential customers - shared costs

1

Hydro one should pay- make cuts from within

1

Chiefs 

Additional Comments (n=2)

22 respondents did not provide additional feedback

n-size

Make investment without any increases

1

None

1



Building Understanding.

For more information, please contact:

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B2 - ANWAATIN INTERROGATORY - 003

Reference:

Exhibit B-2-1, Section 2.4

Preamble:

HONI has previously provided transmission system performance data for

1. the “Northern” part of the system and
2. the system supplying certain First Nation communities (Beardmore DS #2, Long Lac TS, Moosonee DS, Nipigon DC, Red Rock DS).

Interrogatory:

a) Please provide an update in respect of HONI’s transmission system performance data for

1. the “Northern” part of the system and
2. the transmission system supplying certain First Nation communities (Beardmore DS #2, Long Lac TS, Moosonee DS, Nipigon DC, Red Rock DS) by completing the following tables:

i. Frequency of Momentary Interruptions

Year	2019	2020
# of momentary interruptions		
# of DPs in Northern Region		
T-SAIFI-m*		

**T-SAIFI-m = Total number of momentary interruptions / total number of DP monitored*

ii. Frequency of Sustained Interruptions

Year	2019	2020
# of sustained interruptions		
# of DPs in Northern Region		
T-SAIFI-s*		

**T-SAIFI-s = Total number of sustained interruptions / total number of DP monitored*

1

iii. Overall Frequency of Interruptions

Year	2019	2020
# of overall interruptions		
# of DPs in Northern Region		
T-SAIFI-all*		

**T-SAIFI-all = Total number of momentary and sustained interruptions / total number of DP monitored*

2

3

iv. Duration of Sustained Interruptions

Year	2019	2020
Duration of sustained interruptions (minutes)		
# of DPs in Northern Region		
T-SAIDI		

**T-SAIDI = Total duration of sustained interruptions / total number of DP monitored*

4

5

v. Delivery Point Unreliability Index

Year	2019	2020
Total Unsupplied Energy (MW x minutes)		
System Peak Load (MW)		
DPI		

**DPI = Total unsupplied energy / system peak load*

6

7

vi. CDPP Outliers

Year	2019	2020
Total # of DPs in Northern Region		
# of Outliers in Northern Region		

1 b) Please present the data provided pursuant to part (a) in graphical form, together with the
 2 data from 2006 through 2018, in a manner similar to the graphical presentation of data in
 3 Exhibit JT 1.27 in EB-2019-0082. Please include graphical representation of the average from
 4 2006 to 2020.

5

6 **Response:**

7 a)

8 1. "Northern" system:

9

10

i. Frequency of Momentary Interruptions

Year	2019	2020
# of momentary interruptions	230	219
# of DPs in Northern Region	148	146
T-SAIFI-m*	1.55	1.50

**T-SAIFI-m = Total number of momentary interruptions / total number of DP monitored*

11

12

ii. Frequency of Sustained Interruptions

Year	2019	2020
# of sustained interruptions	245	246
# of DPs in Northern Region	148	146
T-SAIFI-s*	1.66	1.68

**T-SAIFI-s = Total number of sustained interruptions / total number of DP monitored*

13

14

iii. Overall Frequency of Interruptions

Year	2019	2020
# of overall interruptions	475	465
# of DPs in Northern Region	148	146
T-SAIFI-all*	3.21	3.18

**T-SAIFI-all = Total number of momentary and sustained interruptions / total number of DP monitored*

1

iv. Duration of Sustained Interruptions

Year	2019	2020
Duration of sustained interruptions (minutes)	19508.5	45628.4
# of DPs in Northern Region	148	146
T-SAIDI	131.8	312.5

**T-SAIDI = Total duration of sustained interruptions / total number of DP monitored*

2

3

v. Delivery Point Unreliability Index

Year	2019	2020
Total Unsupplied Energy (MW x minutes)	116593.5	127498.9
System Peak Load (MW)	1860.8	1779.8
DPUI	62.7	71.6

**DPUI = Total unsupplied energy / system peak load*

4

5

vi. CDPP Outliers

Year	2019	2020
Total # of DPs in Northern Region	148	146
# of Outliers in Northern Region	46	38

1 2. the transmission system supplying certain First Nation communities

2

3

i. Frequency of Momentary Interruptions

Year	2019	2020
# of momentary interruptions	8	15
# of DPs supplying First Nation Communities	5	5
T-SAIFI-m*	1.60	3.00

**T-SAIFI-m = Total number of momentary interruptions / total number of DP monitored*

4

5

ii. Frequency of Sustained Interruptions

Year	2019	2020
# of sustained interruptions	21	9
# of DPs supplying First Nation Communities	5	5
T-SAIFI-s*	4.20	1.80

**T-SAIFI-s = Total number of sustained interruptions / total number of DP monitored*

6

7

iii. Overall Frequency of Interruptions

Year	2019	2020
# of overall interruptions	29	24
# of DPs supplying First Nation Communities	5	5
T-SAIFI-all*	5.80	4.80

**T-SAIFI-all = Total number of momentary and sustained interruptions / total number of DP monitored*

1

iv. Duration of Sustained Interruptions

Year	2019	2020
Duration of sustained interruptions (minutes)	1597	2375
# of DPs supplying First Nation Communities	5	5
T-SAIDI	319.4	475

**T-SAIDI = Total duration of sustained interruptions / total number of DP monitored*

2

3

v. Delivery Point Unreliability Index

Year	2019	2020
Total Unsupplied Energy (MW x minutes)	4975	9216.9
System Peak Load (MW)	34.4	30.8
DPU	144.8	298.9

**DPU = Total unsupplied energy / system peak load*

4

vi. CDPP Outliers

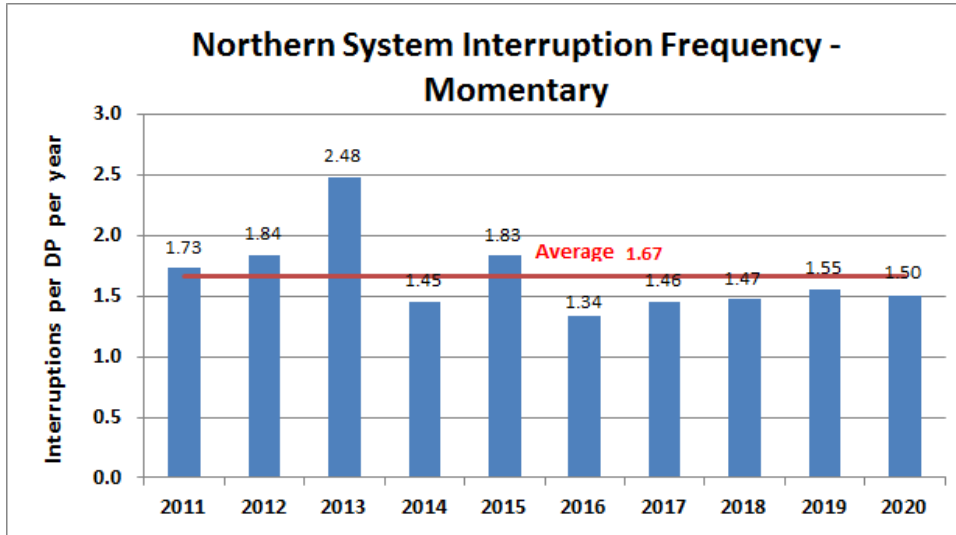
Year	2019	2020
# of DPs supplying First Nation Communities	5	5
# of Outliers in First Nation Communities	2	2

5

1 b) Hydro One has provided the requested reliability data for the 2011-2020 period as this period
2 is sufficient to observe the performance of the transmission system and is consistent with
3 other reliability data presented in this Application.

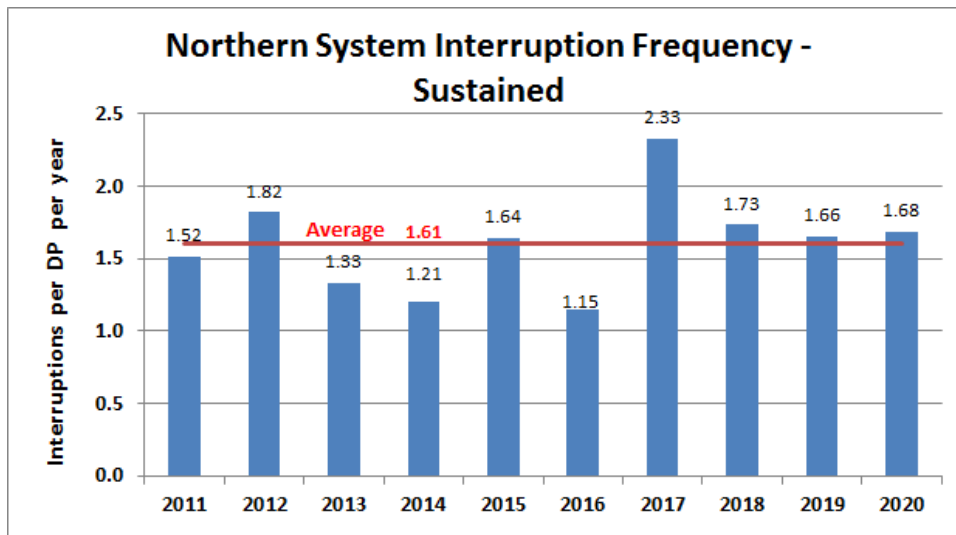
4

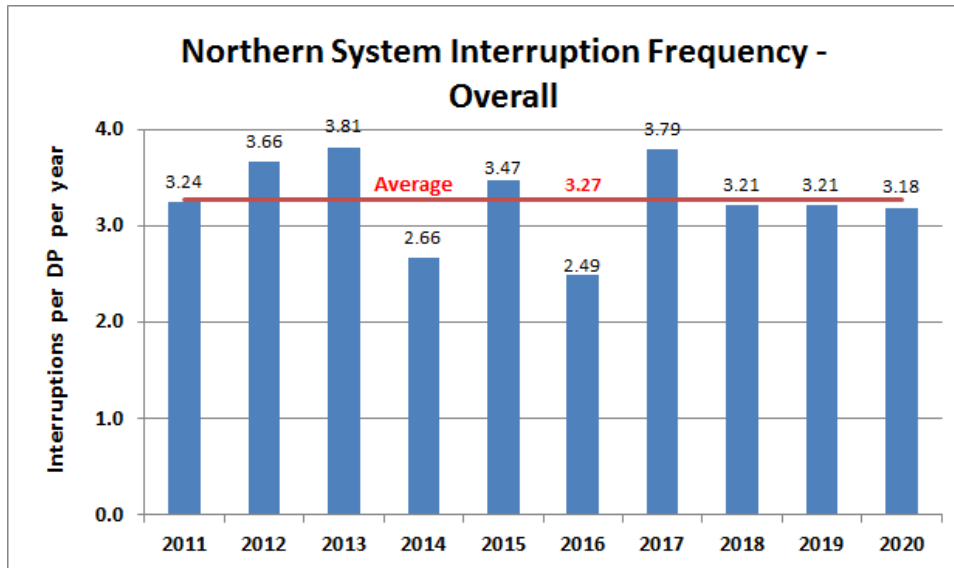
5 1. the “Northern” part of the system



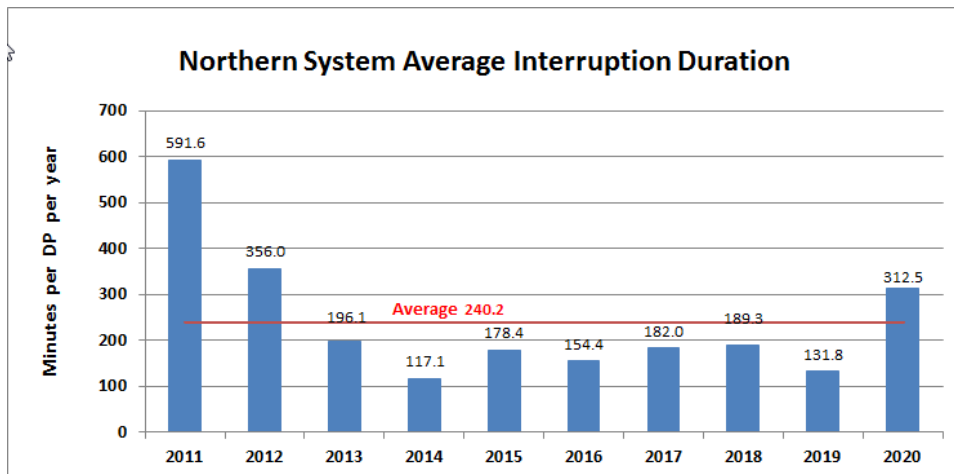
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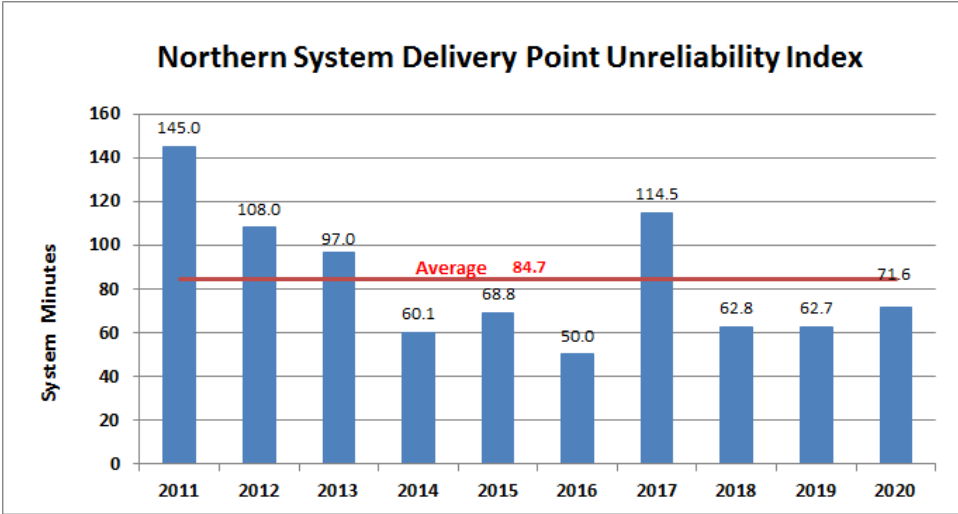
7





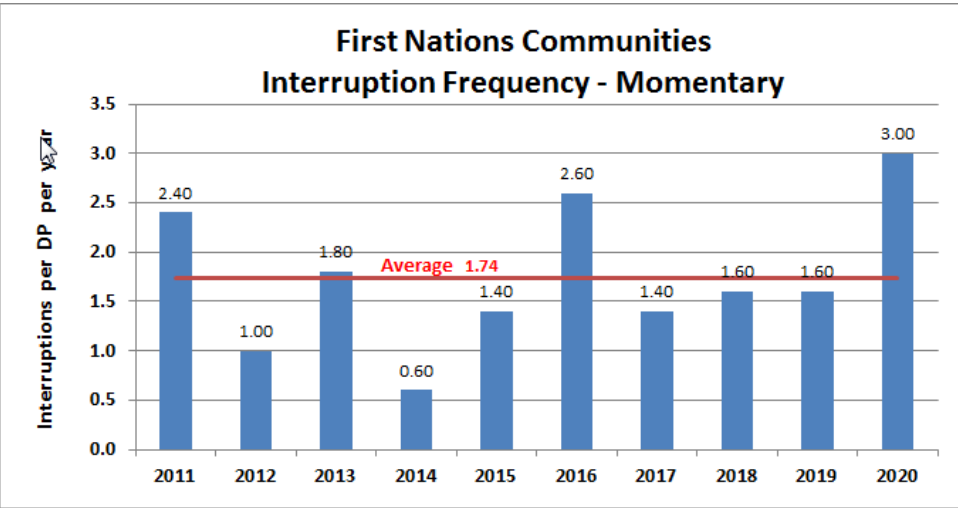
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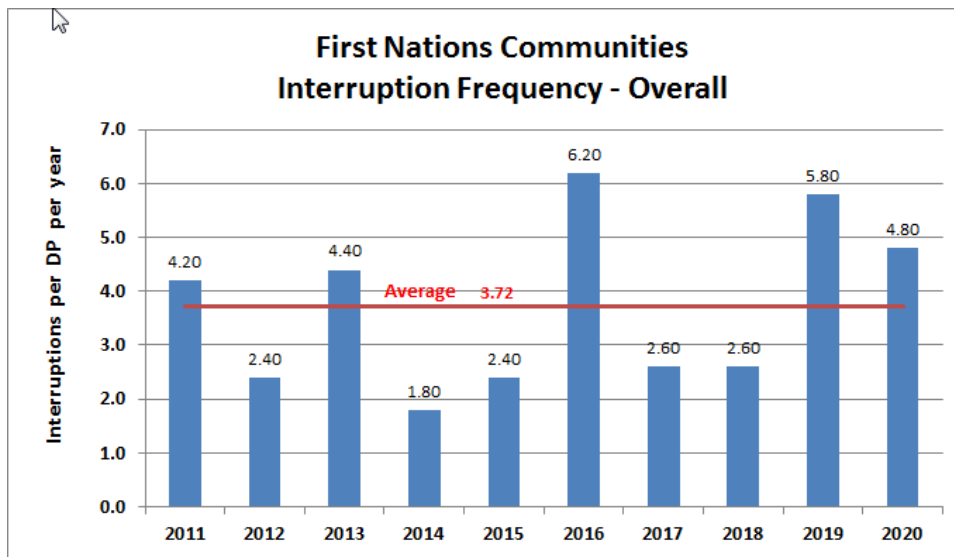
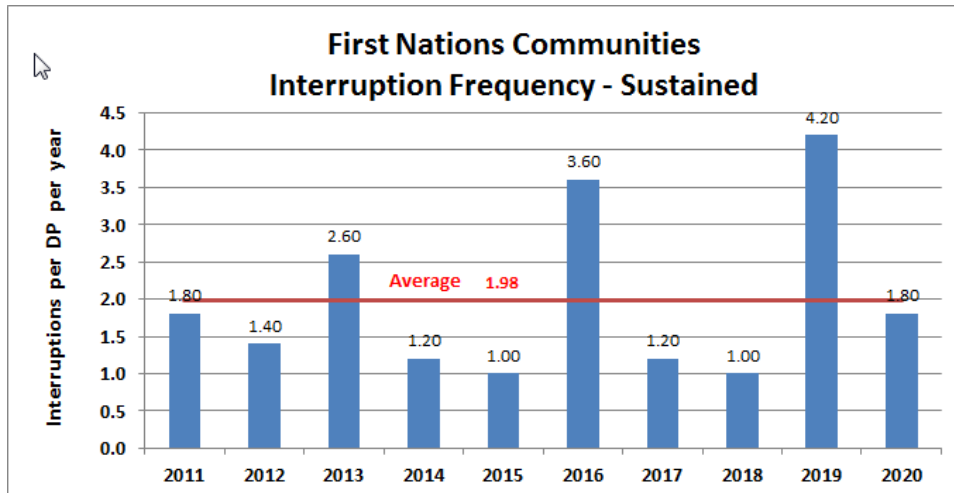


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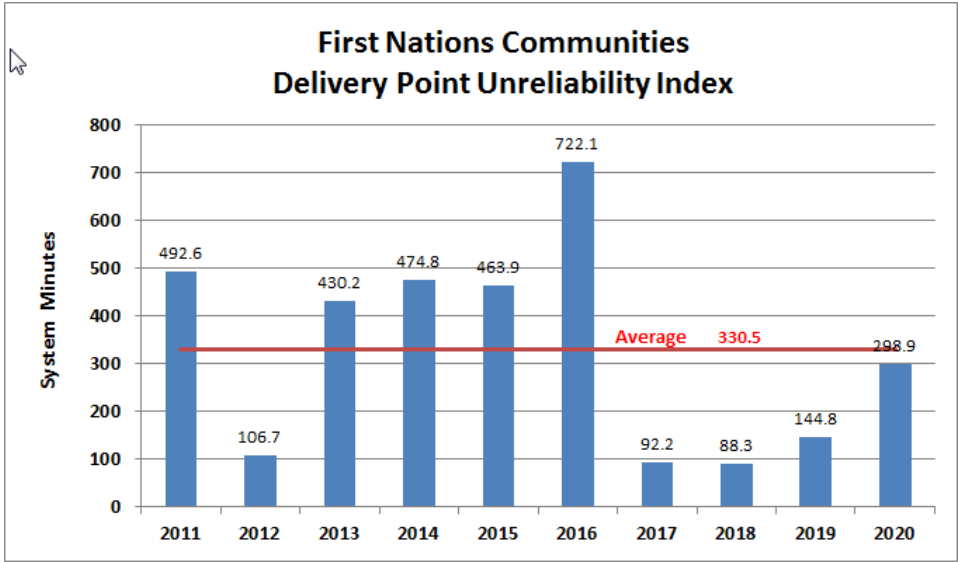
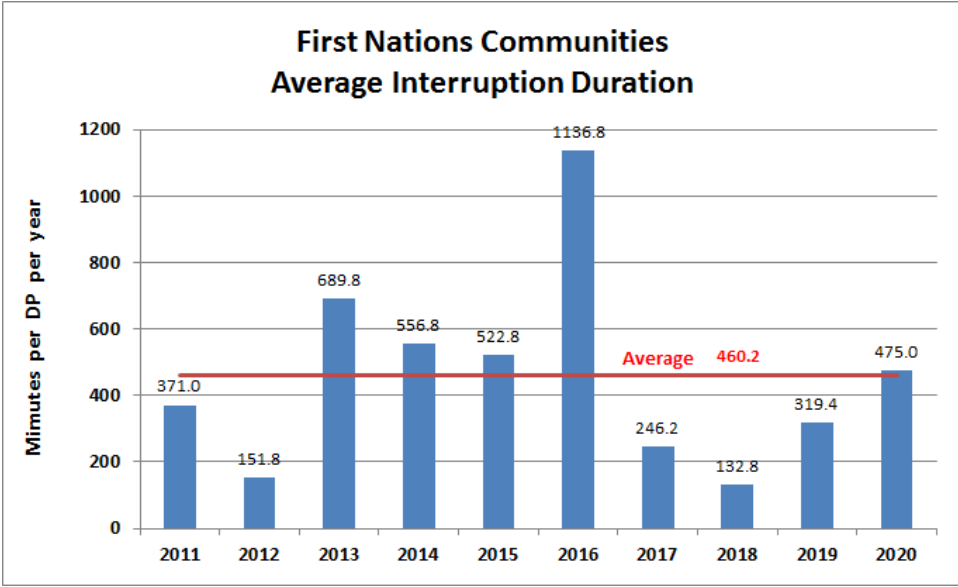
- 2. the transmission system supplying certain First Nation communities (Beardmore DS #2, Long Lac TS, Moosonee DS, Nipigon DC, Red Rock DS)



1
2



1
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Witness: JESUS Bruno

1 **B3 - ANWAATIN INTERROGATORY - 004**
2

3 **Reference:**

4 Exhibit B-3-1, DSP Section 3.11, D-SS-04, page 5-6
5

6 **Preamble:**

7 Following discussions with Anwaatin, HONI began an initiative in April 2018 to assess whether an
8 energy storage pilot project could be developed in a remote region of the distribution system with
9 sub-standard performance serving Anwaatin communities and tested to determine reliability
10 improvement and whether the approach could be used as a repeatable approach in other regions
11 of the system (the "**Pilot Project**"). The Pilot Project includes two phases.
12

13 Anwaatin and HONI filed a Settlement Proposal with the Board on June 15, 2018 in EB-2017-0335
14 (the "**Settlement Proposal**") and the Board accepted the Settlement Proposal in its Decision and
15 Order dated August 23, 2018.
16

17 HONI makes reference to the Aroland First Nation BESS pilot project at page 5 of ISD D-SS-04, but
18 does not discuss other aspects of the Pilot Project (including Phase 2).
19

20 **Interrogatory:**

- 21 a) Please confirm the current status of the Aroland First Nation BESS pilot project.
22
- 23 b) What is the current status of work contemplated in Phase 2 of the Pilot Project? Please
24 describe how lessons learned in implementation of the Aroland First Nation BESS pilot project
25 will be used for similar solutions in other Indigenous communities with sub-standard
26 reliability.
27
- 28 c) Please discuss all aspects of the Settlement Proposal that Hydro One is currently undertaking
29 or intends to undertake during the 2023-2027 period.
30
- 31 d) The Settlement Proposal contemplates the use of solar generation facilities in conjunction
32 with battery energy storage systems. Please describe Hydro One's consideration of solar
33 generation facilities in relation to the Pilot Project and the Settlement Proposal broadly and
34 provide all related reports and analysis.

1 e) Is HONI considering an investment model for Energy Storage Solutions that would facilitate
2 equity participation of Indigenous communities. If yes, please describe how. If no, please
3 explain why not. [Penny Favel, Rob Berardi, Bruno Jesus]
4

5 **Response:**

6 a) Construction is complete and commissioning is underway. Hydro One anticipates the pilot
7 project will be completed in Q4 of 2021.
8

9 b) Hydro One has no official standard of reliability of service and reliability can be heavily
10 influenced by the local system configuration.
11

12 As part of Phase 2 of the Settlement Proposal, Hydro One has developed a plan to deploy BESS
13 projects for a number of First Nations Communities. Please refer to A-07-02-01 for detailed
14 reliability data and D-SS-04 for the grid scale storage plan. First Nations Communities were
15 prioritized as candidates for BESS based on historical reliability performance. A full review of
16 the Aroland BESS pilot project will be conducted upon completion. Hydro One will use the
17 results and learnings from this review to inform future execution of similar projects at other
18 First Nations Communities.
19

20 c) In accordance with the Settlement Proposal, Hydro One is implementing a pilot battery
21 energy storage project with Aroland First Nation to provide reliability improvement for the
22 community. See part b) for other aspects of the Settlement Proposal Hydro One is
23 undertaking.
24

25 d) Aroland BESS contains a microgrid controller that has the ability to interface with distributed
26 generation, including solar generation. There are no reports or plans for solar generation
27 facilities at this time.
28

29 e) Hydro One is not considering equity participation in Energy Storage Solutions with Indigenous
30 communities at this time.

1 **B3 - ANWAATIN INTERROGATORY - 005**
2

3 **Reference:**

4 Exhibit B-3-1, DSP Section 3.11, D-SS-05
5

6 **Preamble:**

7 HONI indicates that its worst performing feeders investment is an initiative identified in its system
8 plan that seeks to address the reliability challenges faced by northern communities (including First
9 Nations communities).
10

11 **Interrogatory:**

- 12 a) Of the 500 worst performing feeders serving over 600,000 customers, what number of
13 feeders serve Indigenous communities? What proportion of the 600,000 customers are
14 Indigenous customers?
15
- 16 b) Please explain in detail the manner in which the proposed worst performing feeders
17 investment assists in addressing reliability challenges in Indigenous communities.
18
- 19 c) Please identify the measurable improvements to reliability HONI anticipates in northern
20 Indigenous communities as a direct result of its worst performing feeders investment. Please
21 provide any and all supporting reports, information, or data.
22

23 **Response:**

- 24 a) 28 feeders supplying Indigenous communities directly, are in the plan for 2023-2027, and 4
25 upstream distribution feeders that supply the stations that feed Indigenous communities.
26 Approximately 8800 customers benefiting from this investment are Indigenous customers.
27
- 28 b) The investment will reduce feeder outage duration through:
- 29 • Deployment of modern switching equipment that can be remotely controlled to
30 provide isolation and sectionalization.
 - 31 • Installation of Communicating Faulted Circuit Indicators (CFCI), which will identify the
32 fault location to system operators to enable faster restoration by field personnel.
33

34 This investment focuses on reducing the duration of outages of the worst performing feeders
35 by allowing Hydro One to locate and respond to outages faster, remotely sectionalize feeders
36 to restore as many customers as possible and improve load transfer capabilities. An example
37 to illustrate how these devices can improve reliability is included in ISD D-SS-05 pages 4 to 8.

- 1 c) Over the course of this planning period, detailed analysis will be completed for each of the
- 2 feeders to determine the appropriate locations for the installation of remote operable devices
- 3 and CFCIs. This analysis will be completed in advance of the deployments for each feeder.
- 4 Based on analysis completed to date, the average expected SAIDI improvement is
- 5 approximately 40% when remotely operable devices are installed. Depending on the location
- 6 of the communities and feeder configuration, the level of benefit observed by each
- 7 community would vary. As result, other reliability improvement investments such as Energy
- 8 Storage Solutions described in D-SS-04 are also considered for communities with reliability
- 9 concerns.

1 **E - ANWAATIN INTERROGATORY - 006**

2
3 **Reference:**

4 Exhibit E-3-2, Section 2.4

5
6 **Preamble:**

7 HONI indicates that its vegetation management program is an initiative identified in its system
8 plan that seeks to address the reliability challenges faced by northern communities (including First
9 Nations communities).

10
11 **Interrogatory:**

- 12 a) Please explain in detail the manner in which the vegetation management program assists in
13 addressing reliability challenges in Indigenous communities.
- 14
- 15 b) Please identify the measurable improvements to reliability HONI anticipates in northern
16 Indigenous communities as a direct result of its vegetation management program. Please
17 provide any and all supporting reports, information, or data.

18
19 **Response:**

- 20 a) In 2018 Hydro One implemented a new vegetation management approach, the Optimal Cycle
21 Protocol (OCP), to reduce the overall vegetation management cycle and reduce the number
22 of vegetation defects along its right of ways. Reducing vegetation defects along right of ways
23 has been shown to improve reliability. All feeders supplying Indigenous communities are
24 being managed using OCP and will benefit from the same expected reliability improvements.
- 25
- 26 b) The accumulated annual differential improvement of tree caused outages between OCP and
27 non-OCP feeders ranged from 23% to 41% as shown in table 7 of B-03-01 Section 3.3,
28 Attachment 3: Hydro One Optimal Cycle Protocol (OCP) First Cycle Performance Assessment.
29 See B-03-01 Section 3.3, Attachment 3 for the full report.

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EB-2021-0110
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Witness: FALTAOUS Peter