ENBRIDGE

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January 12, 2026

VIA RESS AND EMAIL

Ritchie Murray
Acting Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ritchie Murray:

Re: Enbridge Gas Inc. (Enbridge Gas)
Ontario Energy Board (OEB) File No.: EB-2025-0189
2023 Demand Side Management (DSM) Deferral and Variance Account
Disposition Application - Additional Information Request

On December 18, 2025, the OEB issued Procedural Order No. 2, directing Enbridge Gas to provide additional supporting evidence explaining the Union Rate Zones' balances and interest accrued.

In accordance with Procedural Order No. 2, please find the requested information enclosed, filed as Exhibit I.STAFF.3.

If you have any questions, please contact the undersigned.

Sincerely,

Justin Egan
Technical Manager, Regulatory Applications

cc.: D. O'Leary (Aird & Berlis)
EB-2025-0189 (Intervenors)

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Energy Board Staff (STAFF)

Interrogatory

Reference:

EB-2025-0189 Application & Evidence, Exhibit A, Tab 2, Schedule 1

Preamble:

Table 1 and Table below summarizes the 2023 balances in the DSM Deferral and Variance Account (DSMVA), DSM Incentive Deferral Account (DSMIDA), and LRAM Variance Account (LRAMVA) for the EGD and Union rate zones, as requested for clearance by Enbridge Gas:

Table 1: 2023 DSM DVA Disposition Application (Assuming Clearance by April 1 QRAM)

Account	**EGD Rate Zone**	**Union Rate Zones**
DSMVA	$10,678,557	($6,787,987)
DSMIDA	$3,852,334	$3,254,015
LRAMVA	$7,636	$615,773
Total (Excluding Interest)	**$14,538,527**	**($2,918,199)**
Interest (April 1 QRAM)		
Total (Including Interest)		

Table 2: 2023 DSM DVA Disposition Application (Assuming Clearance by July 1 QRAM)

Account	**EGD Rate Zone**	**Union Rate Zones**
DSMVA	$10,678,557	($6,787,987)
DSMIDA	$3,852,334	$3,254,015
LRAMVA	$7,636	$615,773
Total (Excluding Interest)	**$14,538,527**	**($2,918,199)**
Interest (July 1 QRAM)		
Total (Including Interest)		

Enbridge Gas proposes to dispose of these balances in the first available QRAM following OEB approval. For bill impact calculations, Enbridge Gas assumes implementation with the April 1, 2025 QRAM. However, the Decision and Order may not be issued by February 18, 2026 decision dates requested by Enbridge Gas, based on OEB procedural timelines. As a result, the interest amount will depend on the timing of

the Decision and Order and the subsequent clearance of the DSMVA, DSMIDA and LRAMVA balances.

Question(s):

Please provide the interest amount for each rate zone if the balances are cleared in the April 1 QRAM application and the July 1 QRAM application?

Response:

Please see Table 1 for the 2023 DSM DVA Disposition balances, including forecast interest as of April 1, 2026. The assumed interest rate is 2.55% based on the OEB-prescribed rate for Q1 2026. Please note that the total interest amount has increased from $443,708, as filed in the Application, to $449,927 as a result of the revised interest rate and a formula correction.

Table 1
2023 DSM DVA Disposition (Assuming Clearance by April 1, 2026)

Line No	Account	EGD Rate Zone	Union Rate Zones
1	DSMVA	10,678,557	(6,787,987)
2	DSMIDA	3,852,334	3,254,015
3	LRAMVA	7,636	615,773
4	Total (Excluding Interest)	14,538,527	(2,918,199)
5	Interest (April 2026)	218,863	231,064
6	Total (Including Interest)	14,757,390	(2,687,135)

Please see Table 2 for the 2023 DSM DVA Disposition balances, including forecast interest as of July 1, 2026. The assumed interest rate is 2.55% based on the OEB-prescribed rate for Q1 2026.

Table 2
2023 DSM DVA Disposition (Assuming Clearance by July 1, 2026)

Line No.	Account	EGD Rate Zone	Union Rate Zones
1	DSMVA	10,678,557	(6,787,987)
2	DSMIDA	3,852,334	3,254,015
3	LRAMVA	7,636	615,773
4	Total (Excluding Interest)	14,538,527	(2,918,199)
5	Interest (July 2026)	256,886	267,121
6	Total (Including Interest)	14,795,413	(2,651,078)

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Energy Board Staff (STAFF)

Interrogatory

Reference:

(i) EB-2024-0193 Application & Evidence, Exhibit D, Tab 1, Schedule 1, Pages 1-6

(ii) EB-2024-0193 Decision and Rate Order, Schedule A, page 1

Preamble:

In its last DSM DVA application (EB-2024-0193), Enbridge Gas sought and received OEB approval to collect an additional $60 million as a one-time interim deferral disposition to offset a portion of overspend related to the Home Efficiency Rebate Plus (HER+) offering in 2024. Enbridge Gas indicated that the forecasted HER+ program offering spend in 2024 was approximately $120 million more than the OEB approved amount of $67,771,524 in the DSM Plan Decision. Enbridge Gas further noted that the $60 million cleared on an interim basis represents only a portion of the total overspend and that a detailed summary of the HER+ program will be filed for final approval and disposition of the remaining balance in a subsequent application (the 2024 DSM DVA application).

Question(s):

a) What is the value of the remaining, uncollected portion of the 2024 overspend related to the Home Efficiency Rebate Plus (HER+) offering?

b) What is the incremental carrying cost associated with waiting until the 2024 DSM DVA application to seek to collect this remaining overspend?

c) Why did Enbridge Gas choose not to apply to collect, on a one-time, interim basis, the remaining overspend from the 2024 HER+ program in its current 2023 DSM DVA application?

Response:

a) Please see Table 1 for the calculation of the remaining uncollected portion of the 2024 overspend related to the HER+ offering in 2024.

Table 1
Remaining Uncollected Portion of the 2024 Overspend Related to HER+

Line No.	Particulars	Dollars
1	2024 Whole Home Spend (1)	197,439,979
2	2024 Whole Home Budget built into Rates (2)	67,771,524
3	HER+ collected through 2022 clearance (3)	60,000,000
4	Uncollected HER+ (4)	69,668,455

Notes:
(1) DRAFT 2024 Demand Side Management Annual Report, April 1, 2025, p.62. The figure displays Whole Home spend which includes costs associated with HER and HER+.
(2) Ibid.
(3) EB-2024-0193, Decision and Order, March 11, 2025, p.8.
(4) Line No. 4 = Line No. 3-Line No. 2-Line No. 1.

b) The incremental carrying costs of holding $69,668,455 until the 2024 clearance is estimated at $1,776,546 in interest for the period of April 2026 to April 2027. This estimate is based on the assumption that the 2024 DSMVA balances will be cleared one year after the 2023 Clearance is recovered in rates, assuming an interest rate of 2.55%.

c) In the 2022 DSM clearance, Enbridge Gas included evidence noting the following:

> Enbridge Gas held a stakeholder session on March 26, 2024, hosted by OEB Staff, where the HER+ 2024 overspend issue was brought to the attention of DSM Stakeholders. Subsequently, on an OEB hosted Stakeholder session in June, Enbridge Gas again presented on the 2024 HER+ overspend issue and requested feedback on the idea of rate smoothing the forecasted $120 million 2024 overspend by inclusion of $60 million as an interim deferral disposition, with the remainder to be cleared in the 2024 DSM deferral and variance account clearance applications. Stakeholder feedback was supportive of Enbridge Gas's proposal in this regard.[1]

There are several factors that complicate recovery prior to the 2024 Application:

[1] EB-2024-0193, Exhibit D, Tab 1, Schedule 1, p. 5.

- The 2024 DSMVA balance for other DSM programming has resulted in a credit for non-HER+ offerings. Clearing all of the remaining HER+ balance in isolation could lead to an overpayment to Enbridge Gas relative to the final 2024 DSMVA balance.

- At the time of filing, the audit results for the 2024 DSM program year have not been finalized, the 2024 DSM Variance Account and Deferral Disposition Application have not been submitted to the OEB, and resulting adjustments for the 2024 program year have not been identified.

Based on the factors above, Enbridge Gas believes the most prudent approach is to complete the 2024 audit, incorporate any identified adjustments, and clear the final 2024 DSMVA balance across all remaining programs and rate classes in the 2024 Application. Enbridge Gas communicated the intention to clear the remaining HER+ overspend balance in the 2024 DSM Deferral and Variance Account clearance application and received no alternative proposals[2].

Should the OEB direct Enbridge Gas to include an interim clearance of amounts related to the HER+ offering incurred in 2024, the Company recommends no more than $45 million to limit the possibility of overpayment relative to the total 2024 DSMVA balance. This would add approximately $12.17 to the one-time bill adjustments included in this Application for typical residential customers. The interest savings from collecting $45 million one year earlier is approximately $1.15 million, which would reduce the one-time bill adjustment by approximately $0.31 for a typical residential customer upon disposition of final 2024 DSM deferral account balances. The Company would also recommend spreading the total billing adjustment evenly over three months to smooth bill impacts in a given month for customers if a portion of the 2024 DSMVA balance is included in this application.

[2] EB-2024-0193, Exhibit D, Tab 1, Schedule 1, p.2.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Energy Board Staff (STAFF)

Interrogatory

Question(s):

The OEB seeks clarification of the calculations for the Union Rate Zones, specifically how forecast interest was calculated and applied to the credit balances (rows 4, 5 and 6 of Table 1 and Table 24), and the forecast increase in interest from April to July 2026, given that it represents a credit balance to the Union Rate Zones customers.

Response:

Please see Attachment 1 for the detailed monthly calculation of interest for each 2023 DSM Deferral and Variance Account (DSMVA). These accounts are harmonized and monthly balances by rate class or rate zone are not available. Interest is calculated monthly based on the total account balance multiplied by the OEB prescribed interest rate divided by 12. The final interest amounts are typically allocated in proportion to the final principal balance by rate class, except for the DSMVA as described below.

The 2023 principal balance for the DSMVA is a debit of $3.891 million from ratepayers with an associated interest credit balance of $0.080 million to ratepayers based on disposing on April 1, 2026. As shown at Attachment 1, line 1, the DSMVA principal balance was initially recorded as a $4.528 million credit with interest accrued on this credit balance for 12 months from December 2023 to November 2024. This resulted in cumulative interest of ($0.227 million) through December 2024 based on prescribed interest rates between 4.40% and 5.49%. In December 2024, a journal entry was posted to move forward $8.42 million relating to Deferred Participant Costs (DPC) and Participant Incentive Deferral Account (PIDA) balances[1], for the funds to be available for future year commitments. This brought the 2023 DSMVA to the final debit balance of $3.891 million, being sought for clearance in this application. Interest was accrued on this adjusted balance for 16 months from December 2024 to March 2026. This resulted in positive monthly interest for 16 months based on prescribed interest rates between 2.55% and 4.40%, partially offsetting the interest credit balance from December 2024. The final interest balance in March 2026 of $0.080 million is in a credit position even though the principal balance is a debit from ratepayers. The interest balance in June 2026 is also in a credit position of $0.551 million.

[1] EB-2021-0002, OEB Decision and Order, Schedule E, p.35.

The driver of interest amounts by rate class for the DSMVA is not clear as there is no monthly detail for principal balances by rate class or rate zone. Allocating interest in proportion to principal would result in inverse signs of principal and interest for all rate classes, with many offsetting interest debits and credits. Enbridge Gas instead allocated interest associated with the 2023 DSMVA balance based on the 2023 DSM budget such that each rate class receives a proportionate allocation of interest credit, as shown at Attachment 2, page 1, column (c).

The principal balances in the DSM Incentive Deferral Account (DSMIDA) and Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) are relatively stable and reflect positive balances for all months, as shown at Attachment 1, lines 2 and 3. Enbridge Gas has allocated final interest amounts in proportion to the final principal balance by rate class for these accounts.

The detailed allocation of 2023 principal and interest balances for each DSM Deferral and Variance Account are provided at Attachment 2 and Attachment 3 based on disposing on April 1, 2026 and July 1, 2026, respectively.

Enbridge Gas Inc.

2023 DSM Deferral and Variance Account Balances by Month

Line No.	Particulars ($000s)	2023		2024											
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Principal Balance														
1	Demand Side Management (DSMVA)	1,193	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	(4,528)	3,891
2	Demand Side Management Incentive (DSMIDA)		5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022	5,022
3	Lost Revenue Adj Mechanism (LRAMVA)		511	511	511	511	511	511	511	511	511	511	511	511	511
4	Prescribed Interest Rate	5.49%	5.49%	5.49%	5.49%	5.49%	5.49%	5.49%	5.49%	5.20%	5.20%	5.20%	4.40%	4.40%	4.40%
	Monthly Interest														
5	Demand Side Management (DSMVA)		5	(21)	(21)	(21)	(21)	(21)	(21)	(20)	(20)	(20)	(17)	(17)	(17)
6	Demand Side Management Incentive (DSMIDA)			23	23	23	23	23	23	22	22	22	18	18	18
7	Lost Revenue Adj Mechanism (LRAMVA)			2	2	2	2	2	2	2	2	2	2	2	2
	Cumulative Interest														
8	Demand Side Management (DSMVA)		5	(15)	(36)	(57)	(77)	(98)	(119)	(138)	(158)	(178)	(194)	(211)	(227)
9	Demand Side Management Incentive (DSMIDA)			23	46	69	92	115	138	160	181	203	222	240	258
10	Lost Revenue Adj Mechanism (LRAMVA)			2	5	7	9	12	14	16	18	21	23	24	26
11	Total Principal (line 1 + line 2 + line 3)														
12	Total Interest (line 8 + line 9 + line 10)														
13	Total (line 11 + line 12)														

Enbridge Gas Inc.
2023 DSM Deferral and Variance Account Balances by Month

Line No.	Particulars ($000s)	2025												2026					
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	Principal Balance																		
1	Demand Side Management (DSMVA)	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891
2	Demand Side Management Incentive (DSMIDA)	5,022	5,022	5,022	5,022	5,022	5,022	5,022	7,126	7,106	7,106	7,106	7,106	7,106	7,106	7,106	7,106	7,106	7,106
3	Lost Revenue Adj Mechanism (LRAMVA)	511	511	511	511	511	511	511	623	623	623	623	623	623	623	623	623	623	623
4	Prescribed Interest Rate	3.64%	3.64%	3.64%	3.16%	3.16%	3.16%	2.91%	2.91%	2.91%	2.91%	2.91%	2.91%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%
	Monthly Interest																		
5	Demand Side Management (DSMVA)	12	12	12	10	10	10	9	9	9	9	9	9	8	8	8	8	8	8
6	Demand Side Management Incentive (DSMIDA)	15	15	15	13	13	13	12	12	17	17	17	17	15	15	15	15	15	15
7	Lost Revenue Adj Mechanism (LRAMVA)	2	2	2	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1
	Cumulative Interest																		
8	Demand Side Management (DSMVA)	(216)	(204)	(192)	(182)	(172)	(161)	(152)	(142)	(133)	(124)	(114)	(105)	(96)	(88)	(80)	(72)	(63)	(55)
9	Demand Side Management Incentive (DSMIDA)	274	289	304	317	331	344	356	368	385	403	420	437	452	467	482	498	513	528
10	Lost Revenue Adj Mechanism (LRAMVA)	28	29	31	32	34	35	36	37	39	40	42	43	45	46	47	49	50	51
11	Total Principal (line 1 + line 2 + line 3)															11,620			11,620
12	Total Interest (line 8 + line 9 + line 10)															450			524
13	Total (line 11 + line 12)															12,070			12,144

Enbridge Gas Inc.

2023 DSMVA Balance (April 2026 Clearing)

Line No.	Particulars ($000's)	2023 DSM Budget (1) (10^3m^3) (a)	2023 DSMVA Balance		
			Principal (b)	Interest (2) (c)	Total (d) = (b + c)
	EGD Rate Zone				
1	Rate 1	45,112	15,037	(25)	15,011
2	Rate 6	23,823	(2,566)	(13)	(2,580)
3	Rate 100	-	69	-	69
4	Rate 110	2,531	1,336	(1)	1,335
5	Rate 115	1,450	(1,215)	(1)	(1,216)
6	Rate 135	287	1,089	(0)	1,089
7	Rate 145	1,178	(1,148)	(1)	(1,149)
8	Rate 170	2,362	(1,918)	(1)	(1,919)
9	Rate 200	40	(1)	(0)	(1)
10	Rate 125	166	(4)	(0)	(4)
11	Rate 300	1	(0)	(0)	(0)
12	Total EGD Rate Zone	76,949	10,679	(43)	10,635
	Union North Rate Zone				
13	Rate 01	6,030	(732)	(3)	(736)
14	Rate 10	3,264	(1,659)	(2)	(1,661)
15	Rate 20	1,852	(646)	(1)	(647)
16	Rate 100	1,184	(542)	(1)	(543)
17	Rate 25	75	(2)	(0)	(2)
18	Total Union North Rate Zone	12,405	(3,582)	(7)	(3,589)
	Union South Rate Zone				
19	Rate M1	27,346	3,384	(15)	3,369
20	Rate M2	11,257	(5,715)	(6)	(5,721)
21	Rate M4	5,145	(2,564)	(3)	(2,567)
22	Rate M5	405	(235)	(0)	(236)
23	Rate M7	2,214	3,164	(1)	3,163
24	Rate M9	17	(0)	(0)	(0)
25	Rate T1	1,634	(1,241)	(1)	(1,242)
26	Rate T2	4,783	4	(3)	2
27	Rate T3	106	(3)	(0)	(3)
28	Total Union South Rate Zone	52,906	(3,206)	(30)	(3,235)
29	Total Enbridge Gas	142,260	3,891	(80)	3,811

Notes:

(1) The 2023 DSM Budget included in 2023 rates is consistent with the rate allocation provided in the 2023-2027 DSM Plan application (EB-2021-0002), updated to reflect the Rate M4 and Rate M5 rate pooling adjustment to allocate pooled costs in proportion to 2023 forecast.

(2) Interest allocated in proportion to column (a).

Enbridge Gas Inc.
2023 DSMIDA Balance (April 2026 Clearing)

Line No.	Particulars ($000's)	Principal (a)	Interest (1) (b)	Total (c) = (a + b)
	EGD Rate Zone			
1	Rate 1	2,011	137	2,148
2	Rate 6	1,440	98	1,538
3	Rate 100	5	0	5
4	Rate 110	254	17	271
5	Rate 115	15	1	16
6	Rate 135	90	6	96
7	Rate 145	2	0	2
8	Rate 170	30	2	32
9	Rate 200	1	0	1
10	Rate 125	5	0	5
11	Rate 300	0	0	0
12	Total EGD Rate Zone	3,852	262	4,114
	Union North Rate Zone			
13	Rate 01	181	12	194
14	Rate 10	109	7	116
15	Rate 20	72	5	77
16	Rate 100	93	6	99
17	Rate 25	2	0	2
18	Total Union North Rate Zone	457	31	488
	Union South Rate Zone			
19	Rate M1	1,286	87	1,374
20	Rate M2	385	26	411
21	Rate M4	161	11	171
22	Rate M5	14	1	15
23	Rate M7	361	25	386
24	Rate M9	0	0	1
25	Rate T1	20	1	21
26	Rate T2	566	38	605
27	Rate T3	3	0	3
28	Total Union South Rate Zone	2,797	190	2,987
29	Total Enbridge Gas	7,106	482	7,589

Notes:
(1) Interest allocated in proportion to column (a).

Enbridge Gas Inc.
2023 LRAMVA Balance (April 2026 Clearing)

Line No.	Particulars ($000's)	Principal (a)	Interest (1) (b)	Total (c) = (a + b)
	EGD Rate Zone			
1	Rate 1	-	-	-
2	Rate 6	-	-	-
3	Rate 100	(1)	(0)	(1)
4	Rate 110	22	2	24
5	Rate 115	(2)	(0)	(2)
6	Rate 135	(13)	(1)	(14)
7	Rate 145	2	0	2
8	Rate 170	0	0	0
9	Rate 200	-	-	-
10	Rate 125	-	-	-
11	Rate 300	-	-	-
12	Total EGD Rate Zone	8	1	8
	Union North Rate Zone			
13	Rate 01	-	-	-
14	Rate 10	-	-	-
15	Rate 20	16	1	17
16	Rate 100	20	2	22
17	Rate 25	-	-	-
18	Total Union North Rate Zone	36	3	39
	Union South Rate Zone			
19	Rate M1	-	-	-
20	Rate M2	-	-	-
21	Rate M4	365	28	393
22	Rate M5	21	2	23
23	Rate M7	179	14	193
24	Rate M9	-	-	-
25	Rate T1	3	0	3
26	Rate T2	11	1	12
27	Rate T3	-	-	-
28	Total Union South Rate Zone	580	44	624
29	Total Enbridge Gas	623	47	671

Notes:
(1) Interest allocated in proportion to column (a).

Enbridge Gas Inc.

2023 DSMVA Balance (July 2026 Clearing)

Line No.	Particulars ($000's)	2023 DSM Budget (1) (10^3m^3) (a)	2023 DSMVA Balance Principal (b)	Interest (2) (c)	Total (d) = (b + c)
	EGD Rate Zone				
1	Rate 1	45,112	15,037	(17)	15,019
2	Rate 6	23,823	(2,566)	(9)	(2,576)
3	Rate 100	-	69	-	69
4	Rate 110	2,531	1,336	(1)	1,335
5	Rate 115	1,450	(1,215)	(1)	(1,216)
6	Rate 135	287	1,089	(0)	1,089
7	Rate 145	1,178	(1,148)	(0)	(1,149)
8	Rate 170	2,362	(1,918)	(1)	(1,919)
9	Rate 200	40	(1)	(0)	(1)
10	Rate 125	166	(4)	(0)	(4)
11	Rate 300	1	(0)	(0)	(0)
12	Total EGD Rate Zone	76,949	10,679	(30)	10,649
	Union North Rate Zone				
13	Rate 01	6,030	(732)	(2)	(735)
14	Rate 10	3,264	(1,659)	(1)	(1,661)
15	Rate 20	1,852	(646)	(1)	(647)
16	Rate 100	1,184	(542)	(0)	(543)
17	Rate 25	75	(2)	(0)	(2)
18	Total Union North Rate Zone	12,405	(3,582)	(5)	(3,587)
	Union South Rate Zone				
19	Rate M1	27,346	3,384	(11)	3,374
20	Rate M2	11,257	(5,715)	(4)	(5,719)
21	Rate M4	5,145	(2,564)	(2)	(2,566)
22	Rate M5	405	(235)	(0)	(236)
23	Rate M7	2,214	3,164	(1)	3,163
24	Rate M9	17	(0)	(0)	(0)
25	Rate T1	1,634	(1,241)	(1)	(1,242)
26	Rate T2	4,783	4	(2)	3
27	Rate T3	106	(3)	(0)	(3)
28	Total Union South Rate Zone	52,906	(3,206)	(21)	(3,226)
29	Total Enbridge Gas	142,260	3,891	(55)	3,835

Notes:

(1) The 2023 DSM Budget included in 2023 rates is consistent with the rate allocation provided in the 2023-2027 DSM Plan application (EB-2021-0002), updated to reflect the Rate M4 and Rate M5 rate pooling adjustment to allocate pooled costs in proportion to 2023 forecast.

(2) Interest allocated in proportion to column (a).

Enbridge Gas Inc.
2023 DSMIDA Balance (July 2026 Clearing)

Line No.	Particulars ($000's)	Principal (a)	Interest (1) (b)	Total (c) = (a + b)
	EGD Rate Zone			
1	Rate 1	2,011	149	2,160
2	Rate 6	1,440	107	1,547
3	Rate 100	5	0	5
4	Rate 110	254	19	272
5	Rate 115	15	1	16
6	Rate 135	90	7	97
7	Rate 145	2	0	2
8	Rate 170	30	2	32
9	Rate 200	1	0	1
10	Rate 125	5	0	5
11	Rate 300	0	0	0
12	Total EGD Rate Zone	3,852	286	4,138
	Union North Rate Zone			
13	Rate 01	181	13	195
14	Rate 10	109	8	117
15	Rate 20	72	5	78
16	Rate 100	93	7	99
17	Rate 25	2	0	2
18	Total Union North Rate Zone	457	34	491
	Union South Rate Zone			
19	Rate M1	1,286	96	1,382
20	Rate M2	385	29	414
21	Rate M4	161	12	173
22	Rate M5	14	1	15
23	Rate M7	361	27	388
24	Rate M9	0	0	1
25	Rate T1	20	1	21
26	Rate T2	566	42	608
27	Rate T3	3	0	3
28	Total Union South Rate Zone	2,797	208	3,005
29	Total Enbridge Gas	7,106	528	7,634

Notes:
(1) Interest allocated in proportion to column (a).

Enbridge Gas Inc.
2023 LRAMVA Balance (July 2026 Clearing)

Line No.	Particulars ($000's)	Principal (a)	Interest (1) (b)	Total (c) = (a + b)
	EGD Rate Zone			
1	Rate 1	-	-	-
2	Rate 6	-	-	-
3	Rate 100	(1)	(0)	(1)
4	Rate 110	22	2	24
5	Rate 115	(2)	(0)	(2)
6	Rate 135	(13)	(1)	(14)
7	Rate 145	2	0	2
8	Rate 170	0	0	0
9	Rate 200	-	-	-
10	Rate 125	-	-	-
11	Rate 300	-	-	-
12	Total EGD Rate Zone	8	1	8
	Union North Rate Zone			
13	Rate 01	-	-	-
14	Rate 10	-	-	-
15	Rate 20	16	1	17
16	Rate 100	20	2	22
17	Rate 25	-	-	-
18	Total Union North Rate Zone	36	3	39
	Union South Rate Zone			
19	Rate M1	-	-	-
20	Rate M2	-	-	-
21	Rate M4	365	30	395
22	Rate M5	21	2	23
23	Rate M7	179	15	194
24	Rate M9	-	-	-
25	Rate T1	3	0	3
26	Rate T2	11	1	12
27	Rate T3	-	-	-
28	Total Union South Rate Zone	580	48	627
29	Total Enbridge Gas	623	51	675

Notes:
(1) Interest allocated in proportion to column (a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers (OGVG)

Interrogatory

Reference:

EB-2022-0133 Exhibit D Tab 2 Rate Order Working Papers Schedule 9 Page 1 of 2

Exhibit B Tab 2 Schedule 1 Appendix 6 Page 1 of 1

Preamble:

It appears to OGVG that the DSM costs allocated to the M7 rate class have increased materially relative to the approved amount embedded in 2023 rates.

Question(s):

a) Please confirm that the total DSM costs embedded in approved rates for the M7 class in 2023 was $2,034,000.

b) Please confirm that the incremental DSM costs sought from the M7 class (not including the DSM incentive Deferral Account and LRAM Account amounts) for 2023 are $3,163,000.

c) Please explain the driver behind the apparent 155% increase in DSM spending allocated to the M7 class in 2023.

d) Please provide the current number of M7 customers (note, we are asking for the most up to date number of customers, not the number of customers in 2023).

e) Please indicate, of the current M7 customers, how many were the subject of DSM programming in 2023. Please indicate the number of M7 customers that participated in each of the different offerings (i.e. Industrial Custom, Commercial Custom, etc.) and the average DSM cost per M7 customer within each offering.

f) Please indicate, of the current M7 customers that were not the subject of DSM programming in 2023, how many were the subject of DSM programming in the period from 2020-2022; please provide that information on an annual basis, i.e. how many were the subject of DSM programming in 2020, 2021, and 2022, the number of M7 customers that participated in each of the different offerings (i.e. Industrial Custom,

Commercial Custom, etc.) each year and the average DSM cost per M7 customer within each offering.

g) Please provide the average annual DSM related savings (in dollars) per M7 customer that has participated in DSM programming from 2020 to 2023.

h) Please provide the average annual DSM related costs per M7 customer from 2020 to 2023.

i) Please provide an estimate of the 2024 DSMVA amount to be allocated to the M7 rate class, relative to the $3,163,000 being sought for 2023 (OGVG recognizes that the 2024 accounts have not been brought forward for disposition; we are seeking information as to whether the increased M7 related DSM spending in 2023 was sustained into 2024, increased materially, or decreased materially).

j) Please indicate how many current M7 customers that were not the subject of DSM programming between 2020 and 2023 were the subject of DSM programming in 2024, indicating the number of M7 customers that participated in each of the different offerings (i.e. Industrial Custom, Commercial Custom, etc.) and the average DSM cost per M7 customer within each offering.

k) Please confirm that Enbridge can recover the disposition amounts approved in this proceeding over several months (as opposed to a one-time charge) if it is determined that it is necessary to do so to mitigate the impact of such recovery.

Response:

a) Not confirmed. In 2023, the total DSM costs embedded in approved rates for the M7 rate class was $2,214,023[1].

b) Confirmed.

c) The M7 rates class has seen an increase in the amount of DSM spend to be recovered through the Clearance Applications from 2022 to 2023. As shown in Table 1, similar amounts were built into rates for 2022 and 2023, however, DSM spend allocated to Rate M7, based on DSM program results increased from 2022 to 2023.

[1] EB-2022-0200, Draft Rate Order, Working Papers, Schedule 22, p.1.

Table 1
Comparison of DSM Spend for the M7 Rate Class

Line No	Particulars	2022	2023
1	M7 DSM Built into Rates	$2,034,347(1)	$2,214,023(2)
2	DSM Spend allocated to M7	$3,061,163	$5,378,044
3	DSMVA for M7(5)	$1,026,816(3)	$3,164,022(4)

Notes:
(1) EB-2022-0133, Exhibit D, Tab 2, Schedule 10, p.1.
(2) EB-2025-0189, Exhibit B, Tab 2, Schedule 1, Appendix 6, p.1.
(3) EB-2024-0193, Exhibit C, Tab 2, Schedule 1, p.9.
(4) EB-2025-0189, Exhibit B, Tab 2, Schedule 1, p.15.
(5) Line No. 3 = Line No. 2- Line No. 1

d) The average number of M7 customers was 70 in 2024[2]. Enbridge Gas has not reported 2025 customer numbers as the year is still in progress.

e) Of the 2024 M7 customers, 32 participated in the offers listed in Table 2 for the 2023 program year. Table 2 below depicts program spend, which include incentives, promotion, and delivery at the offer level.

Table 2
2024 M7 Customers that Participated in DSM Programming in 2023

Program	Offer	2023 Participants	2023 M7 Program Spend	Average Program Spend per Participant	2023 M7 Incentive Spend	Average Incentive per Participant
Industrial	Industrial Custom	27	$3,032,647	$112,320	$ 2,761,071	$102,262
Commercial	Commercial Custom	3	$482,916	$160,972	$ 355,054	$118,351
	Commercial Prescriptive Downstream	1	$65,286	$65,286	$48,000	$48,000
	Commercial Prescriptive Midstream	1	$5,781	$5,781	$4,250	$4,250
Total (1)		32	$3,586,630		$3,168,374	

Note:
(1) A 2024 M7 customer who participated in DSM programming in 2023 as a customer in a different rate class would be included in the 2023 participant count.

[2] EB-2025-0155, Exhibit B, Tab 2, Schedule 1, p.1.

f) Of the 2024 M7 customers who did not participate in DSM programming in the 2023 DSM program year, 14 participated in DSM programming in 2022, and 20 participated in DSM programming in 2021 as detailed in Table 3 and Table 4. The historical records for the 2020 DSM program year do not allow for a simple analysis of offer participation that can be completed during the required timeline.

Table 3
2024 M7 Customers that Participated in DSM Programming in 2022 and not in 2023

Program [1]	Offer	2022 Participants	2022 M7 Program Spend	Average Program Spend per Participant	2022 M7 Incentive Spend	Average Incentive per Participant
Industrial	Industrial Custom	12	$2,631,710	$219,309	$1,615,274	$134,606
Commercial	C/I Prescriptive	2	$65,550	$32,775	$43,325	$21,663
Total [2]		14	$2,697,261		$1,658,599	

Notes:
(1) The 2022 DSM Program year falls under the previous DSM Plan Term and Framework, and the costs were tracked by different offerings compared to the 2023 DSM Program year.
(2) A 2024 M7 customer who participated in DSM programming in 2022 as a customer in a different rate class would be included in the 2022 participant count.

Table 4
2024 M7 Customers that Participated in DSM Programming in 2021 and not in 2023

Program [1]	Offer	2021 Participants	2021 M7 Program Spend	Average Program Spend per Participant	2021 M7 Incentive Spend	Average Incentive per Participant
Industrial	Industrial Custom	19	$5,825,277	$306,594	$3,849,375	$202,599
Commercial	Commercial Custom	1 [2]	-	NA	NA	NA
Total [3]		20	$5,825,277		$3,849,375	

Notes:
(1) The 2021 DSM Program year falls under the previous DSM Plan Term and Framework, and the costs were tracked by different offerings compared to the 2023 DSM Program year.
(2) The participant in Commercial Custom is likely a 2024 Rate M7 customer who was not an M7 customer in 2021 resulting in no associated program spend.
(3) A 2024 M7 customer who participated in DSM programming in 2021 as a customer in a different rate class would be included in the 2021 participant count.

g) The estimated average DSM related savings per M7 customer that participated in DSM programming from 2020 to 2023 are found in Table 5. An average savings rate was determined and used to convert the net annual m^3 savings to approximate the average participant savings in dollars.

Table 5
Average Annual DSM Related Savings per M7 Participant

Year	Average Net Annual Savings (10^3m^3)	Average Participant Savings in $/M7 Participant [1]
2023	707	$129,357
2022	251	$66,039
2021	444	$63,634
2020	643	$72,971

Note:
[1] Annual Average Commodity Price for Union South Rate Zone https://www.oeb.ca/consumer-information-and-protection/natural-gas-rates/historical-natural-gas-rates#union plus Average Annual QRAM rate

The cost of carbon has not been included in the average participant savings as many customers in this rate class are subject to the Emissions Performance Standards (EPS) Program. For simplicity, all carbon costs have been excluded.

h) The average annual DSM costs for the M7 rate class, allocated across the M7 customer base for the applicable year, are illustrated in Table 6.

Table 6
Average Annual DSM Related Costs per M7 Customer

Year	Number of Customers [1]	Built into Rates Prior to Interest	Deferral and Variance Account Balances with Interest	Total Costs	The Average Annual DSM related cost
2023	69	2,214,023[2]	3,741,000[3]	$5,955,023	$86,305
2022	62	2,034,347[4]	1,360,000[5]	$3,394,347	$54,748
2021	56	2,034,347[6]	5,323,000[7]	$7,357,347	$131,381

Notes:
(1) Customer counts for the M7 Rate class are available in the Annual DSM Report included in this application. Please see Exhibit A, Tab 2, Schedule 1, p.25.
(2) EB-2022-0133, Exhibit D, Tab 2, Schedule 10, p.1.
(3) EB-2025-0189, Exhibit B, Tab 2, Schedule 1, Appendix 6, p.1.
(4) EB-2022-0133, Exhibit D, Tab 2, Schedule 10, p.1.
(5) EB-2024-0193, OEB Decision and Rate Order, Appendix B, p.3.
(6) EB-2020-0095, Exhibit D, Tab 2, Schedule 10, p.1.
(7) EB-2023-0062, OEB Decision and Rate Order, June 25, 2024, Schedule A, p.16.

i-j) Data related to the 2024 DSM program year, including DSMVA amounts and customers who participated in 2024 DSM programming are, not only unaudited at time of filing, but also out of scope for the purposes of the 2023 DSM Deferral and Variance Account Disposition Application.

k) Enbridge Gas confirms that it is possible to recover the disposition amounts over several months. However, the Company prefers a customer-specific approach as opposed to a blanket approach for contract rate class customers. Spreading the one-time adjustment over multiple months creates administrative billing complexity, delays potential credits owed to customers for several months, and provides minimal benefit to customers in the rate class with small disposition balances. A customer-specific approach is preferable as the Company can identify accounts that may need billing accommodation and work directly with customers to provide flexible payment arrangements specific to their needs.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Question(s):

Please prepare a table showing, for each of 2023 and 2019:

a. Rows for each of the rate classes, and
b. Five columns for each of the 2023 and 2019 years, being:
   i. Average weather normalized volume per customer for the rate class before the impact of the utility's DSM programs
   ii. Average net (not gross) impact per customer of the utility's DSM programs
   iii. Average weather normalized volume per customer actually realized (i-ii)
   iv. Average dollars per customer charged to the rate class in rates during the year in question; and
   v. Average dollars per customer to be charged or refunded to the rate class in this Application for 2023, or in the previous DVA clearance application applicable to 2019.

Response:

a-b) Please see Attachment 1. Enbridge Gas declines to provide historical information from 2019 as it is out of scope for the purposes of the 2023 DSM Deferral and Variance Account Disposition Application. As outlined in Attachment 1, Enbridge Gas has implemented assumptions in its interpretation of this interrogatory. Additionally, please note that actual weather normalized volumes before the impact of the utility's DSM programs are not available, as requested in part i.

Enbridge Gas Inc.
Summary of 2023 Results by Rate Class

Line No.	Particulars (1)	2023 Actual Number of Customers (2)	2023 Total Net Annual Natural Gas Savings (m^3)	2023 Average Net Annual Natural Gas Savings per Customer (m^3)	Total Weather Normalized Volume Actuals (3) (4) (m^3)	Average Weather Normalized Volume per Customer (3) (m^3)	2023 DSM Budget (5) ($000s)	Average DSM Budget per Customer ($)	2023 DSM Deferral Account Balance (6) ($000s)	Average 2023 DSM Deferral Account Balance per Customer ($)
		(a)	(b)	(c) = (b / a)	(d)	(e) = (d / a)	(f)	(g) = (f / a)	(h)	(i) = (h / a)
	EGD Rate Zone									
1	Rate 1	2,152,304	19,891,471	9	5,198,569,309	2,415	45,112	21	17,157	8
2	Rate 6	171,210	15,869,533	93	4,831,374,563	28,219	23,823	139	(1,043)	(6)
3	Rate 9	-	-	-	-	-	-	-	-	-
4	Rate 100	19	1,898	100	52,213,944	2,748,102	-	-	73	3,841
5	Rate 110	466	9,790,916	21,011	1,284,065,594	2,755,506	2,531	5,431	1,630	3,497
6	Rate 115	18	1,896,675	105,371	356,577,862	19,809,881	1,450	80,578	(1,202)	(66,796)
7	Rate 125	4	-	-	1,106,860,477	276,715,119	166	41,606	1	256
8	Rate 135	43	1,048,227	24,377	64,060,721	1,489,784	287	6,669	1,171	27,231
9	Rate 145	17	125,036	7,355	50,529,345	2,972,314	1,178	69,278	(1,145)	(67,370)
10	Rate 170	20	869,201	43,460	250,415,269	12,520,763	2,362	118,095	(1,887)	(94,366)
11	Rate 200	1	-	-	188,441,062	188,441,062	40	40,265	0	248
12	Rate 300	1	-	-	176	176	1	755	0	5
13	Total EGD	2,324,103					76,949		14,754	
	Union North Rate Zone									
14	Rate 01	368,838	1,386,854	4	1,027,706,064	2,786	6,030	16	(542)	(1)
15	Rate 10	2,394	951,320	397	329,647,220	137,697	3,264	1,363	(1,545)	(645)
16	Rate 20	65	2,127,698	32,734	1,074,225,353	16,526,544	1,852	28,493	(553)	(8,513)
17	Rate 25	51	-	-	255,664,892	5,013,037	75	1,476	(423)	(8,286)
18	Rate 100	11	4,945,186	449,562	942,952,350	85,722,941	1,184	107,670	0	42
19	Total Union North	371,359					12,405		(3,063)	
	Union South Rate Zone									
20	Rate M1	1,197,044	7,450,897	6	3,280,442,758	2,740	27,346	23	4,741	4
21	Rate M2	8,617	6,856,632	796	1,267,981,700	147,149	11,257	1,306	(5,311)	(616)
22	Rate M4	221	6,842,169	30,960	564,595,116	2,554,729	5,145	23,280	(1,974)	(8,930)
23	Rate M5	35	318,528	9,101	58,966,326	1,684,752	405	11,565	(227)	(6,498)
24	Rate M7	69	22,613,342	327,730	769,536,969	11,152,710	2,214	32,087	3,741	54,225
25	Rate M9	4	-	-	97,879,614	24,469,903	17	4,221	0	26
26	Rate M10	3	-	-	427,195	142,398	-	55	-	-
27	Rate T1	38	754,524	19,856	397,886,834	10,470,706	1,634	42,993	(1,218)	(32,043)
28	Rate T2 (7)	19	17,781,709	935,879	3,823,484,824	201,236,043	3,035	159,735	618	32,535
29	Rate T2 - Exempt (7)	8	-	-	1,245,616,452	155,702,056	319	39,830	-	-
30	Rate T3	1	-	-	255,244,729	255,244,729	106	106,247	1	654
31	Total Union South	1,206,059					51,476		373	
32	Total Enbridge Gas	3,901,521					140,831		12,064	

Notes:
(1) Non-DSM rate classes include Rate 9, Rate 125, Rate 200, Rate 300, and Rate 315 in the EGD Rate Zone and Rate 25, Rate M9, Rate M10, Gas-Fired Generators in Rate T2, and Rate T3 in the Union Rate Zones.
(2) EB-2025-0189, Exhibit A, Tab 4, Schedule 1, p.25, Table 3.14.
(3) General service rate classes are weather normalized to 2022. Contract market rate classes are not weather normalized.
(4) Actuals volumes include the impacts of DSM.
(5) The 2023 DSM Budget included in 2023 rates is consistent with the rate allocation provided in the 2023-2027 DSM Plan application (EB-2021-0002), updated to reflect the Rate M4 and Rate M5 rate pooling adjustment to allocate pooled costs in proportion to 2023 forecast.
(6) EB-2025-0189, Exhibit B, Tab 2, Schedule 1, Appendix 6, p.1.
(7) Column (f) includes bill credits of $1.4 million issued to exempt Gas-Fired Generator customers in Rate T2 per OEB direction (EB-2021-0002, OEB Decision and Order, November 15, 2022, pp.43-44).

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

B-2-1, p. 6

Question(s):

Please file the evidence provided to the EAC to show that the “ping” test results were not reliable, plus any commentary provided to the EAC by the Evaluation Contractor on the results, and/or the preferred course of action.

Response:

Please see the following documents:

- Attachment 1: Residential Adaptive Thermostat Rebate Offer Process Evaluation, January 6, 2025
- Attachment 2: DSM Evaluation Advisory Committee Meeting Notes, Meeting #28, May 6, 2025
- Attachment 3: DNV – OEB Smart Thermostat Memo, May 29, 2025
- Attachment 4: DSM Evaluation Advisory Committee Meeting Notes, Meeting #29, June 3, 2025
- Attachment 5: DSM Evaluation Advisory Committee Meeting Notes, Meeting #30, July 8, 2025

RESIDENTIAL ADAPTIVE THERMOSTAT REBATE OFFER
PROCESS EVALUATION

FINAL REPORT

PREPARED BY:
SEELINE GROUP

PREPARED FOR:
ENBRIDGE GAS INC.

06 JANUARY 2025

SeeLine Group Ltd
WITH
APEX ANALYTICS
AND
voicelogic marketing with voice

33 LONGBOAT AVE, TORONTO, ONTARIO, M5A 4C9

Contents

Executive Summary

This report documents a process evaluation study of Enbridge Gas Inc.'s ("Enbridge's") Residential Adaptive Thermostat (Adaptive T-stat) Offer. Participants in the Adaptive T-Stat Offer can choose from five different manufacturer smart thermostats: ecobee, Google Nest, Honeywell Home, Copland Sensi, and Wyze. While five manufacturers' products are available through the offer, ecobee is the only manufacturer that provides follow-on support in the form of tracking and reporting Wi-Fi connection "ping" rates, and the ecobee ping rates are used by Enbridge to inform proxy performance adjustment factors for all five of the manufactured smart thermostats included in the Adaptive T-Stat Offer. In program years 2021 and 2022, the adjustment factor used by Enbridge ranged from 82.52% and 86.71%; meaning the associated program performance excluded 13.29% to 17.48% of participant savings from the year-end performance reporting submitted to the Ontario Energy Board ("OEB").

In support of Enbridge's continuous improvement efforts, the objective of this study was to gain insights into program and participant attributes that affect the adjustment factors for program years 2021 and 2022. The study methodology involved mapping out the program offer components through a review of relevant documentation, conducting structured interviews with various representatives that participate in managing aspects associated with the offer, and deploying a telephone survey to past participants. The survey provided a mechanism to explore factors that influenced customers' motivation, rationale, barriers, and other influential factors such as familiarity with technology and perception of data privacy, associated with their decisions and experience with the Residential Adaptative T-Stat offer.

Given the focus of the sample was on past program participants who purchased their device online from ecobee.com, and for whom no Wi-Fi connection ping (i.e., "no-ping participant") was registered, the survey was deployed to a random sample of 270 "no ping" participants from program years 2021 and 2022. In addition, 30 "successful ping" participants were randomly sampled as a control group. The sample segmented the no-ping participants into two groups: 151 members of the sample reside in urban settings, while 119 reside in rural areas to explore the hypothesis that rural and remote areas may encounter high-speed internet connection barriers. Overall, 76 past participants completed the telephone survey, including 7 participants from the successful ping control group, 32 rural no-ping participants, and 37 no-ping urban participants, which produced a **±9% precision rate** at the **90% confidence** interval.

Although the telephone survey yielded 76 completed surveys, which represents over 25% of the customers called, it is worth noting that the survey was well received; 67% of customers who answered the phone took the time to complete the survey. Noteworthy highlights from the survey results include:

- 89% of respondents indicated the ecobee device is installed in their residence, which is comprised of the following results for each sample segment:
    - 100% successful ping participants
    - 94% urban no-ping participants
    - 80% rural no-ping participants
- The level of difficulty associated with installing the device had a distribution skewed towards ease of installation, with 47% indicating it was easy or extremely easy to install

- 95% of respondents indicated the device is connected to Wi-Fi
    - 100% successful ping participants
    - 94% no-ping urban
    - 96% no-ping rural
- 82% of respondents found applying for the discount through the Enbridge Gas portal to be easy or extremely easy
- Respondents rated the following as important motivators for the decision to purchase the ecobee device (per cent response rates of either 4/5 "important, or 5/5 "extremely important are included in parentheses):
    - Ability to control thermostat remotely (89%)
    - Reduce household energy use and costs (75%)
    - Advanced scheduling options (71%)
    - Interest in having new technology (70%)
    - Reducing GHG emissions (62%)
    - Access to detailed energy use reports/data (47%)
    - Connecting device to other smart home devices (44%)

With 87.5% of no-ping respondents indicating the ecobee device is installed, and 95% of those indicating the device is connected to Wi-Fi, it appears the ecobee ping-rates may be understating the overall performance of the offering. Although there is some variance between urban versus rural responses that could infer the hypothesis that rural customers may experience greater barriers to connecting their device to Wi-Fi, the variance does not appear to be statistically significant. For example, 100% of no-ping urban reported they did not encounter any issues connecting their device to Wi-Fi compared with 96% of no-ping rural respondents.

Recommendations

Overall, the Adaptive T-Stat Offer appears to be functioning well, and the survey results indicate the user experience is positive. As such, there are no substantial recommendations to alter the program design. The following recommendations are offered for Enbridge's consideration to explore as potential opportunities to improve the performance associated with the adjustment factors and overall participant experience with the Offer:

1. Consider conducting a study to compare the ecobee ping-rates with a traditional telephone verification survey of a sample of participants installing devices from all five of the manufacturers included in the Adaptive T-Stat Offer to determine the most accurate approach to validate program performance.
2. Consider providing additional pre-purchase installation information on the application portal to help customers understand what is required to replace their current t-stat to avoid customer frustration and reduce device return rates.
3. Consider including an overall compatibility function or list to help ensure customers are selecting an adaptive thermostat that will work with their home heating system.
4. Consider emphasizing the need for the "high-speed internet access" eligibility criterion up-front on the application portal, rather than in the Terms and Conditions, which may be overlooked.

This evaluation highlights both the successes and opportunities within Enbridge's Residential Adaptive T-Stat Offer. Studying verification options, supporting participants with tailored information, and enhancing program accessibility will help ensure greater equity and effectiveness. The recommendations provide considerations and enhancements to maximize impact and participant satisfaction.

1.0 Introduction

Enbridge Gas Inc. (Enbridge) has been delivering Demand-Side Management (DSM) programs across the province of Ontario since 1995. Regulated by the Ontario Energy Board and with transparent intervenor evaluation governance processes, the DSM programs are intended to help reduce Enbridge customers' natural gas consumption through the provision of program offerings that include incentives and education.

Enbridge engaged the SeeLine Group (SLG) to conduct a Process Evaluation study of its Residential Adaptive Thermostat (Adaptive T-Stat) offering. Several devices are eligible for rebates through the Residential Adaptive T-Stat Offer, however ecobee is the only manufacturer with the capacity and willingness to track whether the devices delivered through the offer have successfully connected to Wi-Fi, referred to as a successful "ping." Enbridge uses the results of ecobee's reported ping rates as a proxy adjustment factor for the whole offer, which ranged from 82.52% to 86.71% as documented in Table 1 below.[1]

Table 1, ecobee Ping Rate Adjustment Factors for 2021 and 2022.

Year	Company	Ping Rate
2021	Legacy Enbridge Gas Inc.	82.52%
2021	Legacy Union Gas Ltd.	84.19%
2022	Legacy Enbridge Gas inc.	86.71%
2022	Legacy Union Gas Ltd.	86.07%

As previously noted, the scope of the process evaluation study is focused on customers for whom ecobee did not register a successful Wi-Fi connection ping to help understand the challenges they may have faced, real or perceived, and provide insights into potential performance improvement opportunities. To support this, the project attempted to gain insights into factors that influenced customer's motivation to participate in the Residential Adaptative T-Stat offer, and the rationale(s), influential factors, and barriers associated with the subsequent follow-through with installing the device and connecting it to Wi-Fi through deploying a survey to past participants.

[1] Enbridge Gas Distribution amalgamated with Union Gas Limited in 2019 to form Enbridge Gas Inc. Given the historic customer data systems, Enbridge Gas Inc. tracked the performance of each legacy entity separately.

2.0 Methodology

This process evaluation study included five distinct, staged activities, designed to inform continuous improvement Wi-Fi connection ping rate opportunities for the Residential Adaptive T-Stat Rebate Program as detailed below.

2.1 Discovery and Supplemental Research

The first step in supporting the overarching objectives related to gathering, reviewing, and analyzing all relevant program documentation to ensure the project team had a comprehensive understanding of the various components and actors involved in the design, delivery, and tracking of the offering. SLG created a Discovery Matrix to document the twenty (20) documents provided by Enbridge associated the Residential Adaptive T-Stat Offer.

As result of the Discovery Phase, SLG updated the Project Plan, and used the information to inform the development of a logic model and the structured interview questions for the next stage of project activities.[2]

Supplemental Research

As a concurrent activity with Discovery, SLG conducted secondary research to identify comparative, innovative, and leading practice programs and examine potential differences and enhancement opportunities to explore further. Supplemental research was also conducted to explore the hypothesis that rural areas may have challenges accessing high-speed internet, which could contribute to decreased successful ping rates. The information gathered through the supplemental research was useful in supporting developing the sampling protocol, structured interview questions, and the past participant survey.

2.2 Structured Interviews

SLG developed the format, content, and process for the interview interviews, which included consistent questions for all interviewees, in addition to unique questions tailored to the specific perspectives of the interviewees. Eight (8) interviews were conducted with individuals representing various Residential Adaptive Thermostat perspectives. The results from the structed interviews were reviewed, coded, and analyzed by the SLG team to help provide insights into potential program improvement considerations and context for the participant survey questions.

2.3 Sample Protocol

Engaging past participants in a survey is a critical component of this process evaluation study, and to support this, the Apex Analytics members of the SLG team developed a Sample Protocol to help ensure the population of past participants was appropriately considered. The Sampling Protocol included participant data provided by Enbridge. It was

[2] The Residential Adaptive T-Stat logic model and customer journey map are presented in Section 3.1 of this report.

determined that the variance in the Wi-Fi connection adjustment factors for program years 2021 and 2022 were not statistically significant and, given the offer was consistent across the two years, the participants across the two years were grouped into two: participants who ecobee had reported a successful Wi-Fi ping, and participants who did not register a successful Wi-Fi ping.

The primary objective of this process evaluation study was to identify opportunities to improve the performance results associated the Smart ecobee T-Stat device, and as such, the Sample Protocol prioritized the "no ping" participants for program years 2021 and 2022. A small sample of successful ping past participants was included to enable a triangulated control group. The Sample Protocol is included in Appendix A.

While the Sample Protocol prioritized 2021 and 2022 "no ping" participants as the primary cohort, SLG recommended grouping the "no ping" participants into Rural and Urban segments based on a review of the supplemental research, which indicated a potential issue for rural Ontario residents to access high-speed. This segmentation of the sample allowed further exploration of the potential likelihood that some rural customers could have a more challenging experience connecting their devices to Wi-Fi. This decision required manually sorting program participant data by cities/regions prior to pulling the sample for both subsets.[3]

The sample size was limited to 300 customers to align with Enbridge's cyber-security requirements, which allowed for the inclusion of alternate sample points given the likelihood that some past participants would be unresponsive or decline to do the survey for a variety of reasons.

2.4 Survey Design, Test, and Field

Referencing the information gathered through the Discovery and Structured Interview activities, the SLG team circulated a draft survey instrument with Enbridge, and received feedback from members of the Evaluation, Program Design, and Market Research departments. In addition to incorporating the feedback received, the project team reviewed the timing for fielding the survey with Enbridge and discussed opportunities to help improve the survey response rates beyond sending the sampled participants and advanced notification letter. A decision was made to offer an appreciation $25 grocery voucher/gift card for customer's taking the time to complete the survey to one of the following grocers:

- Farm Boy
- Food Basics
- Metro
- No Frills
- Sobeys

SLG revised the survey to reflect this change and established a process for tracking and purchasing the gift cards for participants that completed the survey.

[3] Wikipedia, *List of Cities in Ontario,* https://en.wikipedia.org/wiki/List_of_cities_in_Ontario, accessed September 2024. For areas not listed in the Wikipedia list of Cities, SLG used a cut-off population size of 50,000 coupled with a population density of 400 residents per square kilometer to differentiate Rural versus Urban areas.

In addition to changes to the survey instrument, the following actions were taken to support survey success:

- Establishment of guidelines for the survey deployment to help ensure customer satisfaction was not compromised, such as calling every 3rd day and limiting the number of calls to four total over the course of two weeks;
- Creation of a frequently asked questions (FAQ) document for Enbridge's Customer Care department to support the ability to respond to any survey-related questions or concerns; and,
- Creation of a tracking process for the grocery gift vouchers, including a unique identification number for each participant to enable Enbridge to send a post-survey thank you letter with the gift voucher without compromising customer anonymity and data security.

Three survey tests were conducted and recorded and shared with Enbridge for review and approval prior to calling the sampled customers. The final survey is provided in Appendix B.

3.0 Outcomes & Findings

The outcomes and findings associated with each of the activities outlined in the Methodology Section are presented following the same chronology as Section 2.

3.1 Discovery & Supplemental Research

The Discovery activity provided important background and context to support the overarching objectives of the Adaptive T-Stat process evaluation, as it enabled the SLG team to map out the various inputs and outputs of the offering. As noted in Section 2.1, twenty documents provided through Discovery within the following four categories:

- Design (4)
- Marketing (11)
- Tracking and Reporting (2)
- Evaluation (3)

After documenting, coding, and theming the Discovery content in a research matrix, SLG drafted a program Logic Model to organize the key inputs, activities, outcomes, and goals of the program, categorized within Financial, Enbridge and Summerhill Group Human Resources, and Technical Resources involved in the offering. The logic model is presented in Section 3.2.

SLG updated the Project Plan to reflect the insights gained through the review of the Discovery content to support the refinement of focus areas, key processes, and timelines and priority questions for the structured interviews, survey development, outreach requirements, data collection, scheduling, and project risk management considerations.

Supplemental Research – Scan of Smart Thermostat Programs

SLG conducted a secondary internet-based research scan to identify innovative and leading practice smart thermostat rebate programs, particularly those offered by natural gas utilities, to examine potential differences and enhancement opportunities. Nine thermostat rebate programs were identified across Canada,[4] seven of which are specific to Smart/Connected devices, while two focused on programmable thermostats. A high-level summary of the programs identified through the scan is provided in Table 2.

Table 2., Smart Thermostat Rebate Programs in Canada

Region	Company/Program	Rebate	Utility	Description
Alberta	City of Red Deer Red Deer Energy Efficiency Rebate Pilot Program	$50	N	Residents of Red Deer can access a rebate for installing a smart thermostat.
British Columbia	Pacific Northern Gas Home Heating System Tune Up & Smart Thermostat Program	$250	Y	Rebate available to customers for qualifying EnergyStar certified smart thermostat

[4] This list is not intended to be a census of Smart Thermostat Rebate programs, rather the outcomes of the limited supplemental research scan efforts. Note, although a search was conducted for evaluation reports for each of the programs listed in Table 2, no evaluation reports were identified.

Region	Company/Program	Rebate	Utility	Description
British Columbia	FortisBC Connected Thermostat Rebates	$150	Y	Rebate on select Smart thermostats ($200 for income qualified customers)
Saskatchewan	SaskPower & SaskEnergy Smart Thermostats	$75 (up to 55%)	Y	Rebate on EnergyStart certified connected thermostat
Quebec	Energir Thermostat Intelligent (Smart Thermostat)	$100 (up to 75%)	Y	Smart thermostat grant available for eligible EnergyStar certified models.
Newfoundland and Labrador	Newfoundland Labrador Hydro & Newfoundland Power Take Charge	$20	Y	Rebate is available for the installation of a programmable thermostat
Nova Scotia	Efficiency Nova Scotia (funded by NS Power) Smart Thermostat Rebates	$45	Y	Incentives are available for Smart Thermostats specific to different applications. They also offer a $20 load-shifting rebate.
Prince Edward Island	Government of Prince Edward Island Instant Rebates on Energy Efficiency Products	$100 (up to)	N	EfficiencyPEI offers incentives on EnergyStar qualified smart thermostats with geo-fencing abilities and a min. $150 retail price
Nunavut and Northwest Territories	Artic Energy Alliance Energy-Efficient Product Rebates	$150 (50% up to $150)	N	Incentives are for programmable thermostats

Aggregate program studies from the ACEEE were also reviewed to gain insights into programs available in the USA. Overall, there appears to be a growth in the number of utilities and energy service providers that offer incentives for Smart Thermostats,[5] the offers reviewed in support of this study did not reveal any innovative or leading practices in terms of approaches to program design and delivery, or evaluation, for Enbridge's consideration.

Supplemental Research – Internet Access in Rural/Remote Ontario

SLG hypothesized that internet access challenges may contribute to the lack of successful ping rates of ecobee devices and conducted web-based research to explore this further. Although access to high-speed internet continues to improve in rural and remote areas, with 91% of Canadians having access to high-speed internet, a significant divide appears to remain between rural and urban communities.[6] According to ConnectedNorth.ca, less than

[5] Snell, Essie, Clare Valentine (2020), *Marking the Smart Home Work for You: Wrangling Energy and Demand Benefits Out of Connected Tech.* E Source, https://www.esource.com/system/files/esource-aceee-making-the-smart-home-work-for-you.pdf., Accessed July 30, 2024.
[6] Connectednorth.ca (2023), *Northern Ontario Broadband Report 2023*, https://connectednorth.ca/wp-

60% of rural, remote, and Indigenous communities have access to high-speed internet.[7] Figure 1 below depicts communities with access to high-speed internet, with the beige, orange, amber, and red-zone indicating areas where more than half of residents do not have access to high-speed internet.

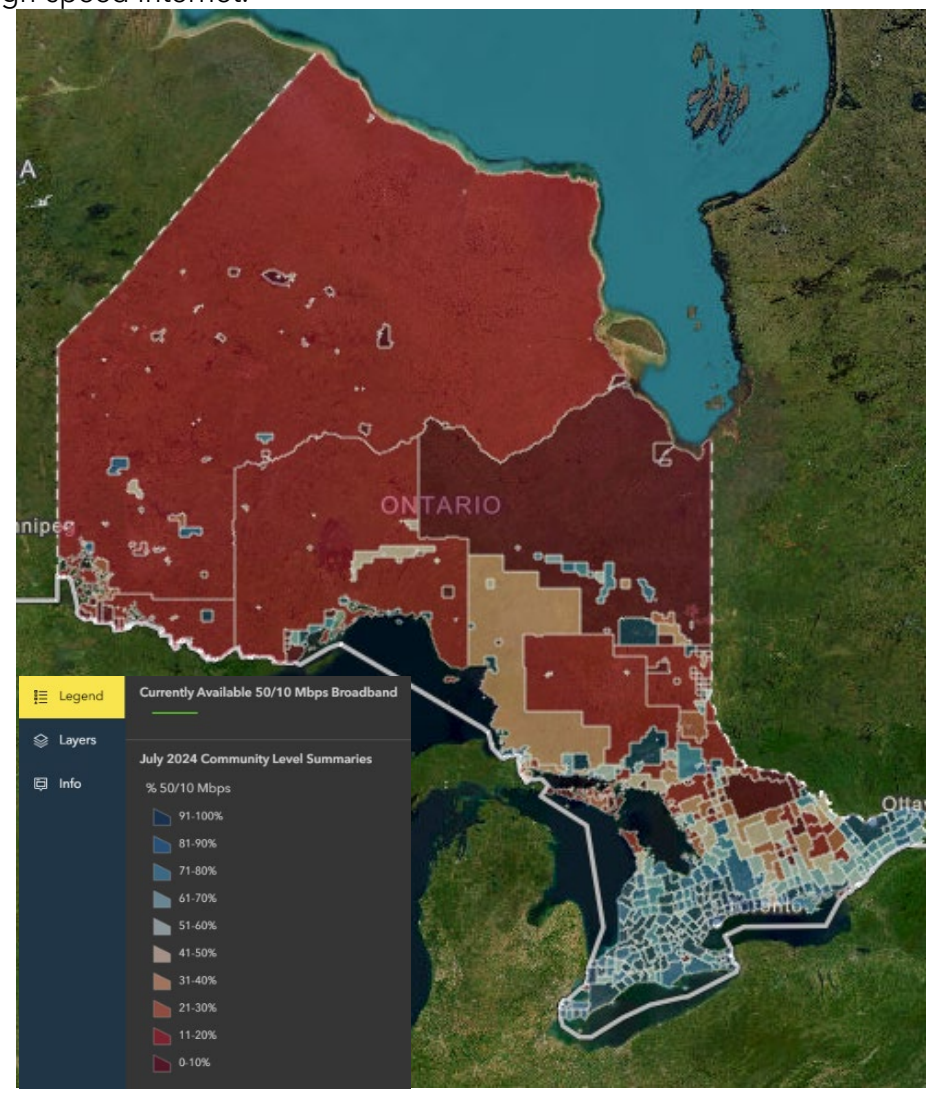


Figure 1. Ontario Internet Access Map[8]

content/uploads/2023/06/Blue-Sky-Net-Northern-Ontario-Broadband-Report-2023.pdf, Accessed July 29, 2024.

[7] Ibid

[8] Connectednorth.ca, *Ontario Internet Access Map*, developed by Blue Sky Net., https://connectednorth.ca/ontario-internet-access-map/, Accessed July 29, 2024.

3.2 Structured Interviews

The materials provided through the Discovery process enabled a mapping of the various program components, which informed questions to help augment and clarify the flow of the components, providing a more comprehensive understanding of the Residential Adaptive Thermostat offering. As described in Section 2.2, SLG conducted interviews with eight (8) individuals representing the following perspectives:

- Enbridge
  - Program Design
  - Tracking and Reporting
  - Market Research
  - Evaluation
- Summerhill Group
  - Program Delivery Agent
  - Call Centre Support
- ecobee
  - Current Process
  - Historic Process

SLG coded and analyzed the results of the structured interviews, which provided additional insights into the Adaptive T-Stat Offer inputs and activities associated with Program Design, Marketing, Program Portal Management, Customer Care, Evaluation, and Tracking & Reporting as detailed below.

Summary of Structured Interview Themes

1. **Adaptive T-Stat Offer Related Role Responsibilities**:
   - **Program Design:** Within Enbridge, the Program Design representative is responsible for developing the program concept, incentive structure, and manages the overall program performance. The Program Design team is supported by Marketing, which creates promotional materials to help engage customers.
   - **Delivery Agent:** Summerhill Group (SHG) had been engaged to administer the Residential Adaptive Thermostat offer on behalf of Enbridge. SHG maintains the customer portal, which is hosted on Enbridge's website, and is responsible for supporting retailers to ensure the appropriate rebates are available for the customers. SHG's in-house Customer Call Centre supports customer relations.
   - **Evaluation:** The Program Design representative laisses with ecobee and provides the ping reports to the internal Enbridge Evaluation representative, who is responsible for adjusting the Offering's performance with the appropriate rate to include in the annual DSM report subject to audit by the OEB's evaluator. [9]
   - **Tracking & Reporting** supports quality assurance in the form of maintaining a current "Does Not Qualify" (DNQ) list of customers who have already participated in the Adaptive T-Stat Offer, eligibility checks prior to entering participating customer data into Enbridge's Tracking system, and data-output to support Evaluation and Audit requirements.

[9] Prior to 2023, ecobee used an Energy Control Platform ("ECP") to pull customer Wi-Fi connect data associated with participant device serial numbers; however, the ECP was designed to help enable electricity demand-response and was not designed to verify Wi-Fi connection rates. In 2023, ecobee developed a new tool to enable Wi-Fi ping tracking.

2. **Continuous Improvements**: Several improvements have been made over the past 3-5 years to support the Adaptive T-Stat Offer, including:
    - Introduction of an enhanced incentive for **moderate income customers** in partnership with the Independent Electricity System Operator in 2021 to help improve accessibility of the offer.
    - Introduction of a **contractor stream** in 2022, through which the contractor submits the rebate request through the portal and installs the device for the customer. The process for the contractor stream was adjusted in 2023 to improve the user-interface for contractors.
    - A refined **returns process** was introduced in 2022, which enabled SHG to track customers who returned their device and offer those customers a new rebate code for a different device. This requires communication of the return details from the retailer to SHG, who then informs Program Design as their point-of-contact, who forwards the information to Enbridge's Tracking department. The Tracking Department adjusts the DNQ to reflect the return to ensure the customer is eligible to be tracked as a new participant with the new device. The retailers have also improved the timeliness of communicating the returned items to SHG.
    - Moved the Adaptive T-Stat Offer portal data management to the **Parachute** platform in 2024 to align with other DSM offers, enhance efficiency, and improve the user experience. Parachute has more built-in redundancies and a broader bandwidth to support fluctuating demands associated with limited time offers (LTOs).
    - **Communication**: When Enbridge introduces new enhanced incentive (LTOs, SHG receives advance notice to allow scaling up resources to manage the associated increased demand. This communication is critical to ensuring SHG can maintain customer satisfaction, and also achieve the contract performance requirement for the Customer Care Call Centre, which is required to answer 80% of customer calls within 25 seconds.
    - Increased **frequency and timeline associated with ping tracking** by ecobee to help improve the accuracy of the ping-rate adjustment factors for the Offering.
3. **Risk Management**:
    - **Customer Data**: SHG collects and validates data from participants and retailers to ensure accurate tracking of rebate codes with customer participants. SHG's role includes Quality Assurance and Quality Control (QA/QC) processes to scrub data for duplicates, manage device returns, and validate eligibility to participate. A second level of QA/QC is performed by Enbridge Tracking & Reporting to validate eligibility, maintain a current DNQ list, and provides a program participant data to the Enbridge internal Evaluation Representative for reporting and audit purposes.
    - **Rebate Codes:** Retailers involved in the Offer provide rebate codes to be used at the point-of-sale (POS) for their respective stores which is a critical enabler within the Offer process. Enbridge notes that a technical or processes issues associated with creating the rebate codes has the potential to disrupt the program performance. To help mitigate this risk,

SHG tracks the available rebate codes for each retailer and submits requests for more codes with sufficient advance timing to avoid potential delays.

- **System/Portals:** The web portal and call center are reliant on one system as the source of information. If the system fails, it could cause widespread issues.
- **Outreach and Engagement**: Marketing plays a pivotal role in driving participation. The use of digital marketing methods and limited lime offers has been associated with significant increases in engagement and customer uptake.

In summary, the program emphasizes a positive, accessible user-experience, with a high degree of quality control, continuous improvements based on regular internal performance reviews, and strategic marketing efforts to maximize participation and achieve the short-, mid-, and long-term goals.

Outcomes of the structured interview were used to refine the draft logic model of the Residential Adaptive T-Stat Offer, which is presented on the following page. In addition, SLG created a process flow chart for the offer, as shown on page 15.

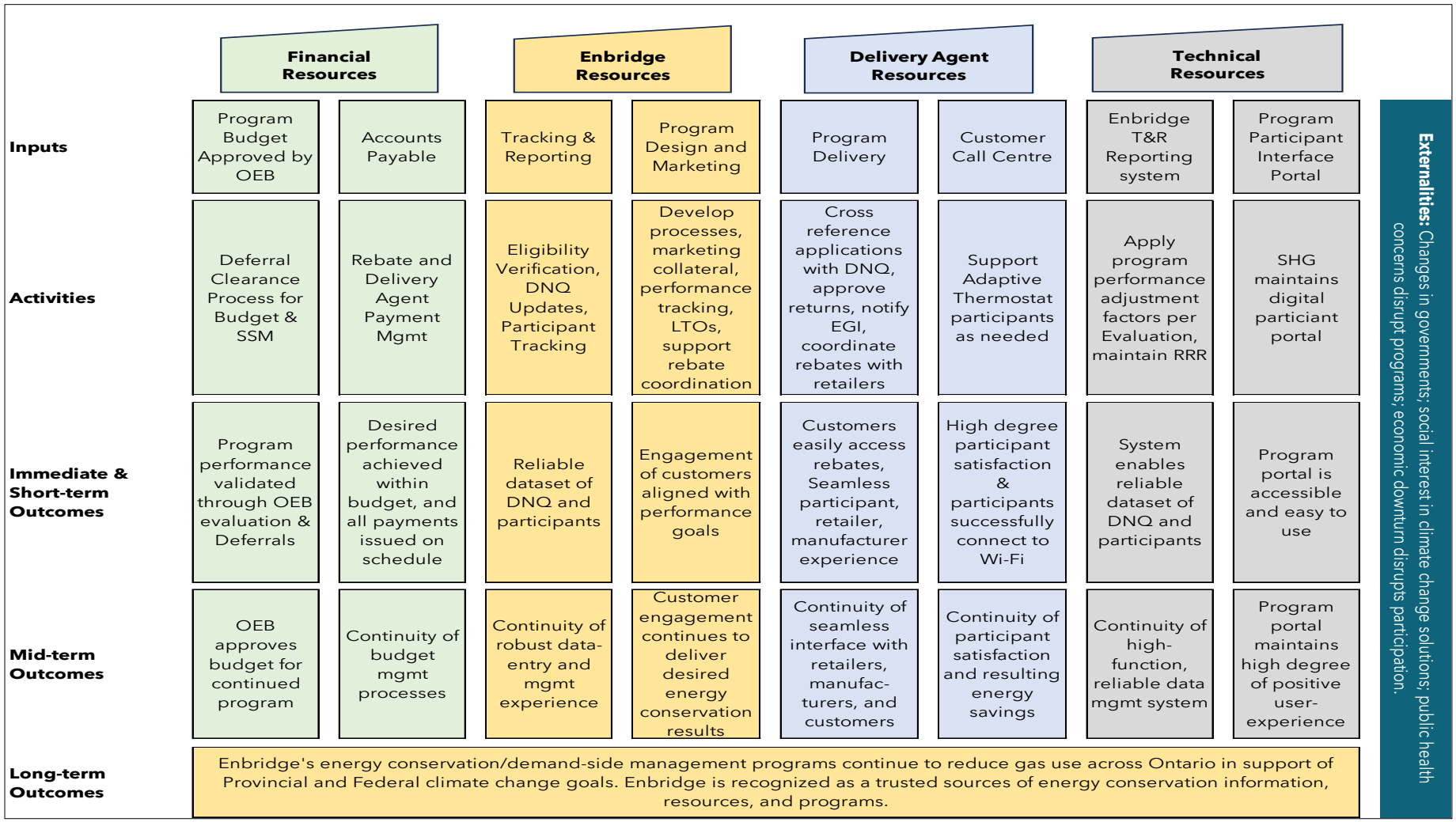


Figure 2. Adaptive Thermostat Offering Logic Model

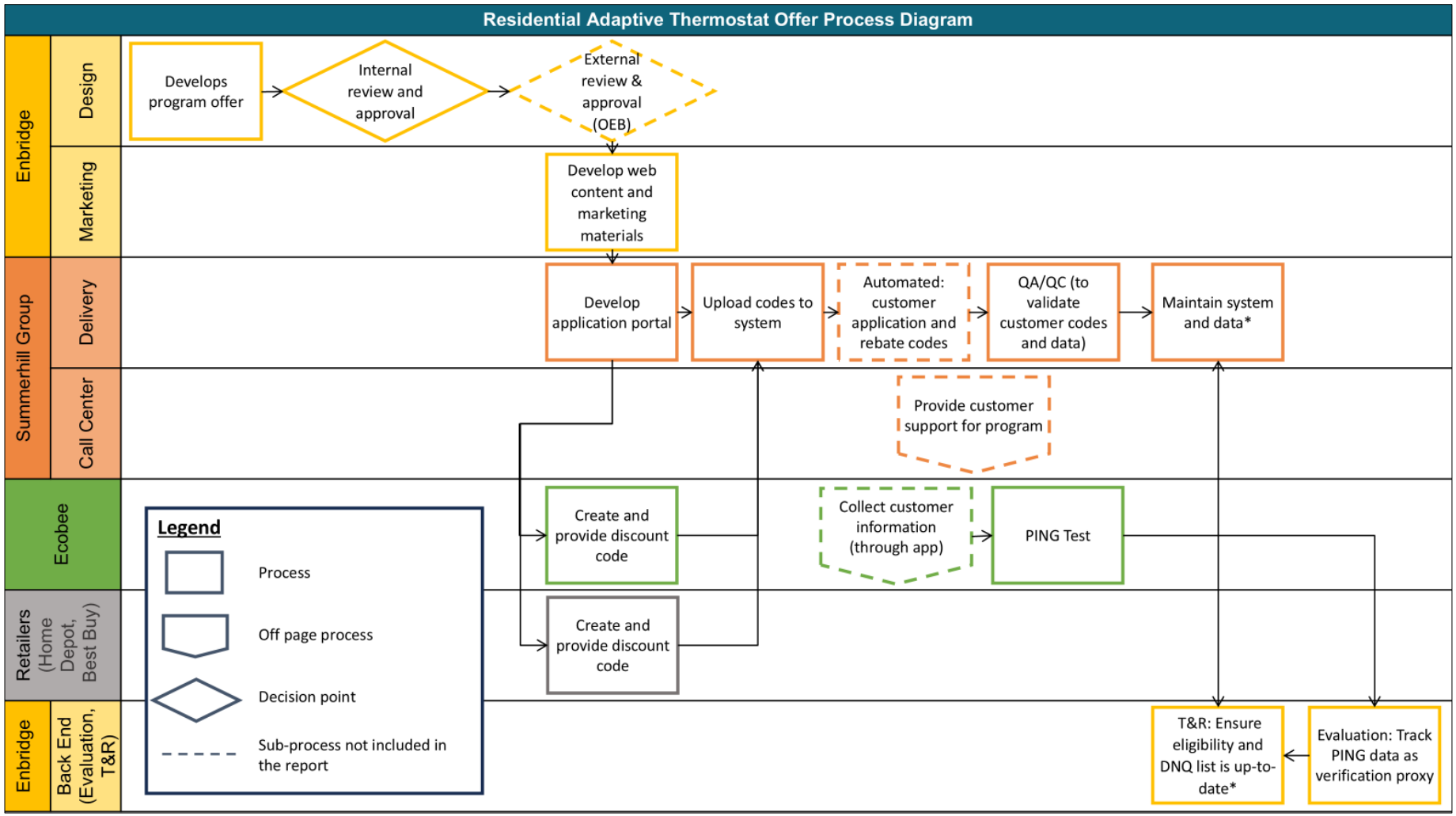


Figure 3. Adaptive Thermostat Offering Process Flow Chart

3.3 Sample Protocol

Given the primary objective of this process evaluation study was to identify opportunities to improve the performance results associated with participants connecting their Smart T-Stat devices to Wi-Fi, the Sample Protocol prioritized the "no ping" participants for program years 2021 and 2022. For the purpose of providing an opportunity to triangulate responses with past participants for whom a successful Wi-Fi connect ping was registered, a small sample of successful ping participants was also included.

While the Sample Protocol prioritized 2021 and 2022 "no ping" participants as the primary cohort, a review of the supplemental research pertaining to rural access to high-speed internet with the project team and Enbridge lead to a decision to group the "no ping" participants into Rural and Urban segments. This segmentation of the sample would allow further exploration of the potential likelihood that some rural customers could have a more challenging experience connecting their devices to Wi-Fi. This decision required manually sorting program participant data by cities/regions prior to pulling the sample for both subsets.[10]

The Sampling Protocol is included in Appendix A, and a high-level summary of the sample results is presented in Table 3, including the associated margin of error at 90% confidence. Overall, the completed survey sample count achieved a **±9% precision rate with 90% confidence**.

Table 3. Summary of Sample Results at 90% Confidence Interval.

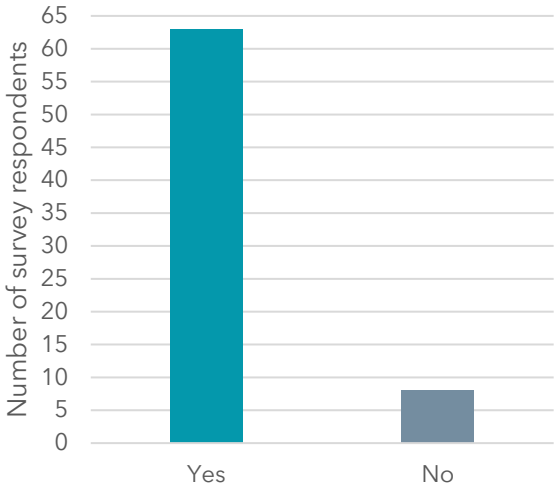
Sample Groups		Population Count	Survey Complete Sample Count	Margin of error at 90% confidence	
				2- Tailed	1-Tailed
Did not connect to internet ("No Ping")	Urban	1,174	36	±14%	±7%
	Rural	410	33	±14%	±7%
	Total	1,584	69	±10%	±5%
Installed and connected to internet ("Successful Ping")		8,937	7	±31%	±16%
Full Sample		10,521	76	**±9%**	±5%

[10] Wikipedia, *List of Cities in Ontario,* https://en.wikipedia.org/wiki/List_of_cities_in_Ontario, accessed September 2024. For areas not listed in the Wikipedia list of Cities, SLG used a cut-off population size of 50,000 coupled with a population density of 400 residents per square kilometer to differentiate Rural versus Urban areas.

3.4 Participant Survey Results

The survey deployment involved a telephone survey, outreach which included four attempts to contact 300 customers across two weeks. In total, 76 past participants completed the survey, and achieved an overall margin of error of ±9% with 90% confidence. The survey is provided in Appendix B, and the associated confidence breakdown for each question is included in Appendix A. This section provides the results associated with questions of relevance in the form of bar graphs for most questions. The information is presented in the form of bar graphs for the majority of questions, and the sequence of information presented begins with the overall results for all respondents, followed by a breakdown of urban versus rural participant responses as appropriate.[11] In addition, the specific counts, percentages, and margin of error at the 90% Confidence Interval are presented in a table for each question beneath the bar graphs.

Question 3: Is the device installed at your residence?



Figures 4. Response Rates Associated with Survey Question 3

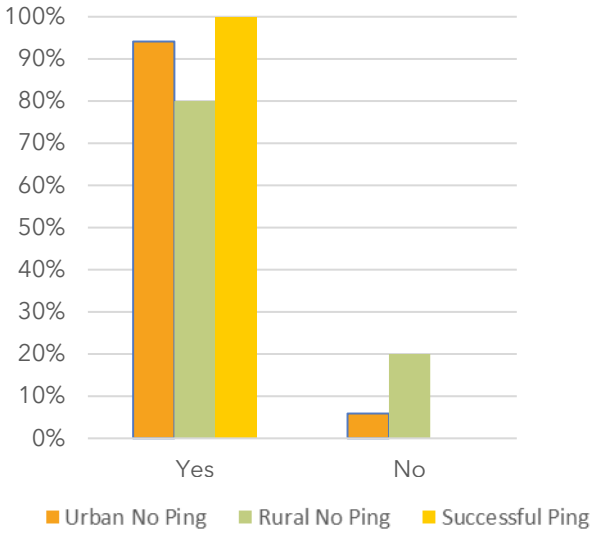


Figure 5. Rural vs. Urban Results Breakdown of Figure 4

The vast majority of the survey respondents (63/71, or 89%) indicated the device is currently installed at their residence compared with 11% of past participants who indicated they had not installed the device.

Table 4. Detailed Results for Question 3 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	32	94%	80%	99%	24	80%	61%	92%	7	100%	59%	100%	63	89%	81%	94%
No	2	6%	1%	20%	6	20%	8%	39%	0	0%	N/A	N/A	8	11%	6%	19%

[11] Certain questions were included for survey set-up purposes, or were not asked due to responses to preceding questions, and as such, the survey results are not presented, and/or not presented in chronological order. In instances with low response counts, only one bar graph may be included.

Three respondents to Question 3 required support to determine if the thermostat installed in their home was an ecobee device, and they provided responses to Question 4, which was designed to reduce potential "don't know" responses.

Question 4. ecobee thermostats are square shaped with rounded corners and say "ecobee" in small gray letters at the bottom. Does that description match the thermostat installed in your residence?

The supportive description resulted in two additional survey respondents noting that the ecobee device is installed, and one whose thermostat did not match the description.

Table 5. Detailed Results for Question 4 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	2	100%	16%	100%	0	0%	N/A	N/A	0	0%	N/A	N/A	2	67%	14%	98%
No	0	0%	N/A	N/A	1	100%	3%	100%	0	0%	N/A	N/A	1	33%	2%	87%

Given these follow up answers directly related to Q3, the results for the two questions have been combined and are depicted below.

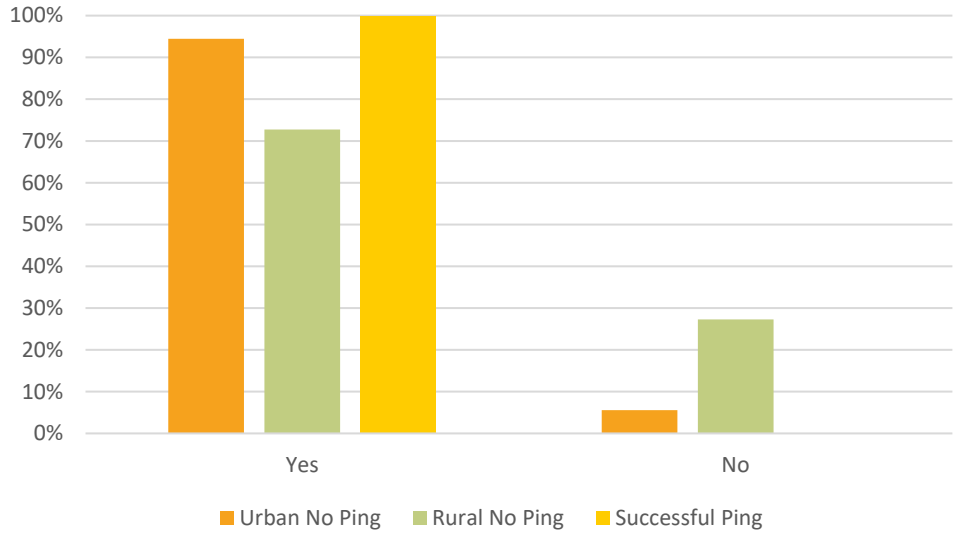


Figure 6. Combined Responses Associated with Survey Questions 3 and 4.

Table 6. Detailed Results Combined for Questions 3 & 4 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	34	94%	84%	99%	24	73%	62%	89%	7	100%	65%	100%	65	88%	80%	94%
No	2	6%	1%	17%	7	23%	11%	38%	0	0%	N/A	N/A	11	12%	7%	20%

The following question was asked to the survey respondents who answered "no" to questions 3 and 4, indicating they had not installed the ecobee device.

Question 5. Do you still have the ecobee thermostat your purchased through Enbridge Gas' Smart Thermostat Rebate Program?

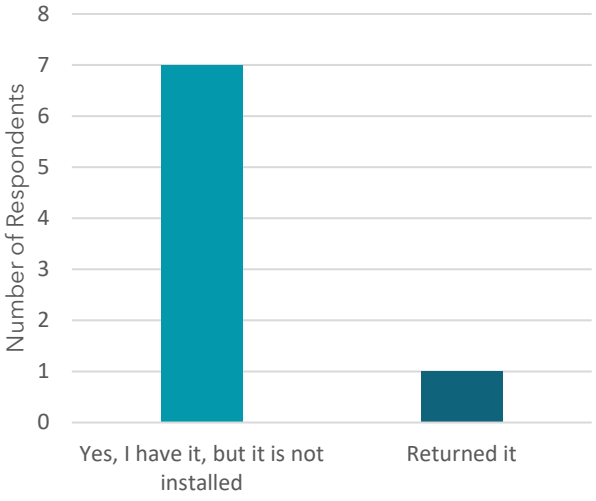


Figure 7. Responses Associated with Survey Question 5.

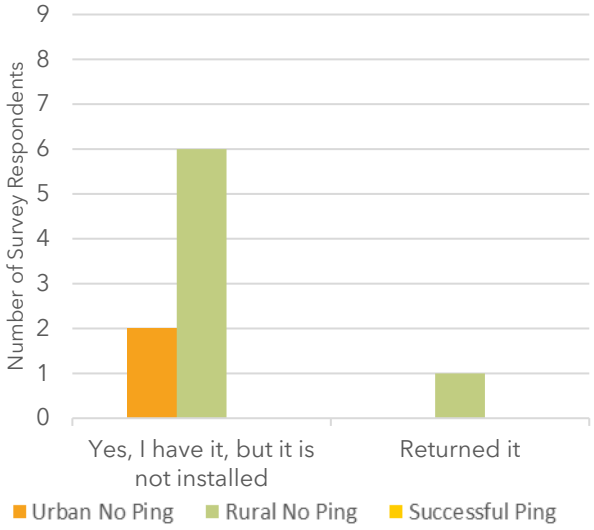


Figure 8. Rural vs. Urban Results Breakdown of Figure 7.

Nine survey respondents were asked Question 5, and eight indicated they still have the device while one respondent noted that they had returned the device.

Table 7. Detailed Results for Questions 5 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes, I have it, but it's not installed	2	100%	16%	100%	6	86%	42%	100%	0	0%	N/A	N/A	8	89%	57%	99%
No, I no longer have it	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
Other	0	0%	N/A	N/A	1	14%	0%	58%	0	0%	N/A	N/A	1	11%	1%	43%

Question 6. What did you do with the ecobee thermostat you purchased through the Enbridge Gas program?

One respondent indicated they had returned the device they purchased with the program rebate, and eight respondents noted "other". Of the eight "other" responses, five customers noted they were unable to install the device due to difficulties, and one of those commented that there was an issue with the wiring.

Table 8. Detailed Results for Questions 6 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
I returned it	0	0%	N/A	N/A	1	14%	0%	58%	0	0%	N/A	N/A	1	11%	1%	43%
Other	2	100%	16%	100%	6	86%	42%	100%	0	0%	N/A	N/A	8	89%	57%	99%

Question 7. What type of thermostat are you currently using in your home instead of the ecobee thermostat?

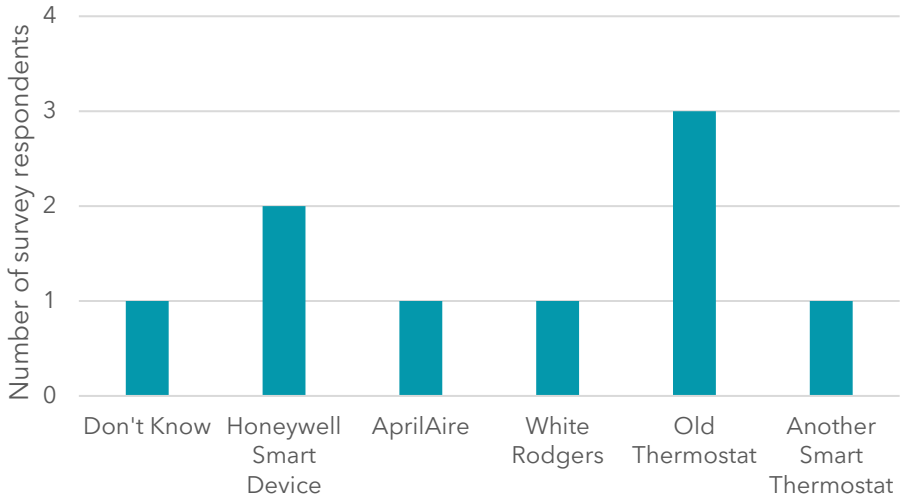


Figure 9. Responses Associated with Survey Question 7.

Question 7 is a follow up question in the sequence for the nine respondents who were asked Question 5, who provided insights into the thermostats they are currently using as depicted in Figure 8.

Table 9. Detailed Results for Questions 7 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Another smart thermostat	0	0%	N/A	N/A	1	14%	0%	58%	0	0	N/A	N/A	1	11%	1%	43%
My old thermostat	1	50%	1%	99%	2	29%	4%	71%	0	0	N/A	N/A	3	33%	10%	66%
Other (see bar graph)	1	50%	1%	99%	3	43%	10%	82%	0	0	N/A	N/A	4	44%	17%	75%
Don't Know	0	0%	N/A	N/A	1	14%	0%	58%	0	0	N/A	N/A	1	11%	1%	43%

The following open-ended question was asked to the nine respondents who indicated the ecobee Thermostat was not installed.

Question 8. Was the ecobee thermostat installed at any point?

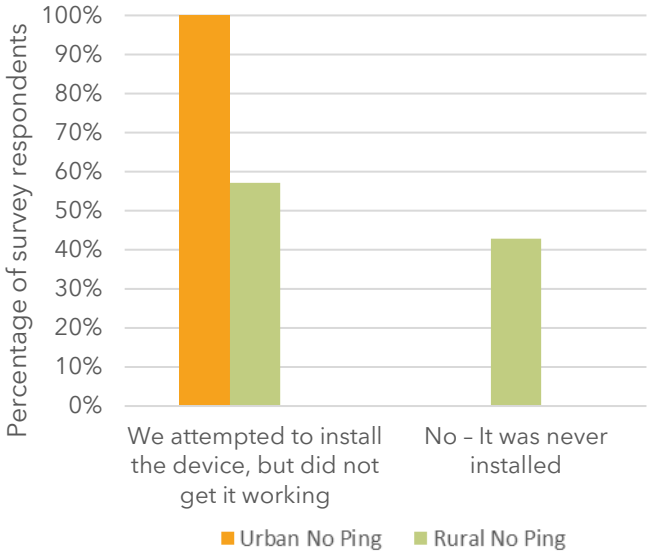


Figure 10. Responses Associated with Survey Question 8 with Rural vs. Urban Breakdown.

Six respondents noted that they had attempted to install the device but could not get it working, while 3 noted that the device was never installed without providing additional insights.

Table 10. Detailed Results for Questions 8 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Attempted to install but did not get it working	2	100%	16%	100%	4	57%	18%	90%	0	0	N/A	N/A	6	67%	35%	90%
No - never installed	0	0%	N/A	N/A	3	43%	10%	82%	0	0	N/A	N/A	3	33%	10%	66%

The following open-ended question was asked to three respondents who indicated the ecobee thermostat was never installed.

Question 11. Why haven't you installed your ecobee thermostat?

The three responses to this question as transcribed by the survey agents were:

- The old thermostat is still good
- There is an issue with location where it is meant to go
- It seems too complicated

Table 11. Detailed Results for Questions 11 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
It seems too complicated	0	0%	N/A	N/A	1	33%	1%	91%	0	0%	N/A	N/A	1	33%	2%	87%
Other	0	0%	N/A	N/A	2	67%	9%	99%	0	0%	N/A	N/A	2	67%	14%	98%

The following open-ended question was asked to the nine respondents who indicated the ecobee Thermostat was not installed.

Question 12. Are you planning to try to install the ecobee smart thermostat in the future?

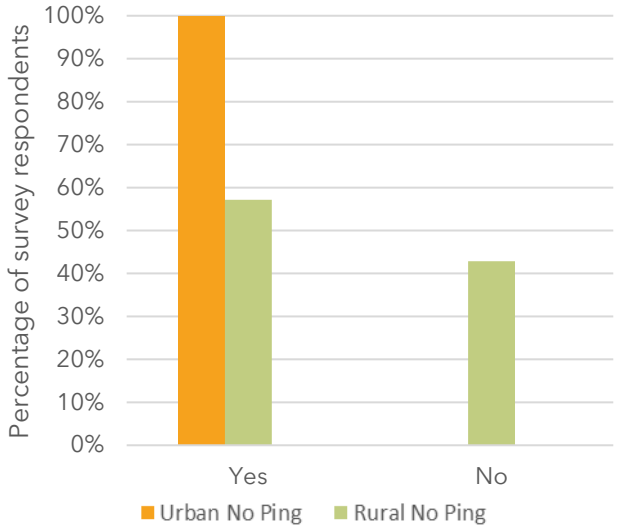


Figure 11. Responses Associated with Survey Question 12 with Rural vs. Urban Breakdown.

Approximately two-thirds of respondents (67%) indicated they intended to try to install the ecobee device in the future.

Table 12. Detailed Results for Questions 12 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	2	100%	16%	100%	4	57%	18%	90%	0	0%	N/A	N/A	6	67%	35%	90%
No	0	0%	N/A	N/A	3	43%	10%	82%	0	0%	N/A	N/A	3	33%	10%	66%

The three participants who responded no to question 12 above were asked the following open-ended question:

Question 13. Why aren't you planning to install the ecobee smart thermostat?

The three responses to Question 13 as transcribed by the survey agents were as follows:

- Purchased a Honeywell thermostat
- It is too expensive to install
- No (without further elaboration)

The following question was asked of all respondents who indicated they had installed the ecobee device.

Question 14. When your ecobee device was installed, did you connect it to Wi-Fi?

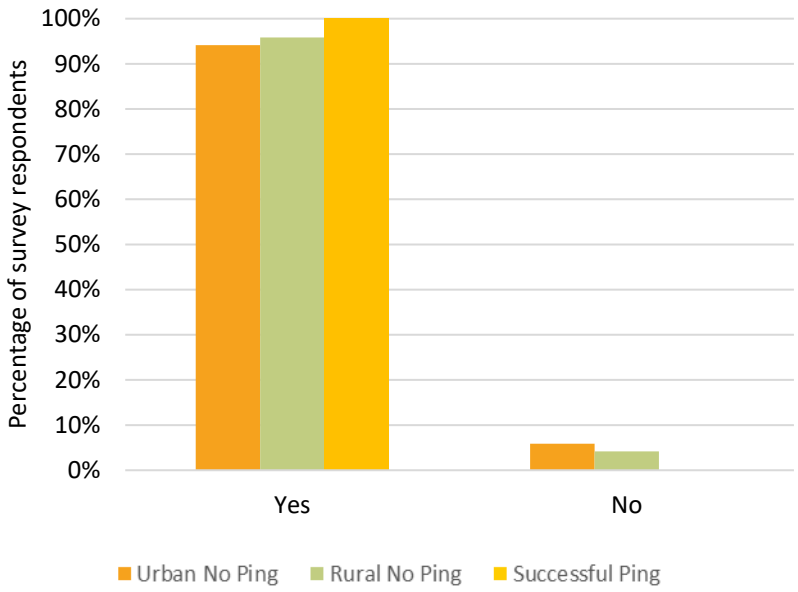


Figure 12. Responses Associated with Survey Question 14 with Rural vs. Urban Breakdown.

It interesting to note that 95% of the "no-ping" respondents indicated they have connected their device to Wi-Fi.

Table 13. Detailed Results for Questions 14 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	32	94%	80%	99%	23	96%	79%	100%	7	1	59%	100%	62	95%	89%	99%
No	2	6%	1%	20%	1	4%	0%	21%	0	0	N/A	N/A	3	5%	1%	12%

Question 15. How soon after installing it did you connect the thermostat to Wi-Fi?

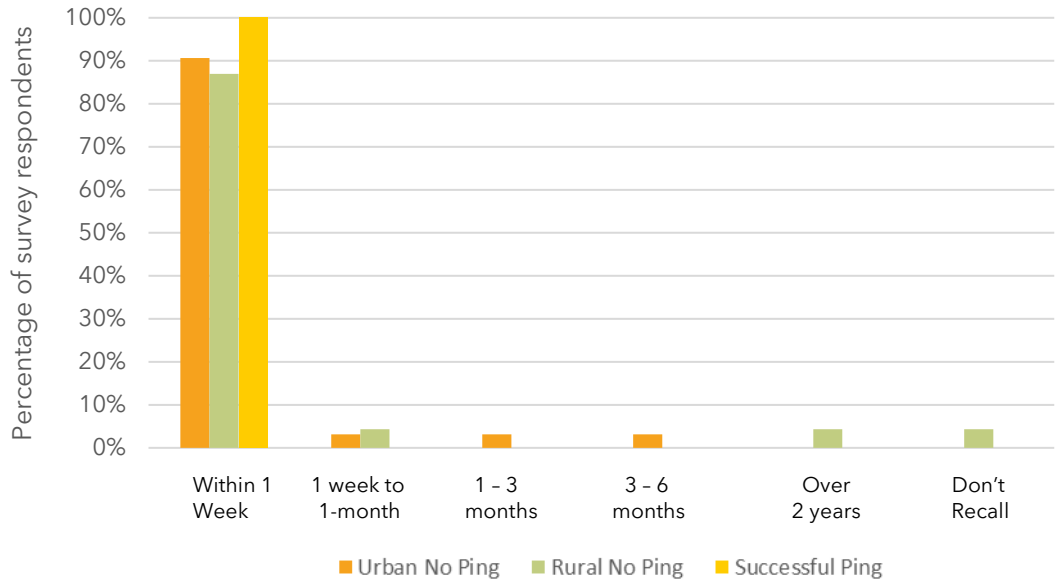


Figure 13. Distribution of Responses Associated with Survey Question 15 with Rural vs. Urban Breakdown.

The majority of respondents (90%) indicated they connected the thermostat to Wi-Fi within one week after installing it.

Table 14. Detailed Results for Questions 15 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Within one week	29	91%	75%	98%	20	87%	66%	97%	7	100%	59%	100%	56	90%	82%	96%
Between 1 week and 1 month	1	3%	0%	16%	1	4%	0%	22%	0	0%	N/A	N/A	2	3%	1%	10%
Between 1 - 3 months	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	7%
Between 3 - 6 months	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	7%
More than 2 yrs	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%
Don't Know	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%

Question 16. Were there any issues connecting the device to Wi-Fi?

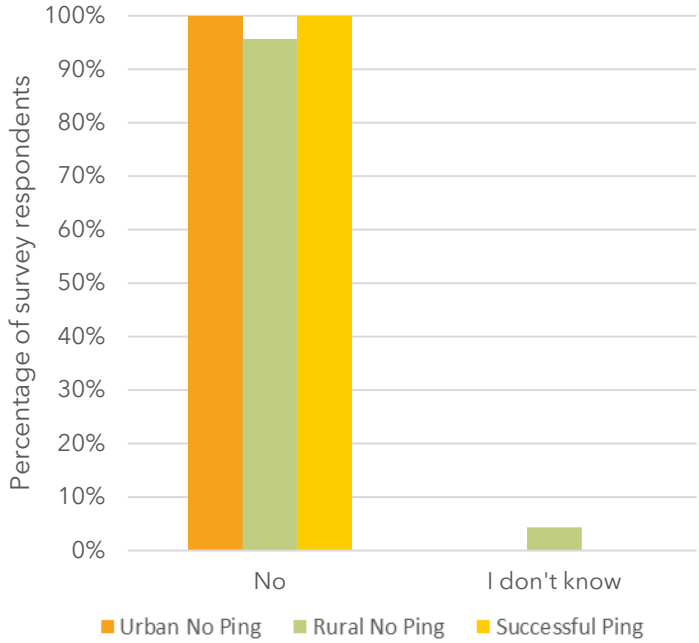


Figure 14. Distribution of Responses Associated with Survey Question 16 with Rural vs. Urban Breakdown.

The majority (98%) of respondents did not encounter issues connecting the device to Wi-Fi.

Table 15. Detailed Results for Questions 16 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
No	32	100%	89%	100%	22	96%	78%	100%	7	100%	59%	100%	61	98%	93%	100%
Don't Know	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%

Question 17. Is your ecobee thermostat current connected to Wi-Fi?

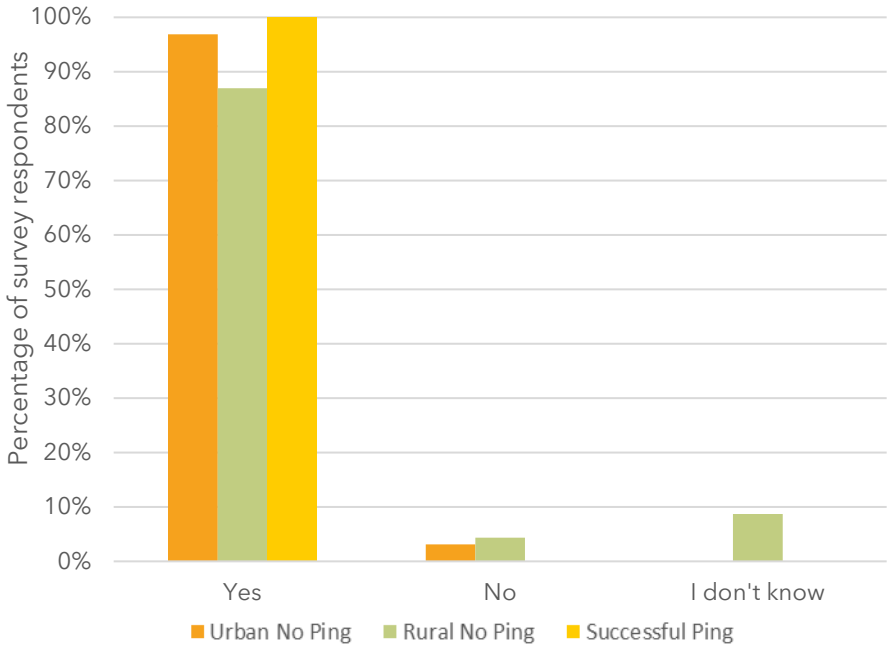


Figure 15. Distribution of Responses Associated with Survey Question 16 with Rural vs. Urban Breakdown

94% of survey respondents stated that their ecobee thermostat currently connected to Wi-Fi.

Table 16. Detailed Results for Questions 17 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	31	97%	84%	100%	20	87%	66%	97%	7	100%	59%	100%	58	94%	86%	98%
No	1	3%	0%	16%	1	4%	0%	22%	0	0%	N/A	N/A	2	3%	1%	10%
Don't Know	0	0%	N/A	N/A	2	9%	1%	28%	0	0%	N/A	N/A	2	3%	1%	10%

The following question was asked to the three respondents who answered no to question 14, indicating they had not connected the device to Wi-Fi after installing it.

Question 18. Why didn't you connect your ecobee thermostat to Wi-Fi?

The responses associated with question 18 were:

- Not interested in using Wi-Fi connection features
- Other – waiting for daughter to connect it to Wi-Fi
- Other – couldn't get it connected

The following four questions relate to the level of difficulty or ease associated with the purchase and installation of the ecobee thermostat on a scale of one-five, with one being extremely difficult and five being extremely easy.

Question 19a. How difficult or easy was it to apply for the discount through the Enbridge Gas portal?

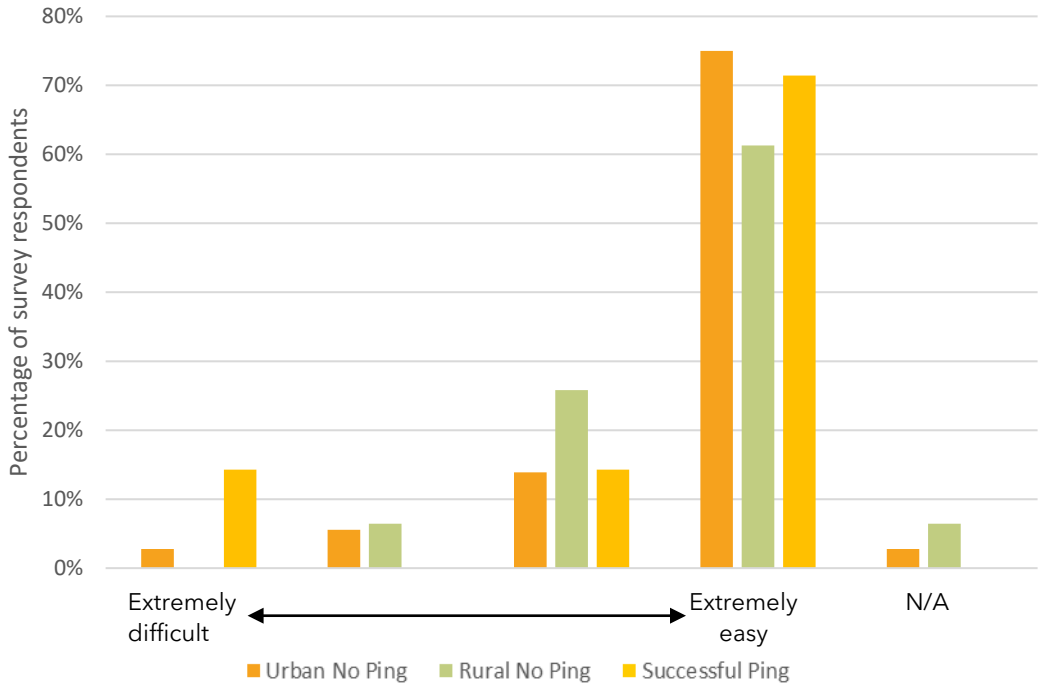


Figure 16. Distribution of Responses Associated with Survey Question 19a with Rural vs. Urban Breakdown

Majority of survey respondents (72%) stated that it was extremely easy to apply for the ecobee rebate. There is little difference in experience between successful ping, urban no ping, and rural no ping participants.

Table 17. Detailed Results for Questions 19a at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
2	1	3%	0%	15%	0	0%	N/A	N/A	1	14%	0%	58%	2	3%	1%	9%
3	2	6%	1%	19%	2	7%	1%	23%	0	0%	N/A	N/A	4	6%	2%	12%
4	5	14%	5%	30%	8	28%	13%	47%	1	14%	0%	58%	14	20%	12%	29%
5	27	77%	60%	90%	19	66%	46%	82%	5	71%	29%	96%	51	72%	62%	81%

Question 19b. How difficult or easy was it to purchase an ecobee thermostat online?

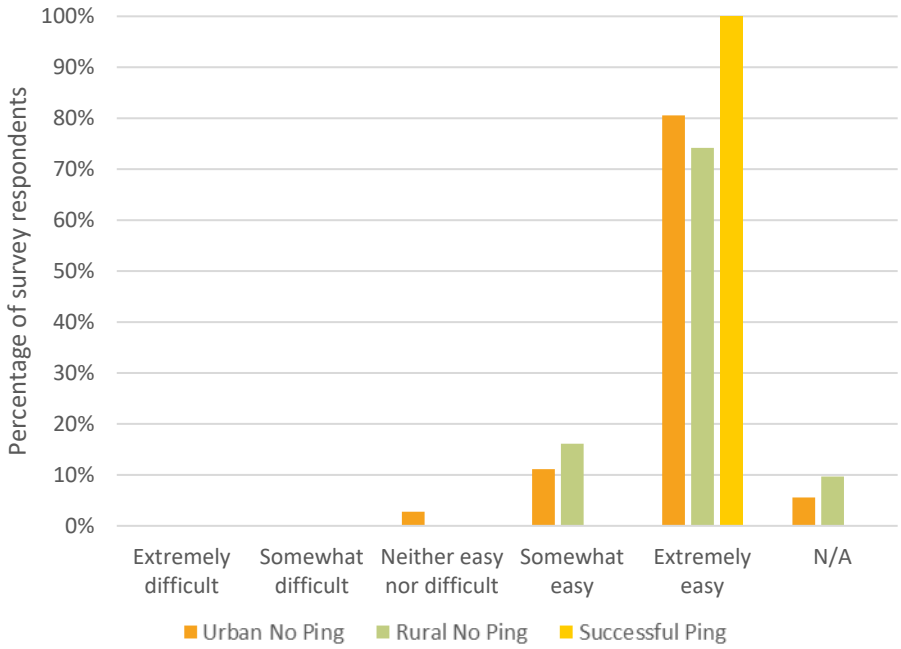


Figure 17. Distribution of Responses Associated with Survey Question 19b with Rural vs. Urban Breakdown

Responses demonstrated a common perception that purchasing the ecobee device online was not considered difficult, with 80% of respondents stating it was extremely.

Table 18. Detailed Results for Questions 19b at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
3	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	7%
4	4	12%	3%	28%	5	18%	6%	37%	0	0%	N/A	N/A	9	13%	7%	22%
5	29	85%	69%	95%	23	82%	63%	94%	7	100%	59%	100%	59	86%	77%	92%

Question 19c. How difficult or easy was it to install the device once you received it?

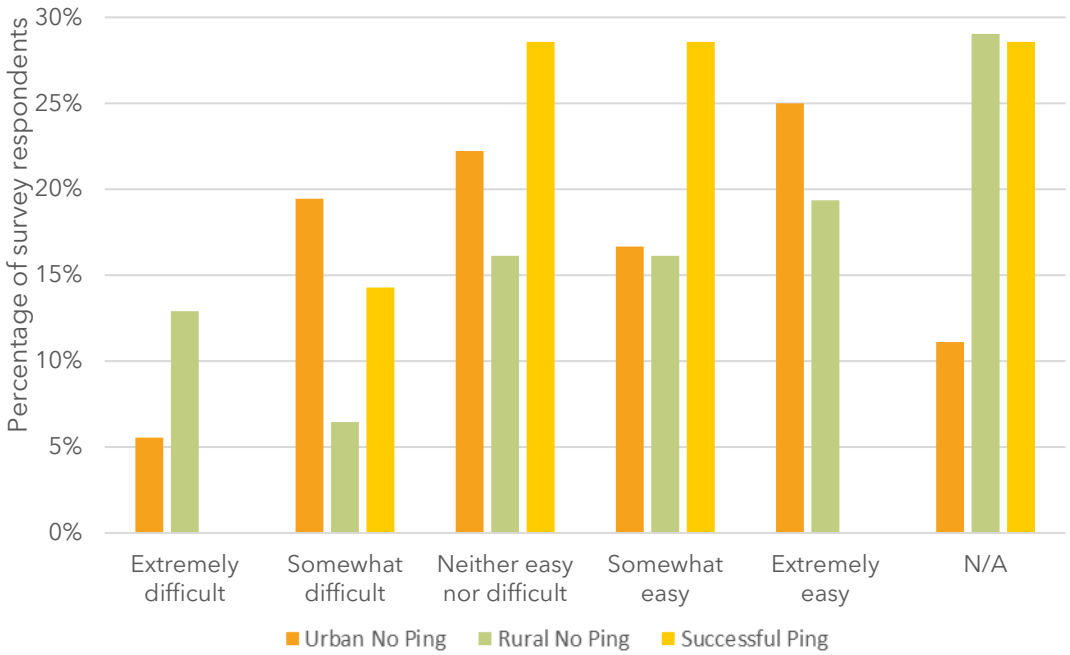


Figure 18. Distribution of Responses Associated with Survey Question 19c with Rural vs. Urban Breakdown

As demonstrated by Figure 18, customer experience associated with the device installation ranged.

Table 19. Detailed Results for Questions 19c at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	2	6%	1%	21%	4	18%	5%	40%	0	0%	N/A	N/A	6	10%	5%	19%
2	7	22%	9%	40%	2	9%	1%	29%	1	20%	1%	72%	10	17%	10%	27%
3	8	25%	12%	43%	5	23%	8%	45%	2	40%	5%	85%	15	25%	16%	36%
4	6	19%	7%	36%	5	23%	8%	45%	2	40%	5%	85%	13	22%	14%	33%
5	9	28%	14%	47%	6	27%	11%	50%	0	0%	N/A	N/A	15	25%	16%	36%

Question 19d. How difficult or easy was it to connect the device to Wi-Fi?

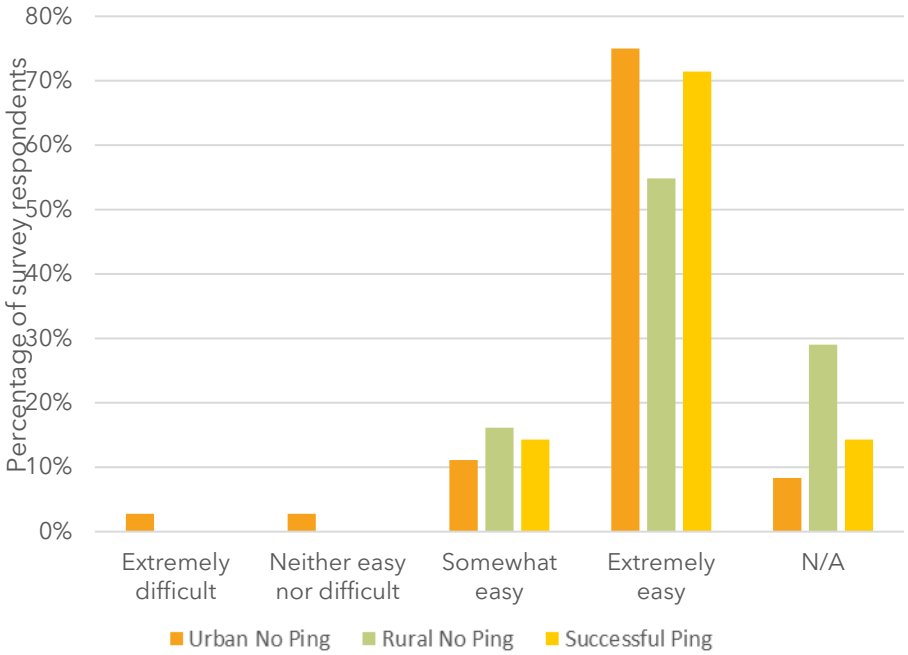


Figure 19. Distribution of Responses Associated with Survey Question 19d with Rural vs. Urban Breakdown

Unlike the variability associated with the device installation, connecting the device to Wi-Fi once installed appeared less difficult overall.

Table 20. Detailed Results for Questions 19d at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	8%
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
3	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	8%
4	4	12%	3%	28%	5	23%	8%	45%	1	17%	0%	64%	10	16%	9%	26%
5	27	82%	65%	93%	17	77%	55%	92%	5	83%	36%	100%	49	80%	70%	88%

Question 20. On a scale from one to five, with one being not clear at all to five being extremely clear, how clear were the installation instructions provided with the ecobee thermostat?

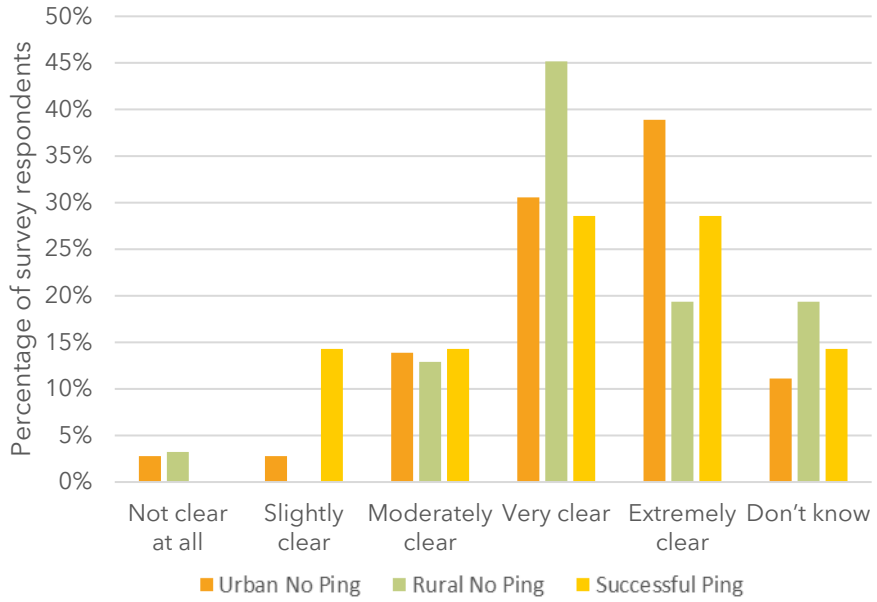


Figure 20. Distribution of Responses Associated with Survey Question 20 with Rural vs. Urban Breakdown

Majority of survey respondents found the installation instructions to be clear with 66% of survey respondents saying it was either extremely clear or very clear. The average and median response "very clear."

Table 21. Detailed Results for Questions 20 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Not clear at all	1	3%	0%	15%	1	3%	0%	17%	0	0%	N/A	N/A	2	3%	1%	8%
Slightly clear	1	3%	0%	15%	0	0%	N/A	N/A	1	14%	0%	58%	2	3%	1%	8%
Moderately clear	5	14%	5%	30%	4	13%	4%	30%	1	14%	0%	58%	10	14%	8%	22%
Very clear	11	31%	16%	48%	14	45%	27%	64%	2	29%	4%	71%	27	37%	27%	47%
Extremely clear	14	39%	23%	57%	6	19%	8%	38%	2	29%	4%	71%	22	30%	21%	40%
Don't Know	4	11%	3%	26%	6	19%	8%	38%	1	14%	0%	58%	11	15%	9%	23%

The following "multiple-response" question was asked of respondents who either attempted to install their ecobee device but could not get it working or found it too difficult/complicated to install the device in association with questions 8, 10, and 11.

Question 21. Did you consult any of the following resources for help with installation?

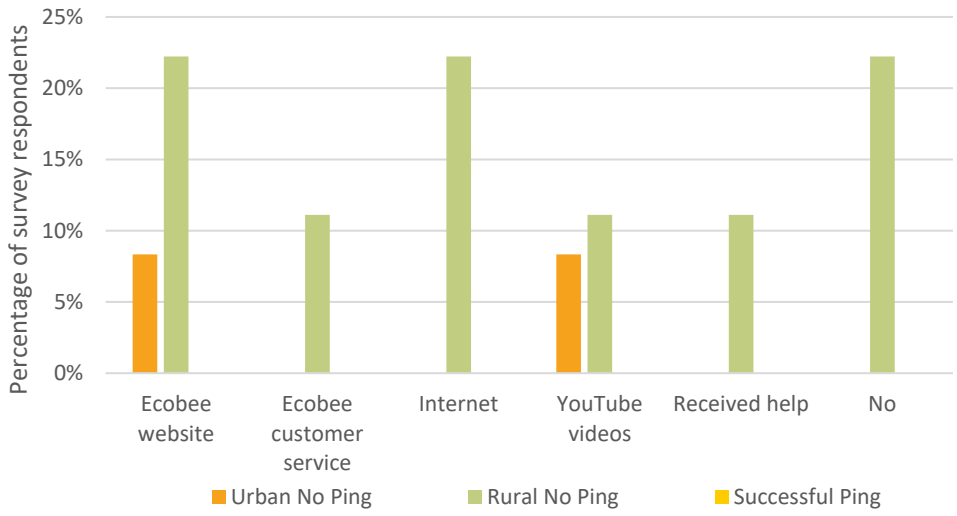


Figure 21. Distribution of Responses Associated with Survey Question 21 with Rural vs. Urban Breakdown

Participants generally consulted a variety of resources to support the installation of their devices, although 33% indicated they did not use any resources to help.

Table 22. Detailed Results for Questions 21 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Instructions from Enbridge Gas' website	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
Enbridge Gas online installation video	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
Summer Hill Customer service	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
ecobee website	1	100%	3%	100%	2	40%	5%	85%	0	0	N/A	N/A	3	50%	15%	85%
ecobee customer service	0	0%	N/A	N/A	1	20%	1%	72%	0	0	N/A	N/A	1	17%	1%	58%
Google search	0	0%	N/A	N/A	2	40%	5%	85%	0	0	N/A	N/A	2	33%	6%	73%
YouTube videos	1	100%	3%	100%	1	20%	1%	72%	0	0	N/A	N/A	2	33%	6%	73%
Help from a family member, friend or acquaintance	0	0%	N/A	N/A	1	20%	1%	72%	0	0	N/A	N/A	1	17%	1%	58%
Hire a contractor to install	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
Other - No	0	0%	N/A	N/A	2	40%	5%	85%	0	0	N/A	N/A	2	33%	6%	73%

Question 22. Are there any resources that would have helped you with installation?

Survey respondents listed the following as resources that would have helped with installation (response counts are included in parentheses):

- Video demos/YouTube (13)
- Professional help or on-call assistance (Ex. technician, electrician) (11)
- Printed instruction booklet (2)
- More furnace brand specifics examples (2)
- Have the instruction be searchable on the internet (2)

And two survey respondents expressed a desire for the device to generally be easier to install.

Question 23. On a scale from one to five, with one being do not understand at all, and five being completely understand, how well do you feel you understand the benefits of using a smart thermostat?

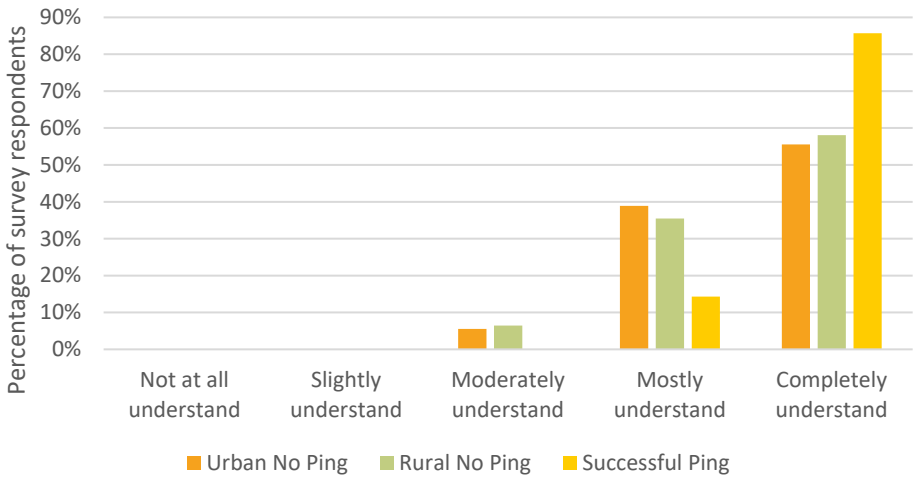


Figure 22. Distribution of Responses Associated with Survey Question 23 with Rural vs. Urban Breakdown

All of survey respondents indicated an understanding of the benefits of having a smart thermostat as illustrated in Figure 22.

Table 23. Detailed Results for Questions 23 at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Not at all understand	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
Slightly understand	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
Moderately understand	2	6%	1%	19%	2	7%	1%	21%	0	0%	N/A	N/A	4	5%	2%	12%
Mostly understand	14	39%	23%	57%	11	36%	19%	55%	1	14%	0%	58%	26	35%	26%	45%
Completely understand	20	56%	38%	72%	18	58%	39%	76%	6	86%	42%	100%	44	60%	49%	69%

Question 24. What are the benefits of using a smart thermostat, from your perspective?

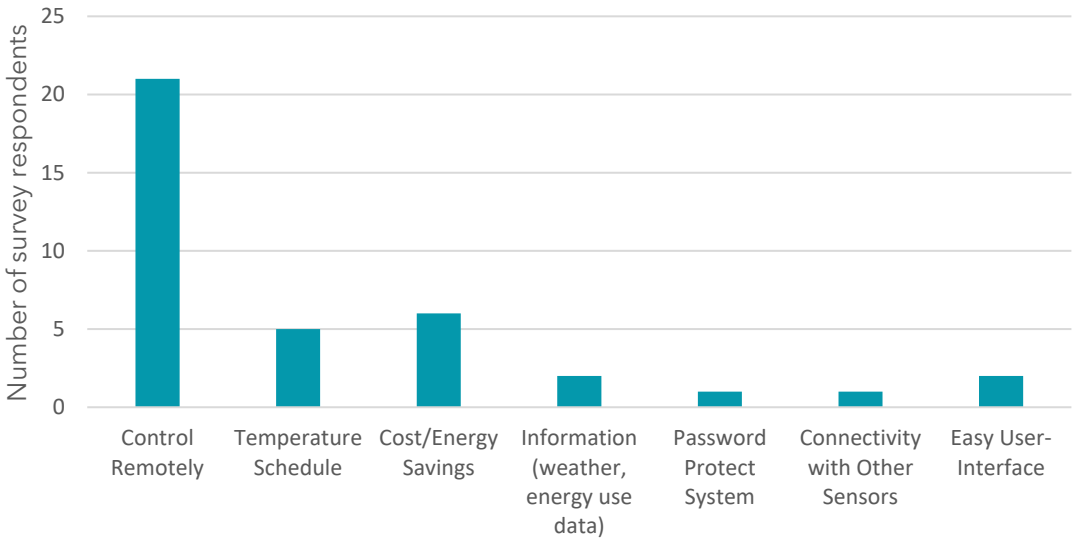


Figure 23. Distribution of Responses Associated with Survey Question 24.

Respondents indicated being able to control the temperature of their home remotely as the leading benefit of using a smart thermostat.

The next seven questions are on a scale from 1-5, with "1" meaning not important at all and "5" meaning extremely important, and relate to how important the factor was in deciding to purchase the ecobee smart thermostat.

Question 25a. How important was reducing household energy use and costs in motivating your decision to purchase the ecobee smart thermostat?

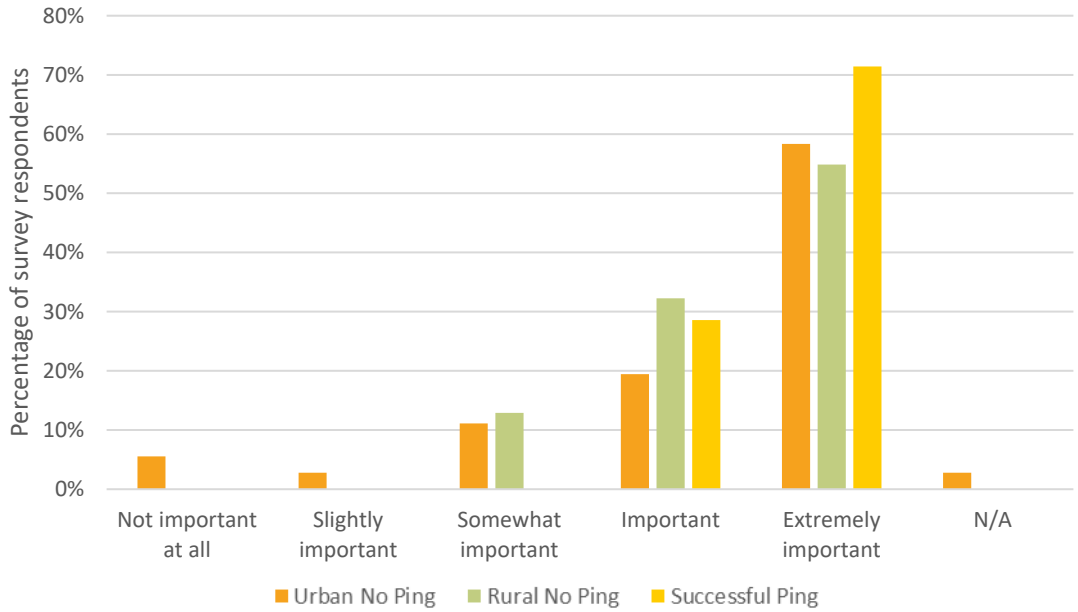


Figure 24. Distribution of Responses Associated with Survey Question 25a with Rural vs. Urban Breakdown

Table 24. Detailed Results for Questions 25a at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	2	6%	1%	19%	0	0%	N/A	N/A	0	0%	N/A	N/A	2	3%	1%	8%
2	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	6%
3	4	11%	3%	27%	4	13%	4%	30%	0	0%	N/A	N/A	8	11%	6%	19%
4	7	20%	8%	37%	10	32%	17%	51%	2	29%	4%	71%	19	26%	18%	36%
5	21	60%	42%	76%	17	55%	36%	73%	5	71%	29%	96%	43	59%	49%	69%

Question 25b. How important was the ability to control the thermostat remotely in motivating your decision to purchase an ecobee smart thermostat?

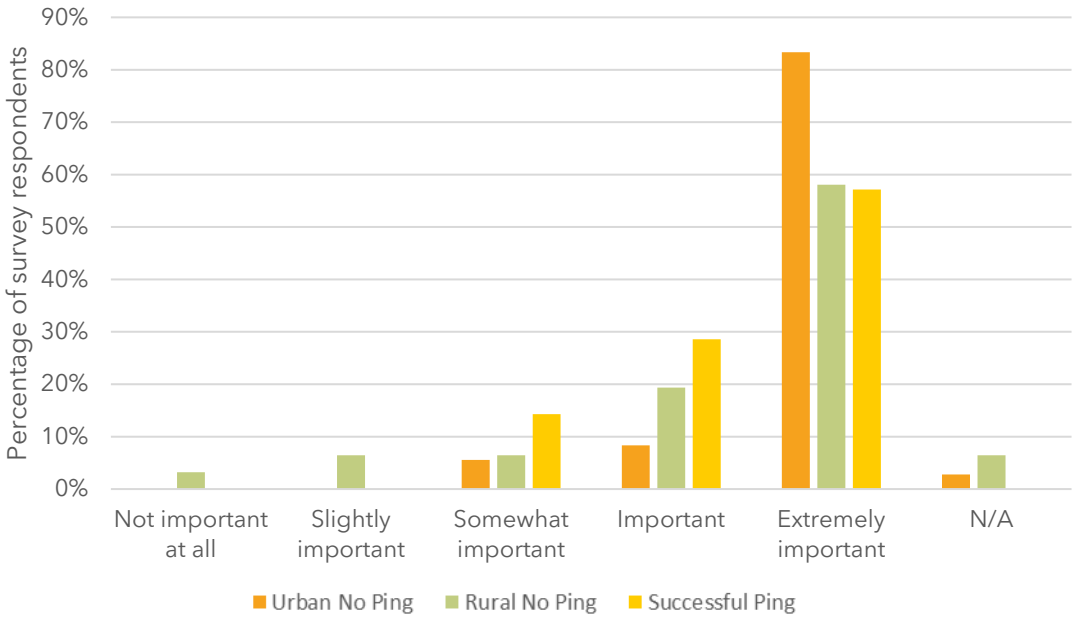


Figure 25. Distribution of Responses Associated with Survey Question 25b with Rural vs. Urban Breakdown

Generally, respondents indicated the ability to control the thermostat remotely as being an important motivator for their decision to purchase the ecobee device, which supports the open-ended responses given to question 24.

Table 25. Detailed Results for Questions 25b at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	1	3%	0%	18%	0	0%	N/A	N/A	1	1%	0%	7%
2	0	0%	N/A	N/A	2	7%	1%	23%	0	0%	N/A	N/A	2	3%	1%	9%
3	2	6%	1%	19%	2	7%	1%	23%	1	14%	0%	58%	5	7%	3%	14%
4	3	9%	2%	23%	6	21%	8%	40%	2	29%	4%	71%	11	16%	9%	24%
5	30	86%	70%	95%	18	62%	42%	79%	4	57%	18%	90%	52	73%	63%	82%

Question 25c. How important was having access to detailed energy reports and data on household power use over time in motivating your decision to purchase an ecobee smart thermostat?

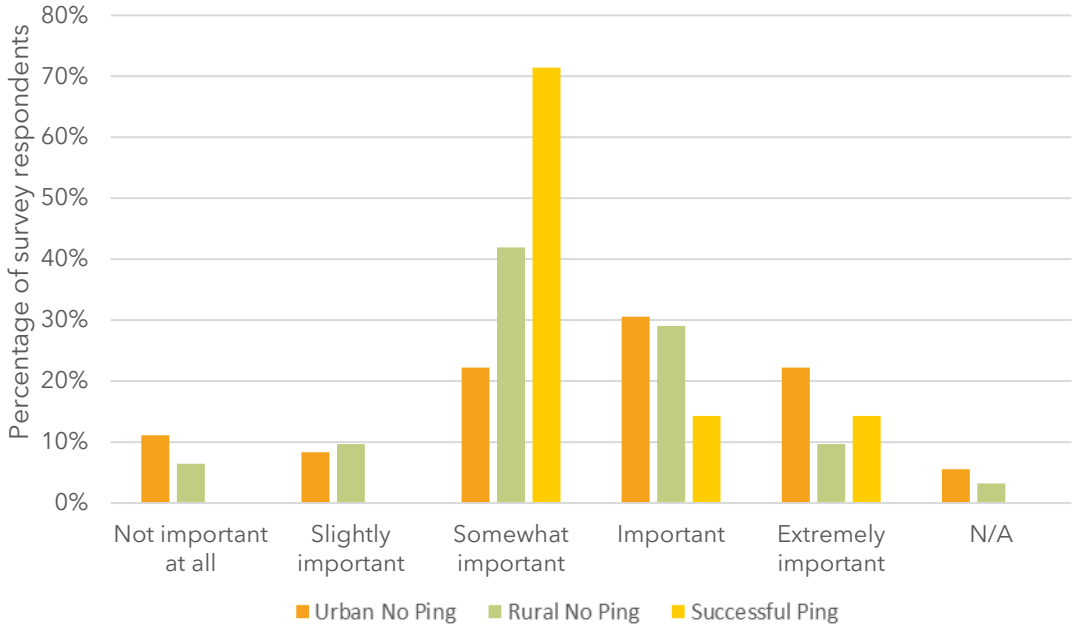


Figure 26. Distribution of Responses Associated with Survey Question 25c with Rural vs. Urban Breakdown

There was a fairly normal distribution in response to the importance of accessing detailed energy reports and associated data, with a slight skew towards being more important than not.

Table 26. Detailed Results for Questions 25c at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	4	12%	3%	28%	2	7%	1%	22%	0	0%	N/A	N/A	6	9%	4%	16%
2	3	9%	2%	24%	3	10%	2%	27%	0	0%	N/A	N/A	6	9%	4%	16%
3	8	24%	11%	41%	13	43%	26%	63%	5	71%	29%	96%	26	37%	27%	47%
4	11	32%	17%	51%	9	30%	15%	49%	1	14%	0%	58%	21	30%	21%	40%
5	8	24%	11%	41%	3	10%	2%	27%	1	14%	0%	58%	12	17%	10%	26%

Question 25d. How important were the advanced scheduling options and occupancy sensors that adapt to your routine in motivating your decision to purchase an ecobee smart thermostat?

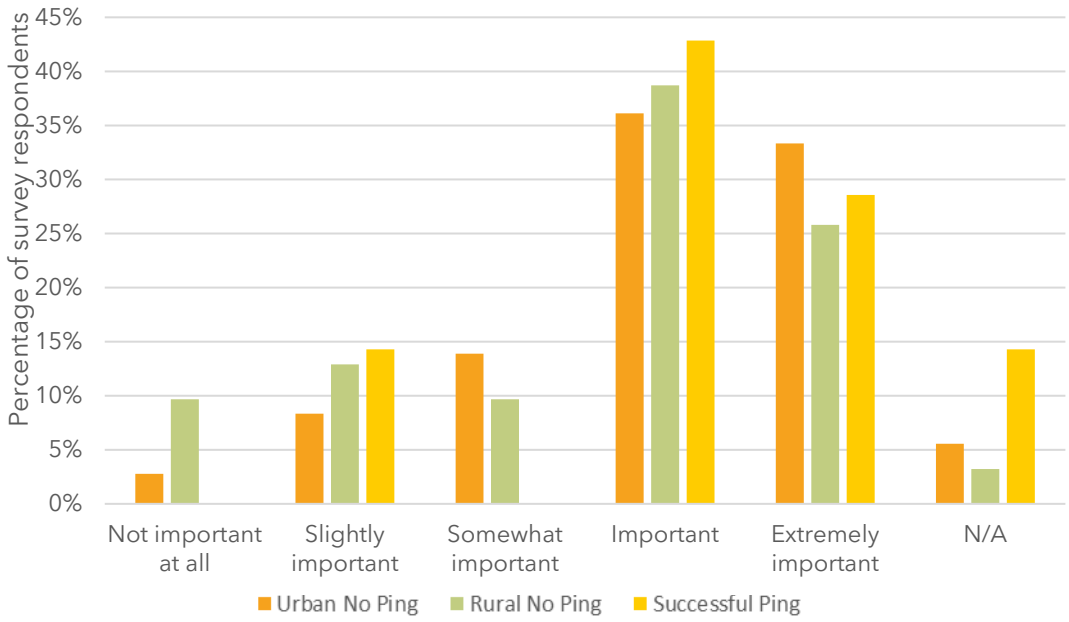


Figure 27. Distribution of Responses Associated with Survey Question 25d with Rural vs. Urban Breakdown

The advanced scheduling options and adaptive occupancy sensors appeared to be an important motivator in most participants decision for purchase the ecobee thermostat.

Table 27. Detailed Results for Questions 25d at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	3	10%	2%	27%	0	0%	N/A	N/A	4	6%	2%	13%
2	3	9%	2%	24%	4	13%	4%	31%	1	17%	0%	64%	8	11%	6%	20%
3	5	15%	5%	31%	3	10%	2%	27%	0	0%	N/A	N/A	8	11%	6%	20%
4	13	38%	22%	56%	12	40%	23%	59%	3	50%	12%	88%	28	40%	30%	51%
5	12	35%	20%	54%	8	27%	12%	46%	2	33%	4%	78%	22	31%	22%	42%

Question 25e. How important was being able to connect the smart thermostat to other smart home devices in motivating your decision to purchase an ecobee smart thermostat?

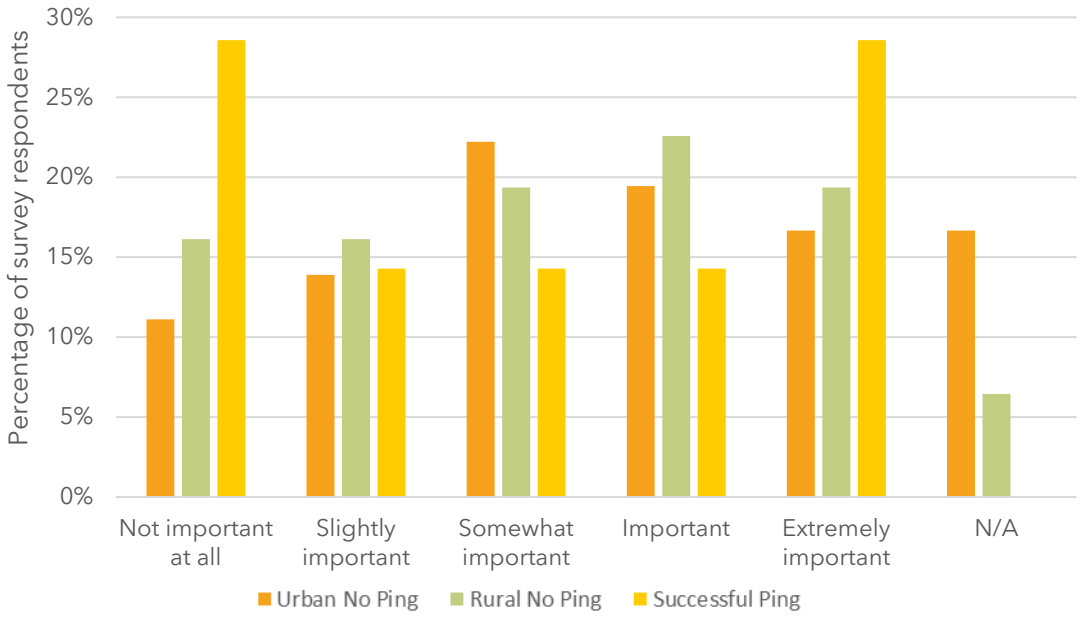


Figure 28. Distribution of Responses Associated with Survey Question 25e with Rural vs. Urban Breakdown

The importance of being able to connect the ecobee device to other smart home systems appears to be mixed, and is slightly skewed towards it contributing to the purchase decision.

Table 28. Detailed Results for Questions 25e at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	4	13%	4%	31%	5	17%	6%	36%	2	29%	4%	71%	11	17%	10%	26%
2	5	17%	6%	35%	5	17%	6%	36%	1	14%	0%	58%	11	17%	10%	26%
3	8	27%	12%	46%	6	21%	8%	40%	1	14%	0%	58%	15	23%	15%	33%
4	7	23%	10%	42%	7	24%	10%	44%	1	14%	0%	58%	15	23%	15%	33%
5	6	20%	8%	39%	6	21%	8%	40%	2	29%	4%	71%	14	21%	13%	31%

Question 25f. How important was reducing household environmental footprint and/or greenhouse gas emissions in motivating your decision to purchase an ecobee smart thermostat?

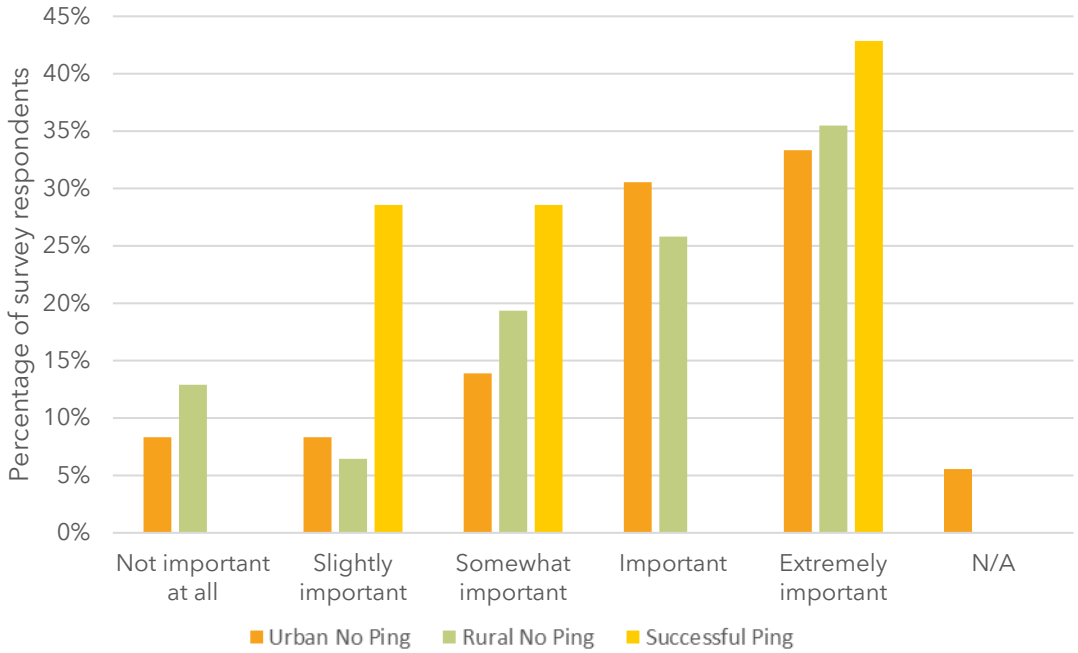


Figure 29. Distribution of Responses Associated with Survey Question 25f with Rural vs. Urban Breakdown

Reducing the household environmental footprint and/or GHG emissions was appeared to be an important consideration for most respondents, with 62% saying it was an important or extremely important factor in their decision.

Table 29. Detailed Results for Questions 25e at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	3	9%	2%	24%	4	13%	4%	30%	0	0%	N/A	N/A	7	10%	5%	18%
2	3	9%	2%	24%	2	7%	1%	21%	2	29%	4%	71%	7	10%	5%	18%
3	5	15%	5%	31%	6	19%	8%	38%	2	29%	4%	71%	13	18%	11%	27%
4	11	32%	17%	51%	8	26%	12%	45%	0	0%	N/A	N/A	19	26%	18%	36%
5	12	35%	20%	54%	11	36%	19%	55%	3	43%	10%	82%	26	36%	27%	46%

Question 25g. How important was your interest in having New Tech in motivating your decision to purchase an ecobee smart thermostat?

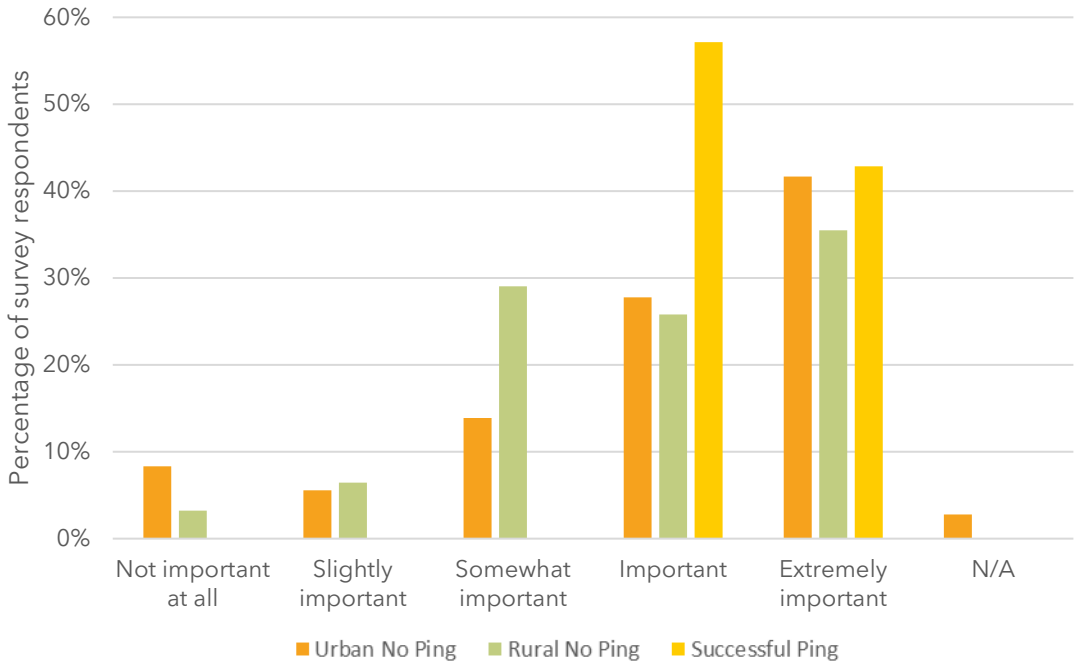


Figure 30. Distribution of Responses Associated with Survey Question 25f with Rural vs. Urban Breakdown

Many respondents noted the importance of having new technology as motivational in their decision to purchase the smart thermostat, with over 50% of respondents noting it was important to extremely important.

Table 30. Detailed Results for Questions 25e at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	3	9%	2%	23%	1	3%	0%	17%	0	0%	N/A	N/A	4	6%	2%	12%
2	2	6%	1%	19%	2	7%	1%	21%	0	0%	N/A	N/A	4	6%	2%	12%
3	5	14%	5%	30%	9	29%	14%	48%	0	0%	N/A	N/A	14	19%	12%	28%
4	10	29%	15%	46%	8	26%	12%	45%	4	57%	18%	90%	22	30%	21%	40%
5	15	43%	26%	61%	11	36%	19%	55%	3	43%	10%	82%	29	40%	30%	50%

The next five questions are on a scale from 1-5, with "1" meaning completely disaagree and "5" meaning completely agree, and relate to the respondents' perception of the ecobee device.

Question 26a. Based on your experience, a smart thermostat helps my home save energy.

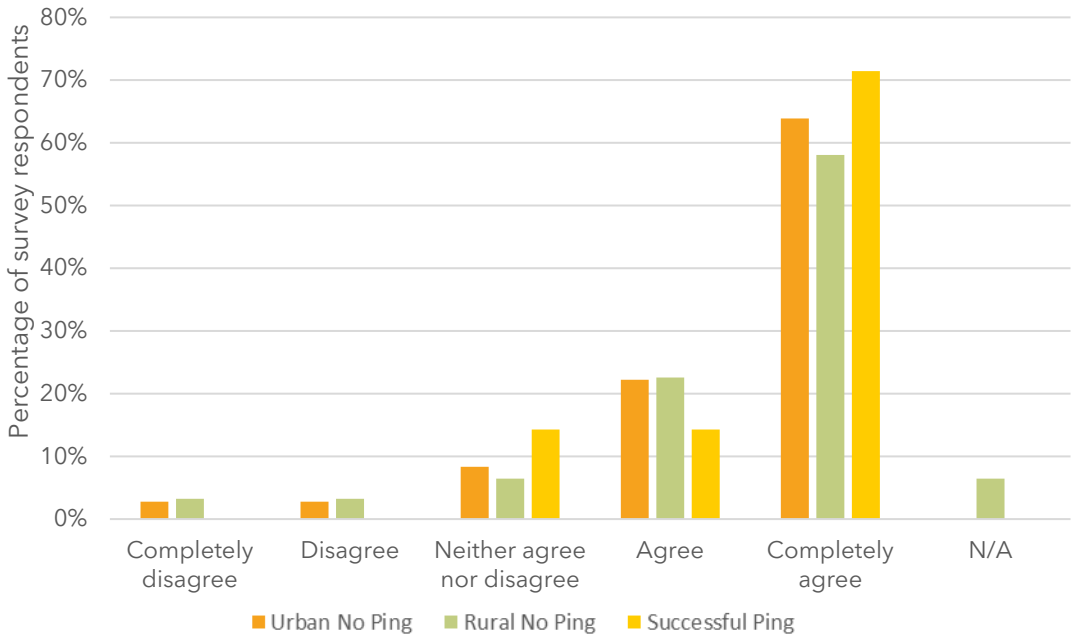


Figure 31. Distribution of Responses Associated with Survey Question 26a with Rural vs. Urban Breakdown

Most respondents agreed that the ecobee device helped them save energy, with 86% weighing their agreement as a 4/5 or 5/5.

Table 31. Detailed Results for Questions 26a at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	1	3%	0%	18%	0	0%	N/A	N/A	2	3%	1%	9%
2	1	3%	0%	15%	1	3%	0%	18%	0	0%	N/A	N/A	2	3%	1%	9%
3	3	8%	2%	23%	2	7%	1%	23%	1	14%	0%	58%	6	8%	4%	16%
4	8	22%	10%	39%	7	24%	10%	44%	1	14%	0%	58%	16	22%	15%	32%
5	23	64%	46%	79%	18	62%	42%	79%	5	71%	29%	96%	46	64%	54%	73%

Question 26b. Based on your experience, using a smart thermostat introduces privacy and data security risks.

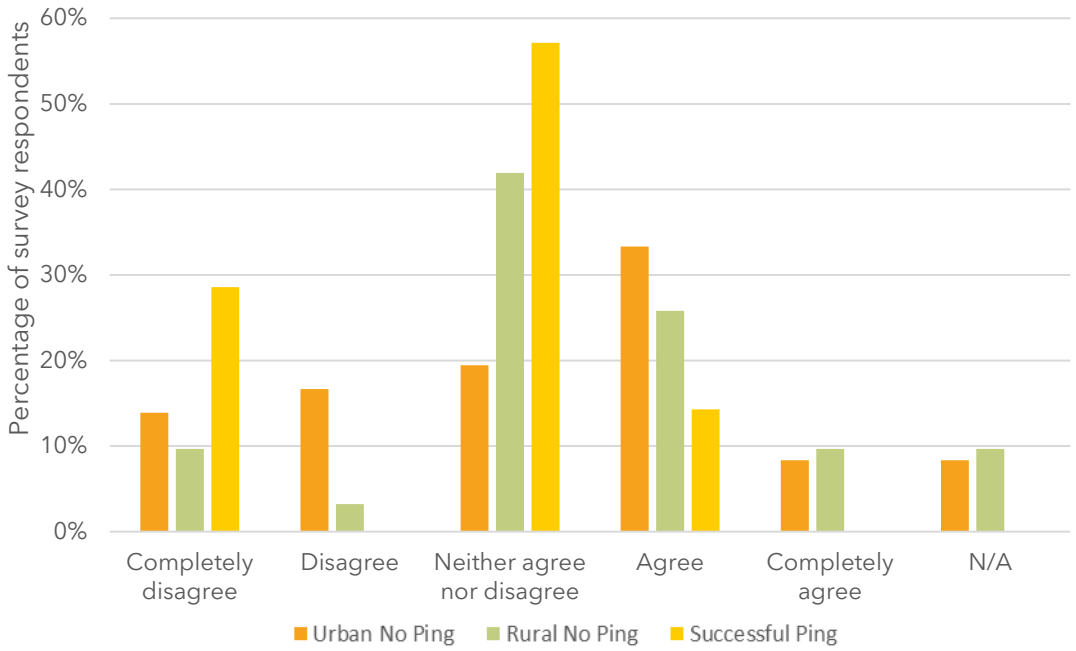


Figure 32. Distribution of Responses Associated with Survey Question 26b with Rural vs. Urban Breakdown

Responses associated with potential privacy concerns varied, with the majority (35%) expressing ambivalence in their agreement.

Table 32. Detailed Results for Questions 26b at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	5	15%	5%	32%	3	11%	2%	28%	2	29%	4%	71%	10	15%	8%	24%
2	6	18%	7%	36%	1	4%	0%	18%	0	0%	N/A	N/A	7	10%	5%	19%
3	7	21%	9%	39%	13	46%	28%	66%	4	57%	18%	90%	24	35%	26%	46%
4	12	36%	20%	55%	8	29%	13%	49%	1	14%	0%	58%	21	31%	22%	41%
5	3	9%	2%	24%	3	11%	2%	28%	0	0%	N/A	N/A	6	9%	4%	17%

Question 26c. Based on your experience, a smart thermostat helps keep my home more comfortable.

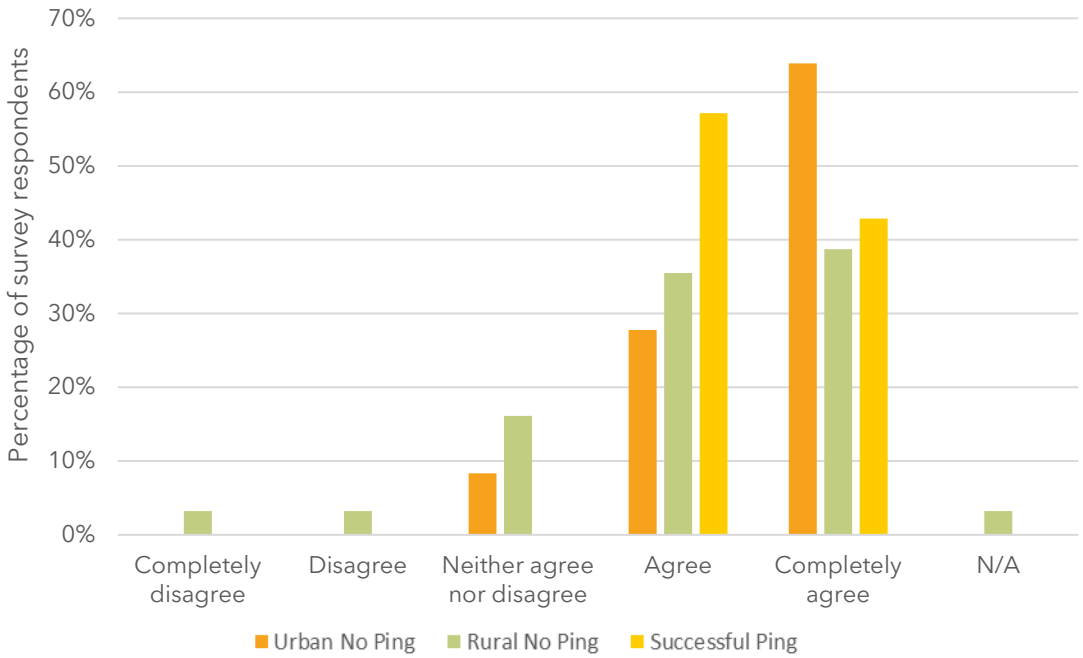


Figure 33. Distribution of Responses Associated with Survey Question 26c with Rural vs. Urban Breakdown

Roughly half (51%) of the survey respondents completely agree that the ecobee smart thermostat helps keep their home comfortable.

Table 33. Detailed Results for Questions 26c at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	1	3%	0%	17%	0	0%	N/A	N/A	1	1%	0%	6%
2	0	0%	N/A	N/A	1	3%	0%	17%	0	0%	N/A	N/A	1	1%	0%	6%
3	3	8%	2%	23%	5	17%	6%	35%	0	0%	N/A	N/A	8	11%	6%	19%
4	10	28%	14%	45%	11	37%	20%	56%	4	57%	18%	90%	25	34%	25%	44%
5	23	64%	46%	79%	12	40%	23%	59%	3	43%	10%	82%	38	52%	42%	62%

Question 26d. Based on your experience, using a smart thermostat is difficult or complicated.

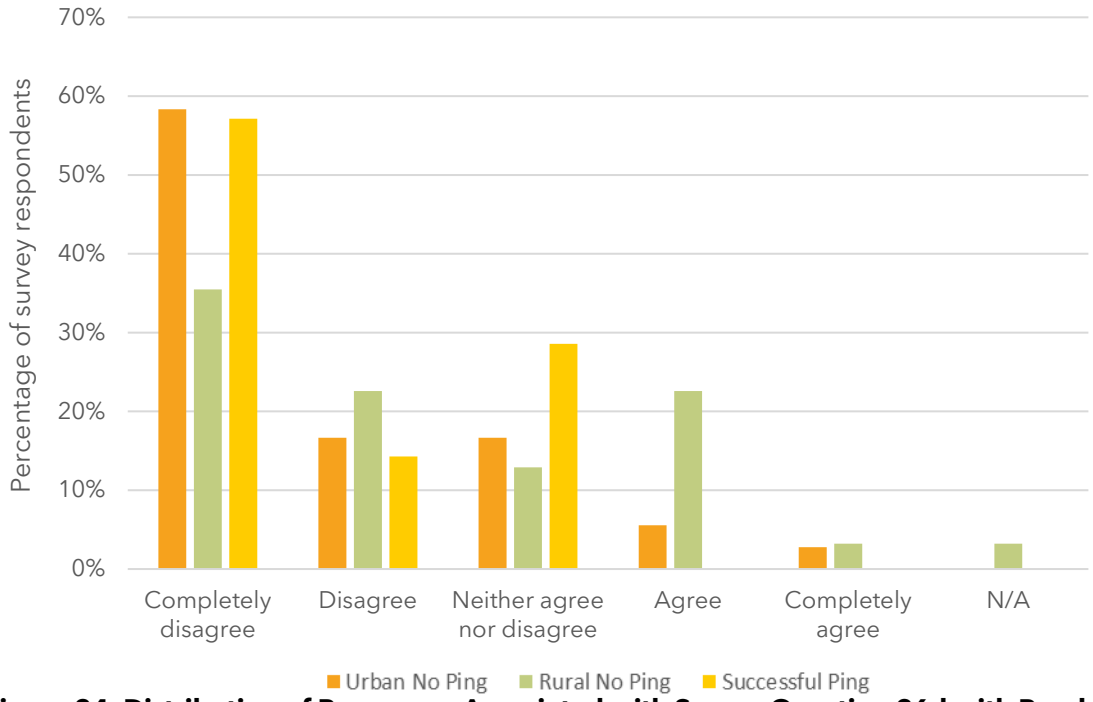


Figure 34. Distribution of Responses Associated with Survey Question 26d with Rural vs. Urban Breakdown

There was a high degree of disagreement with the question statement, indicating customers found operating the smart thermostat was not overly complex or difficult.

Table 34. Detailed Results for Questions 26d at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	21	58%	41%	75%	11	37%	20%	56%	4	57%	18%	90%	36	49%	39%	60%
2	6	17%	6%	33%	7	23%	10%	42%	1	14%	0%	58%	14	19%	12%	28%
3	6	17%	6%	33%	4	13%	4%	31%	2	29%	4%	71%	12	16%	10%	25%
4	2	6%	1%	19%	7	23%	10%	42%	0	0%	N/A	N/A	9	12%	7%	21%
5	1	3%	0%	15%	1	3%	0%	17%	0	0%	N/A	N/A	2	3%	1%	8%

Question 26e. Based on your experience, the benefits of a smart thermostat outweigh the drawbacks

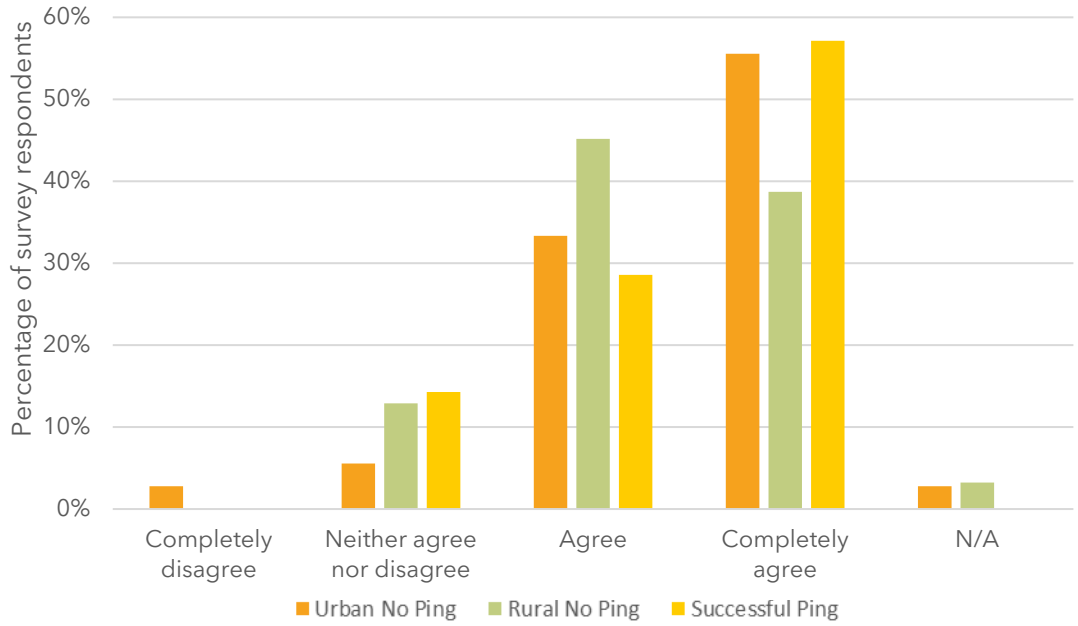


Figure 35. Distribution of Responses Associated with Survey Question 26e with Rural vs. Urban Breakdown

There is general agreement that the benefits of the smart thermostat outweigh the drawbacks.

Table 35. Detailed Results for Questions 26e at 90% Confidence Interval.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	6%
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
3	2	6%	1%	19%	4	13%	4%	31%	1	14%	0%	58%	7	10%	5%	18%
4	12	34%	19%	52%	14	47%	28%	66%	2	29%	4%	71%	28	39%	29%	49%
5	20	57%	39%	74%	12	40%	23%	59%	4	57%	18%	90%	36	50%	40%	60%

Question 27. Is there anything else you would like to share about your experience with the Enbridge Gas Smart Thermostat Rebate program?

Five survey respondents provided the following feedback relating to their experience with Enbridge's Smart Thermostat Rebate program:

- The HVAC contractor hired to install the device did not provide insights into the smart features.
- Customer understands most settings but is not sure how to control the controls that impact the energy and comfortability of the home.
- Unclear how to turn off the motion sensor activation of the display
- I am thankful for the device; it helps me to take actions to save money.
- Customer would have chosen another device instead of ecobee.

4.0 Conclusion

The evaluation of Enbridge Gas Inc.'s Residential Adaptive T-Stat Offer highlights both its successes and areas for potential enhancement. The program is functioning effectively, with high levels of participant satisfaction and positive user experiences. Key findings demonstrate that 87.5% of the sampled "no ping" survey respondents have installed their ecobee device and 95% have successfully connected it to Wi-Fi, suggesting that the current performance metrics may underestimate the program's overall impact. While there is a slight variance in connectivity challenges between urban and rural participants, these differences are not statistically significant.

The study also identified several motivators for participation, including remote control functionality, having the latest technology, energy savings, and greenhouse gas emissions reductions, which reinforces the program's alignment with participant priorities. The ease of installation and application processes further contributed to the program's favorable reception. Additional hypothesized barriers associated with participant comfort/familiarity with technology and Wi-Fi connection/data-privacy do not appear to be substantiated by the survey results, however a separate study of barriers for non-adaptive T-Stat participants could provide valuable insights to help improve uptake of smart thermostats for reluctant customers.

To enhance the program's effectiveness and accessibility for participants, and validate the use of ecobee ping-rates to inform the Adaptive T-Stat Offer adjustment factors, the following recommendations are proposed for Enbridge's consideration:

1. Conduct a comparative study of 2023 and 2024 ecobee ping-rates versus telephone verification surveys across all manufacturers in the offer to validate the use of the ecobee ping-rates to inform the performance adjustment metrics.[12]
2. Provide detailed pre-purchase installation guidance to mitigate customer frustration.
3. Include compatibility information to help participants choose a thermostat suited to their home heating systems.
4. Emphasize the high-speed internet access requirement more prominently during the application process.

These enhancements can support continuous improvement efforts, ensuring the program delivers maximum value to participants while maintaining its positive reputation. By addressing these opportunities, Enbridge can further optimize the Adaptive T-Stat Offer, contributing to its goals of energy efficiency, customer satisfaction, and sustainability.

[12] Given ecobee introduced a new tool through which to track customer Wi-Fi connections, a comparative study could also be useful to instill greater confidence in the accuracy of ping-rate performance data.

Appendix A: Sample & Confidence

This document describes the sampling approach used to survey customers that purchased an ecobee smart thermostat through the Enbridge Adaptive Thermostat Rebate program and presents the resulting precision rates for each question at 90% confidence.

The sample included customers that either did not install or connect the thermostat to internet as well as customers that successfully installed and connected their thermostats. As summarized in Table 1, the populations for the survey included program years 2021 and 2022 for legacy Enbridge Gas Distribution and legacy Union Gas Limited. The population was segmented to enable exploration of potential divergent experiences for customers who reside in urban versus rural areas.

Table 1: Sample Frame Populations

Population	Utility	Year	Urban/Rural	Count
Did not connect to internet (No Ping)	Legacy Enbridge	2021	Urban	530
			Rural	105
		2022	Urban	346
			Rural	132
	Legacy Union	2021	Urban	153
			Rural	97
		2022	Urban	145
			Rural	76
Installed and connected to internet (Successful Ping)	Combined			8,937

The evaluation team conducted a telephone survey of a sample of program participants with the intention of obtaining representation from each of the groups outlined in Table 1. In order to limit the burden this research placed on Enbridge customers the sample frame was limited to 300 participants. As demonstrated in Table 2, the sample of participants completing surveys was sufficient to provided results at 90% confidence with ±10% precision (two-tailed) within the overall participant population and the total population of participants that did not successfully install their thermostats or connect to the internet. The sample provides results at 90% confidence with ±10% precision (one-tailed) within the urban and rural populations respectively.

Table 2: Sample Sizes and Confidence Levels

Sampling Group		Population Count	Sample Count	Margin of error at 90% confidence	
				2-Tailed	1-Tailed
Did not install or connect to internet (No Ping)	**Urban**	1,174	36	±14%	±7%
	Rural	410	33	±14%	±7%
	Total	1,584	69	±10%	±5%
Installed and connected to internet (Successful Ping)		8,937	7	±31%	±16%
Full Sample		10,521	76	±9%	±5%

The following tables provide detailed counts and frequencies associated with the survey responses, and include the margin of error at the 90% confidence level for survey questions as appropriate, The questions preceding each table are provided in lieu of labels.

Background/Screening

Q1. Did you receive the advance letter from Enbridge Gas notifying you about this survey?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	23	64 %	46%	79%	26	79 %	61%	91%	6	86 %	42%	100%	55	72%	63%	81%
NO ADVANCED LETTER	13	36 %	21%	54%	7	21 %	9%	39%	1	14 %	0%	58%	21	28%	19%	37%

Q2. Our records indicate that your household participated in Enbridge Gas' Smart Thermostat program and received a discount on an ecobee device. Is that correct?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	34	94 %	81%	99%	30	94 %	79%	99%	7	100%	59%	100%	71	95%	88%	98%
NON-PARTICIPANT	0	0%	N/A	N/A	1	3%	0%	16%	0	N/A	N/A	N/A	1	1%	0%	6%
Don't Know	2	6%	1%	19%	1	3%	0%	16%	0	N/A	N/A	N/A	3	4%	1%	10%

Q3. Is the device installed at your residence?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	32	94 %	80%	99%	24	80 %	61%	92%	7	100%	59%	100%	63	89%	81%	94%
No	2	6%	1%	20%	6	20 %	8%	39%	0	0%	N/A	N/A	8	11%	6%	19%

Q4. ecobee thermostats are square shaped with rounded corners and say "ecobee" in small gray letters at the bottom. Does that description match the thermostat installed in your residence?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	2	100 %	16%	100%	0	0%	N/A	N/A	0	0%	N/A	N/A	2	67%	14%	98%
No	0	0%	N/A	N/A	1	100%	3%	100%	0	0%	N/A	N/A	1	33%	2%	87%

Combined response to Q3 & Q4

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	34	94%	84%	99%	24	73%	62%	89%	7	100%	65%	100%	65	88%	80%	94%
No	2	6%	1%	17%	7	23%	11%	38%	0	0%	N/A	N/A	11	12%	7%	20%

Q5. Do you still have the ecobee thermostat you purchased through Enbridge Gas' Smart Thermostat Rebate Program?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes, I have it, but it's not installed	2	100%	16%	100%	6	86%	42%	100%	0	0%	N/A	N/A	8	89%	57%	99%
No, I no longer have it	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
Other	0	0%	N/A	N/A	1	14%	0%	58%	0	0%	N/A	N/A	1	11%	1%	43%

Q6. What did you do with the ecobee thermostat you purchased through the Enbridge Gas program?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
I returned it	0	0%	N/A	N/A	1	14%	0%	58%	0	0%	N/A	N/A	1	11%	1%	43%
Other	2	100%	16%	100%	6	86%	42%	100%	0	0%	N/A	N/A	8	89%	57%	99%

Q7. What type of thermostat are you currently using in your home instead of the ecobee?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Another smart thermostat	0	0%	N/A	N/A	1	14%	0%	58%	0	0	N/A	N/A	1	11%	1%	43%
My old thermostat	1	50%	1%	99%	2	29%	4%	71%	0	0	N/A	N/A	3	33%	10%	66%
Other (see bar graph)	1	50%	1%	99%	3	43%	10%	82%	0	0	N/A	N/A	4	44%	17%	75%
Don't Know	0	0%	N/A	N/A	1	14%	0%	58%	0	0	N/A	N/A	1	11%	1%	43%

Device Not In Use

Q8. Was the ecobee thermostat installed at any point?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
We attempted to install the device, but did not get it working	2	100%	16%	100%	4	57%	18%	90%	0	0	N/A	N/A	6	67%	35%	90%
No - It was never installed	0	0%	N/A	N/A	3	43%	10%	82%	0	0	N/A	N/A	3	33%	10%	66%

Q9. How long was the ecobee thermostat installed before it was removed?

Skip logic/confidence calculation as question did not trigger question for any respondents

Q10. Why did you remove the ecobee thermostat? [Do not read responses, probe to code]

Skip logic/confidence calculation as question did not trigger question for any respondents

Q11. Why haven't you installed your ecobee thermostat? [*Do not read responses, probe to code*]

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
It seems too complicated	0	0%	N/A	N/A	1	33%	1%	91%	0	0%	N/A	N/A	1	33%	2%	87%
Other	0	0%	N/A	N/A	2	67%	9%	99%	0	0%	N/A	N/A	2	67%	14%	98%

Q12. Are you planning to try to install the ecobee smart thermostat in the future?

	No Ping Urban	No Ping Rural	Successful Ping	Total

	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	2	100%	16%	100%	4	57 %	18%	90%	0	0%	N/A	N/A	6	67%	35%	90%
No	0	0%	N/A	N/A	3	43 %	10%	82%	0	0%	N/A	N/A	3	33%	10%	66%

Q13. Why aren't you planning to install the ecobee smart thermostat?

Wi-Fi Connection Experience

Q14. When your ecobee thermostat was installed, did you connect it to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	32	94 %	80%	99%	23	96 %	79%	100%	7	1	59%	100%	62	95 %	89%	99%
No	2	6%	1%	20%	1	4%	0%	21%	0	0	N/A	N/A	3	5%	1%	12%

Q15. How soon after installing it did you connect the thermostat to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Within one week	29	91%	75%	98%	20	87%	66%	97%	7	100 %	59%	100%	56	90%	82%	96%
Between 1 week and 1 month	1	3%	0%	16%	1	4%	0%	22%	0	0%	N/A	N/A	2	3%	1%	10%
Between 1 - 3 months	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	7%
Between 3 - 6 months	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	7%
More than 2 yrs	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%
Don't Know	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%

Q16. Were there any issues with connecting the device to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
No	32	100 %	89%	100%	22	96%	78%	100%	7	100 %	59%	100%	61	98 %	93%	100%
Don't Know	0	0%	N/A	N/A	1	4%	0%	22%	0	0%	N/A	N/A	1	2%	0%	7%

Q17. Is your ecobee thermostat currently connected to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Yes	31	97 %	84%	100%	20	87%	66%	97%	7	100 %	59%	100%	58	94 %	86%	98%
No	1	3%	0%	16%	1	4%	0%	22%	0	0%	N/A	N/A	2	3%	1%	10%
Don't Know	0	0%	N/A	N/A	2	9%	1%	28%	0	0%	N/A	N/A	2	3%	1%	10%

Q18. Why didn't you connect your ecobee thermostat to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Not interested in using Wi-Fi connected features	0	0%	N/A	N/A	1	100%	3%	100%	0	0%	N/A	N/A	1	33%	2%	87%
Other	2	100%	16%	100%	0	0%	N/A	N/A	0	0%	N/A	N/A	2	67%	14%	98%

2.5 Program Experience

Q19.a How difficult or easy was it to apply for the discount through the Enbridge Gas portal?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
2	1	3%	0%	15%	0	0%	N/A	N/A	1	14 %	0%	58%	2	3%	1%	9%
3	2	6%	1%	19%	2	7%	1%	23%	0	0%	N/A	N/A	4	6%	2%	12%
4	5	14%	5%	30%	8	28%	13%	47%	1	14 %	0%	58%	14	20 %	12%	29%
5	27	77%	60%	90%	19	66%	46%	82%	5	71 %	29%	96%	51	72 %	62%	81%

Q19.b How difficult or easy was it to purchase an ecobee thermostat online?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
3	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	7%
4	4	12 %	3%	28%	5	18%	6%	37%	0	0%	N/A	N/A	9	13%	7%	22%
5	29	85 %	69%	95%	23	82%	63%	94%	7	100%	59%	100%	59	86%	77%	92%

Q19.c How difficult or easy was it to install the device once you received it?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	2	6%	1%	21%	4	18%	5%	40%	0	0%	N/A	N/A	6	10%	5%	19%
2	7	22%	9%	40%	2	9%	1%	29%	1	20%	1%	72%	10	17%	10%	27%
3	8	25%	12%	43%	5	23%	8%	45%	2	40%	5%	85%	15	25%	16%	36%
4	6	19%	7%	36%	5	23%	8%	45%	2	40%	5%	85%	13	22%	14%	33%
5	9	28%	14%	47%	6	27%	11%	50%	0	0%	N/A	N/A	15	25%	16%	36%

Q19.d How difficult or easy was it to connect the device to Wi-Fi?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	8%
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
3	1	3%	0%	16%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	2%	0%	8%
4	4	12%	3%	28%	5	23%	8%	45%	1	17%	0%	64%	10	16%	9%	26%
5	27	82%	65%	93%	17	77%	55%	92%	5	83%	36%	100%	49	80%	70%	88%

Q20. On a scale from one to five, with one being not clear at all to five being extremely clear, how clear were the installation instructions provided with the ecobee thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Not clear at all	1	3%	0%	15%	1	3%	0%	17%	0	0%	N/A	N/A	2	3%	1%	8%
Slightly clear	1	3%	0%	15%	0	0%	N/A	N/A	1	14%	0%	58%	2	3%	1%	8%
Moderately clear	5	14%	5%	30%	4	13%	4%	30%	1	14%	0%	58%	10	14%	8%	22%
Very clear	11	31%	16%	48%	14	45%	27%	64%	2	29%	4%	71%	27	37%	27%	47%
Extremely clear	14	39%	23%	57%	6	19%	8%	38%	2	29%	4%	71%	22	30%	21%	40%
Don't Know	4	11%	3%	26%	6	19%	8%	38%	1	14%	0%	58%	11	15%	9%	23%

Q21. Did you consult any of the following resources for help with installation?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Instructions from Enbridge Gas' website	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A

Enbridge Gas online installation video	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
Summer Hill Customer service	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
ecobee website	1	100%	3%	100%	2	40%	5%	85%	0	0	N/A	N/A	3	50%	15%	85%
ecobee customer service	0	0%	N/A	N/A	1	20%	1%	72%	0	0	N/A	N/A	1	17%	1%	58%
Google search	0	0%	N/A	N/A	2	40%	5%	85%	0	0	N/A	N/A	2	33%	6%	73%
YouTube videos	1	100%	3%	100%	1	20%	1%	72%	0	0	N/A	N/A	2	33%	6%	73%
Help from a family member, friend or acquaintance	0	0%	N/A	N/A	1	20%	1%	72%	0	0	N/A	N/A	1	17%	1%	58%
Hire a contractor to install	0	0	N/A	N/A	0	0	N/A	N/A	0	0	N/A	N/A	0	0%	N/A	N/A
Other -	0	0%	N/A	N/A	2	40%	5%	85%	0	0	N/A	N/A	2	33%	6%	73%

Q22. Are there any resources that would have helped you with installation?

Skip logic/confidence calculation as question did not trigger question for any respondents

Awareness and Motivation

Q23. On a scale from one to five, with one being do not understand at all, and five being completely understand to how well do you feel you understand the benefits of using a smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
Not at all understand	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
Slightly understand	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0	N/A	N/A
Moderately understand	2	6%	1%	19%	2	7%	1%	21%	0	0%	N/A	N/A	4	5%	2%	12%
Mostly understand	14	39%	23%	57%	11	36%	19%	55%	1	14%	0%	58%	26	35%	26%	45%
Completely understand	20	56%	38%	72%	18	58%	39%	76%	6	86%	42%	100%	44	60%	49%	69%

Q24. What are the benefits of using a smart thermostat, from your perspective?

Skip logic/confidence calculation as question did not trigger question for any respondents

Q25.a How important was reducing household energy use and costs in motivating your decision to purchase the ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	2	6%	1%	19%	0	0%	N/A	N/A	0	0%	N/A	N/A	2	3%	1%	8%
2	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	6%
3	4	11%	3%	27%	4	13%	4%	30%	0	0%	N/A	N/A	8	11%	6%	19%
4	7	20%	8%	37%	10	32%	17%	51%	2	29%	4%	71%	19	26%	18%	36%
5	21	60%	42%	76%	17	55%	36%	73%	5	71%	29%	96%	43	59%	49%	69%

Q25b. How important was the ability to control the thermostat remotely in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	1	3%	0%	18%	0	0%	N/A	N/A	1	1%	0%	7%
2	0	0%	N/A	N/A	2	7%	1%	23%	0	0%	N/A	N/A	2	3%	1%	9%
3	2	6%	1%	19%	2	7%	1%	23%	1	14%	0%	58%	5	7%	3%	14%
4	3	9%	2%	23%	6	21%	8%	40%	2	29%	4%	71%	11	16%	9%	24%
5	30	86%	70%	95%	18	62%	42%	79%	4	57%	18%	90%	52	73%	63%	82%

Q25c. How important was having access to detailed energy reports and data on household power use over time in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	4	12%	3%	28%	2	7%	1%	22%	0	0%	N/A	N/A	6	9%	4%	16%
2	3	9%	2%	24%	3	10%	2%	27%	0	0%	N/A	N/A	6	9%	4%	16%
3	8	24%	11%	41%	13	43%	26%	63%	5	71%	29%	96%	26	37%	27%	47%
4	11	32%	17%	51%	9	30%	15%	49%	1	14%	0%	58%	21	30%	21%	40%
5	8	24%	11%	41%	3	10%	2%	27%	1	14%	0%	58%	12	17%	10%	26%

Q25d. How important were the Advanced scheduling options and occupancy sensors that adapt to your routine in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	3	10	2%	27%	0	0%	N/A	N/A	4	6%	2%	13%

						%										
2	3	9%	2%	24%	4	13 %	4%	31%	1	17 %	0%	64%	8	11 %	6%	20%
3	5	15%	5%	31%	3	10 %	2%	27%	0	0%	N/A	N/A	8	11 %	6%	20%
4	13	38%	22%	56%	12	40 %	23%	59%	3	50 %	12%	88%	28	40 %	30%	51%
5	12	35%	20%	54%	8	27 %	12%	46%	2	33 %	4%	78%	22	31 %	22%	42%

Q25e. How important was being able to connect the smart thermostat to other smart home devices in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	4	13%	4%	31%	5	17%	6%	36%	2	29%	4%	71%	11	17%	10%	26%
2	5	17%	6%	35%	5	17%	6%	36%	1	14%	0%	58%	11	17%	10%	26%
3	8	27%	12%	46%	6	21%	8%	40%	1	14%	0%	58%	15	23%	15%	33%
4	7	23%	10%	42%	7	24%	10%	44%	1	14%	0%	58%	15	23%	15%	33%
5	6	20%	8%	39%	6	21%	8%	40%	2	29%	4%	71%	14	21%	13%	31%

Q25f. How important was reducing household environmental footprint and/or greenhouse gas emissions in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	3	9%	2%	24%	4	13%	4%	30%	0	0%	N/A	N/A	7	10%	5%	18%
2	3	9%	2%	24%	2	7%	1%	21%	2	29%	4%	71%	7	10%	5%	18%
3	5	15%	5%	31%	6	19%	8%	38%	2	29%	4%	71%	13	18%	11%	27%
4	11	32%	17%	51%	8	26%	12%	45%	0	0%	N/A	N/A	19	26%	18%	36%
5	12	35%	20%	54%	11	36%	19%	55%	3	43%	10%	82%	26	36%	27%	46%

Q25g. How important was your interest in having New Tech in motivating your decision to purchase an ecobee smart thermostat?

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	3	9%	2%	23%	1	3%	0%	17%	0	0%	N/A	N/A	4	6%	2%	12%
2	2	6%	1%	19%	2	7%	1%	21%	0	0%	N/A	N/A	4	6%	2%	12%
3	5	14%	5%	30%	9	29%	14%	48%	0	0%	N/A	N/A	14	19%	12%	28%
4	10	29%	15%	46%	8	26%	12%	45%	4	57%	18%	90%	22	30%	21%	40%
5	15	43%	26%	61%	11	36%	19%	55%	3	43%	10%	82%	29	40%	30%	50%

Q26.a Based on your experience, a smart thermostat helps my home save energy.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	1	3%	0%	18%	0	0%	N/A	N/A	2	3%	1%	9%
2	1	3%	0%	15%	1	3%	0%	18%	0	0%	N/A	N/A	2	3%	1%	9%
3	3	8%	2%	23%	2	7%	1%	23%	1	14%	0%	58%	6	8%	4%	16%
4	8	22%	10%	39%	7	24%	10%	44%	1	14%	0%	58%	16	22%	15%	32%
5	23	64%	46%	79%	18	62%	42%	79%	5	71%	29%	96%	46	64%	54%	73%

Q26.b Based on your experience, using a smart thermostat introduces privacy and data security risks.

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	5	15%	5%	32%	3	11%	2%	28%	2	29%	4%	71%	10	15%	8%	24%
2	6	18%	7%	36%	1	4%	0%	18%	0	0%	N/A	N/A	7	10%	5%	19%
3	7	21%	9%	39%	13	46%	28%	66%	4	57%	18%	90%	24	35%	26%	46%
4	12	36%	20%	55%	8	29%	13%	49%	1	14%	0%	58%	21	31%	22%	41%
5	3	9%	2%	24%	3	11%	2%	28%	0	0%	N/A	N/A	6	9%	4%	17%

Q26.c Based on your experience, a smart thermostat helps keep my home more comfortable

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	0	0%	N/A	N/A	1	3%	0%	17%	0	0%	N/A	N/A	1	1%	0%	6%
2	0	0%	N/A	N/A	1	3%	0%	17%	0	0%	N/A	N/A	1	1%	0%	6%
3	3	8%	2%	23%	5	17%	6%	35%	0	0%	N/A	N/A	8	11%	6%	19%
4	10	28%	14%	45%	11	37%	20%	56%	4	57%	18%	90%	25	34%	25%	44%
5	23	64%	46%	79%	12	40%	23%	59%	3	43%	10%	82%	38	52%	42%	62%

Q26.d Based on your experience, using a smart thermostat is difficult or complicated

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	21	58%	41%	75%	11	37%	20%	56%	4	57%	18%	90%	36	49%	39%	60%
2	6	17%	6%	33%	7	23%	10%	42%	1	14%	0%	58%	14	19%	12%	28%
3	6	17%	6%	33%	4	13%	4%	31%	2	29%	4%	71%	12	16%	10%	25%
4	2	6%	1%	19%	7	23%	10%	42%	0	0%	N/A	N/A	9	12%	7%	21%
5	1	3%	0%	15%	1	3%	0%	17%	0	0%	N/A	N/A	2	3%	1%	8%

Q26.e Based on your experience, the benefits of a smart thermostat outweigh the drawbacks

	No Ping Urban				No Ping Rural				Successful Ping				Total			
	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI	#	%	Lower 90% CI	Upper 90% CI
1	1	3%	0%	15%	0	0%	N/A	N/A	0	0%	N/A	N/A	1	1%	0%	6%
2	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A	0	0%	N/A	N/A
3	2	6%	1%	19%	4	13%	4%	31%	1	14%	0%	58%	7	10%	5%	18%
4	12	34%	19%	52%	14	47%	28%	66%	2	29%	4%	71%	28	39%	29%	49%
5	20	57%	39%	74%	12	40%	23%	59%	4	57%	18%	90%	36	50%	40%	60%

Q27. Is there anything else you would like to share about your experience with the Enbridge Gas Smart Thermostat Rebate program?

Skip logic/confidence calculation as question did not trigger question for any respondents

Appendix B: Participant Survey

This document presents the survey instrument for past participants in Enbridge Gas' Residential Adaptive Thermostat Rebate offer who had purchased a thermostat and successfully installed and Wi-Fi connected it, or did not install/connect it to Wi-Fi. As summarized in Table 1, this survey was administered to past program participants as a phone survey.

Table 3: Data Collection Activity Detail

Element	Value
Data Collection Type	Phone survey
Target Population	Customers who purchased an ecobee.com thermostat using an Enbridge Gas Instant Rebate, including those who successfully installed and Wi-fi connected the device, did not install it, and/or did not connect it to Wi-Fi
Sampling Approach	Random, for identified sampling cohorts segmented by geography (Urban/Rural). Weight of final sample based on participant population by utility (Enbridge Gas and Union Gas) and year (2021 and 2022).

The survey is intended to provide insights and inform recommendations to support continuous improvement relating to Enbridge Gas' Residential Adaptive Thermostat Rebate offer installation and connection rates. It will also explore participant motivations, perceived barriers, and rationale associated with their level of installation and Wi-Fi connection of the device.

Table 2. Research question themes.

Research Questions	Associated Survey Items
What are the motivations, perceived barriers, and rationale for participants who received the smart thermostat but did not install it?	Q6, Q8, Q10, Q11, Q13
What are the motivations, perceived barriers, and rationale for participants who received and installed the smart thermostat, but did not connect it to Wi-Fi?	Q14, Q15, Q16, Q17, Q18
What are the motivations, perceived barriers, and rationale for participants who received, installed, and connected their ecobee device to Wi-Fi?	Q2, Q3, Q14, Q15, Q16, Q17, Q18,

What are the barriers to full participation?	Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27,

1.0 Survey Instrument

2.6 Introduction

Hello XX, may I please speak with YY?

Hello YY, my name is ZZ, and I am calling on behalf of the SeeLine Group to ask you some questions about Enbridge Gas' Smart Thermostat Instant Rebate program. You should have received a letter notifying you of this call and outlining the reason for the survey. Enbridge is offering a $25 grocery gift card for participating in the survey for one of the following: Farm Boy, Food Basics, Metro, No Frills, or Sobeys. I will ask you your preferred grocer when we are finished.

[**INTERVIEWER NOTE: If customer asks who the SeeLine Group is:**

The SeeLine Group is a consulting firm that specializes in sustainability and energy conservation program design, implementation, and evaluation. Enbridge has hired the SeeLine Group to evaluate their Smart Thermostat Rebate program.]

[INTERVIEWER NOTE: ONLY OFFER IF RESPONDENT IS SKEPTICAL:

If you have any questions about this research effort, please contact Enbridge Gas' Customer Call Centre at: 1-877-362-7434.]

[Into Setup Questions]

Are you the person in your household that would be familiar with your experience applying for the Smart Thermostat Instant Rebate, purchasing the thermostat, and installing it?

a. Yes [If Yes → Q3]

b. No [if No → ASK TO SPEAK WITH THE PERSON FAMILIAR WITH THE PROGRAM AND RESTART SURVEY INTRODUCTION.

   IF THE PERSON FAMILIAR IS NOT HOME → CODE AS BUSY / CALL BACK LATER

   IF THE PERSON FAMILIAR IS NOT INTERESTED IN PARTICIPATING IN THE SURVEY → CODE DECLINED / NOT INTERESTED

   NOTE: IF CUSTOMER ANSWERS "NO" OR IS "NOT INTERESTED" IN PARTICIPATING IN THE SURVEY AND ASKS ABOUT THE GIFT CARD, Remind them that the gift card is being offered for customers that complete the survey and ask them if they would like to complete the survey.

   If yes → go to next question.

If no → Code as DECLINED / NOT INTERSTED

If the customer is upset and wants/asks for a gift card → go to TERMINATION MESSAGE / Q28]

[IF NO ONE CAN SPEAK TO THE PROGRAM – TERMINATION MESSAGE]:

Thank you for your interest in this research, unfortunately, we need to hear from people who participated in, and are able to speak to their experience in, the Enbridge Gas Smart Thermostat Discount Program. **[Go to Q28 – gift card/which grocer]**

2.7
2.8Background/Screening
This survey should take approximately 10 minutes to complete and we thank you in advance for your participation.

Q1. Did you receive the advance letter from Enbridge Gas notifying you about this survey?

a. Yes [IF YES → Q2]

b. No [IF NO → CODE AS "**NO ADVANCED LETTER AND TELL THEM]:**

An Enbridge Gas employee will be contacting you by phone to confirm your address for the gift card [and go to → go to Q2]

[The following note is only to be used if the customer wonders why Enbridge will call them/has concerns:

It appears your address may be inconsistent with Enbridge's records and some from the Smart Thermostat Instant Rebate program will follow up to ensure you receive the gift card. If you have any questions or concerns, please feel free to call Enbridge's Customer Call Centre at 1-877-362-7434.

Q2. Our records indicate that your household participated in Enbridge Gas' Smart Thermostat program and received a discount on an ecobee device. Is that correct?

[SELECT ONE]

c. Yes, that is correct

d. No, our household did not apply for a discount on an ecobee smart thermostat [à CODE AS "NON-PARTICIPANT" AND → GO TO Q28 TERMINATION MESSAGE]

97. Don't know [IF Don't Know → Q4]

Q3. Is the device installed at your residence?

[SELECT ONE]

a. Yes

[IF Yes → go to Q14]

b. No

[IF no → go to Q5]

97. Don't know

[IF don't know → go to Q4]

Q4. ecobee thermostats are square shaped with rounded corners and say "ecobee" in small gray letters at the bottom. Does that description match the thermostat installed in your residence? [*If needed:*] I can wait if you need to go check.

[SELECT ONE]

a. Yes

[IF Yes → go to Q14]

b. No

[IF No → go to Q5]

97. Don't know / Not able to able to check

[IF Don't know / can't check → GO TO Q28 TERMINATION MESSAGE]

Q5. Do you still have the ecobee thermostat you purchased through Enbridge Gas' Smart Thermostat Rebate Program? [*Do not read responses, probe to code*]

[SELECT ONE]

a. Yes, I have it and it is installed

[IF Yes, installed → go to Q14]

b. Yes, I have it, but it is not installed

[IF Yes, has it but not installed → go to Q6]

c. No, I no longer have it

[IF customer No longer has thermostat → Go to Q6]

96. Other

[IF Other → Go to Q6]

Q6. What did you do with the ecobee thermostat you purchased through the Enbridge Gas program? [**Do not read responses, probe to code**]

[SELECT ONE]

a. I threw it away or recycled it
b. I sold it
c. I gifted it to someone
d. I returned it
e. I lost it
f. I installed it at a different property
96. Other, please specify: [OPEN-ENDED RESPONSE – IF INSTALLED AT A DIFFERENT PROPERTY, PLEASE NOTE WHERE (eg, Cottage or Rental property)]

Q7. What type of thermostat are you currently using in your home instead of the ecobee?

[SELECT ONE]

a. Another smart thermostat purchased with a discount from Enbridge Gas
b. Another smart thermostat purchased without a discount
c. My old thermostat
d. A new thermostat that does not have internet connected capabilities
e. Other, please specify: [OPEN-ENDED RESPONSE]
97. Don't know

2.9 Devices Not In Use

[IF Q5=b, c or 96 (device is not installed)]

Q8. Was the ecobee thermostat installed at any point?

[SELECT ONE]

a. Yes – the device was installed and working [*If needed: Meaning it maintained the set temperature.*]

   [IF Yes → go to Q9]

b. We attempted to install the device, but did not get it working

[If b, attempted to install → go to Q12]

c. No – It was never installed

[IF No, device never installed → go to Q11)

[NOTE – MULTIPLE CONTINGENT 'NEXT' Qs ASSOCIATED WITH ANSWER TO Q8]

Q9. How long was the ecobee thermostat installed before it was removed?

[SELECT ONE -- the closest option to customer's response]

a. Less than one week
b. Between one week and one month
c. Between one month and six months
d. Between six months and one year
e. Between one and two years
f. More than two years
97. Don't know

Q10. Why did you remove the ecobee thermostat? [Do not read responses, probe to code - SELECT MULTIPLE]

a. It did not work properly
b. It was difficult to use
c. I did not know how to use it
d. Privacy and security concerns with data
e. No longer interested in using a smart thermostat
f. Wanted a different smart thermostat
g. HVAC contractor replaced it when installing new equipment
h. It was missing a part / the "C-Wire"
i. Other, please specify: [OPEN-ENDED RESPONSE]
97. Don't know

[IF Q8 = c. Device was never installed]

Q11. Why haven't you installed your ecobee thermostat?
[*Do not read responses, probe to code*]

[MULTIPLE RESPONSE]

a. Have not had the time
b. It seems too complicated
c. The C-wire part was missing
d. I don't know how to install it
e. Privacy and security concerns with data
f. Does not seem compatible with my heating and cooling system
g. No longer interested in using a smart thermostat
h. Decided to install a different smart thermostat
96. Other, please specify: [OPEN-ENDED RESPONSE – PLEASE NOTE ANY MENTION OF "C-WIRE" OR PERCEIVED MISSING PART]
97. Don't know

[IF Q11 = any answer – go to Q12]

Q12. Are you planning to try to install the ecobee smart thermostat in the future?

[SELECT ONE]

a Yes

[IF Yes, → go to Q19]

b No

[IF no, → go to Q13]

97. Don't know

Q13. Why aren't you planning to install the ecobee smart thermostat?

a. [OPEN-ENDED RESPONSE]

[→ Go to Q19]

Wi-Fi Connection Experience

[IF Q4 = a (Yes, device is installed), or Q4 = a (yes, the device was installed at some point) → Go to Q14]

Q14. When your ecobee thermostat was installed, did you connect it to Wi-Fi?

[SELECT ONE – note there are 5 options: a., b., 97., 98., and 99.]

a. Yes

[IF Yes, → go to Q15]

b. No

[If No → go to Q18]

97. Don't know [→ pause to allow the customer to check to see if their ecobee device is connected to WiFi. **Provide guidance if needed**:

On ecobee device, go to Menu > General > Settings > WiFi, and make sure the WiFi radio button is enabled.

If this guidance changed the person's response, please choose 98 or 99 as appropriate.]

98. Didn't know at first, but after guidance Yes

[→ Q15]

99. Didn't know at first, but after guidance No

[→ Q18]

Q15. How soon after installing it did you connect the thermostat to Wi-Fi?

[SELECT ONE]

a. Within one week

b. Between one week and one month

c. Between one month and three months

d. Between three months and six months

e. Between six months and one year

f. Between one and two years

g. More than two years

97. Don't know

[ALL ANSWERS → Q16]

Q16. Were there any issues with connecting the device to Wi-Fi?

[SELECT ONE]

a. Yes, please specify: [OPEN-ENDED RESPONSE]

b. No

97. Don't know

[ALL ANSWERS, → go to Q17]

Q17. Is your ecobee thermostat currently connected to Wi-Fi?

[SELECT ONE]

a. Yes

If Q17 = yes, go to Q19

b. No

97. Don't know

[If Q14=b/NO → go to Q18]

Q18. Why didn't you connect your ecobee thermostat to Wi-Fi?

[MULTIPLE RESPONSE, RANDOMIZE ORDER OF OPTIONS A-G, SELECT ALL THAT APPLY]

a. Do not have Wi-Fi at home

b. Have not had the time

c. It was too complicated

d. Tried to connect it to Wi-Fi but it did not work

e. Did not understand instructions with device

f. Privacy and security concerns with data

g. Not interested in using Wi-Fi connected features (like remote control of thermostat)

96. Other, please specify: [OPEN-ENDED RESPONSE]

97. Don't know

Program Experience
[ASK ALL]

Q19. The following **four** questions relate to the level of difficulty or ease associated with the purchase and installation of the ecobee thermostat on a scale of one-five, with one being extremely difficult and five being extremely easy.

[Enter response 1-5, Enter NA if not applicable (e.g., the person did not do this) – Description of scale:

1 = Extremely Difficult

2 = Somewhat difficult

3 = Neither Easy nor Difficult

4 = Somewhat easy

5 = Extremely easy

NA = Not applicable/did not do this

a. How difficult or easy was it to apply for the discount through the Enbridge Gas portal?

[INPUT answer 1-5 or NA]

b. How difficult or easy was it to purchase an ecobee thermostat online?

[INPUT answer 1-5 or NA]

c. How difficult or easy was it to install the device once you received it?

[INPUT answer 1-5 or NA]

d. How difficult or easy was it to connect the device to Wi-Fi?

[INPUT answer 1-5 or NA]

Q20. On a scale from one to five, with one being not clear at all to five being extremely clear, how clear were the installation instructions provided with the ecobee thermostat?

[SELECT ONE]

1. Not clear at all
2. Slightly clear
3. Moderately clear
4. Very clear
5. Extremely clear

97. Don't know

[ASK Q21 ONLY IF:

Q8 = b, attempted to install but couldn't get it working, or

Q10 = a, b, or c, installing the device was difficult/too complicated, or

Q11 = b, installation of ecobee thermostat or connecting to internet seems/is complicated OR tried installation but did not get device working]

Q21. Did you consult any of the following resources for help with installation?

[MULTIPLE RESPONSE]

a. Instructions from Enbridge Gas' website?
b. Enbridge Gas online installation video
c. Summer Hill Customer service?
d. Enbridge Gas customer service
e. ecobee website
f. ecobee customer service
g. Google search
h. YouTube videos
i. Help from a family member, friend, or acquaintance
j. Hire a contractor to install?

96. Other, please specify: [OPEN-ENDED RESPONSE]

[ALL ANSWERS, → go to Q22]

Q22. Are there any resources that would have helped you with installation?

a. [OPEN-ENDED RESPONSE]

2.10 Awareness and Motivation

[ASK ALL]

Q23. On a scale from one to five, with one being do not understand at all, and five being completely understand to how well do you feel you understand the benefits of using a smart thermostat?

[SELECT ONE]

1. Not at all understand
2. Slightly understand
3. Moderately understand
4. Mostly understand
5. Completely understand

[IF Q23 = 3-4, respondent has at least a moderate understanding of benefits of the thermostat, → go to Q 24]

Q24. What are the benefits of using a smart thermostat, from your perspective?

a. [OPEN-ENDED RESPONSE]

[ASK ALL]

Q25. The next **seven** questions are on a scale from 1-5, with "1" meaning not important at all and "5" meaning extremely important and relate to how important the factor was in deciding to purchase the ecobee smart thermostat.

[PROVIDE ADDITIONAL DEFINITIONS OF SCORING RANGE AS NEEDED]:

1. Not important at all
2. Slightly important
3. Somewhat important
4. Important
5. Extremely important
6. NA. Not Applicable

a. How important was reducing household energy use and costs in motivating your decision to purchase the ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

b. How important was the ability to control the thermostat remotely in motivating your decision to purchase an ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

c. How important was having access to detailed energy reports and data on household power use over time in motivating your decision to purchase an ecobee smart

thermostat?
[INPUT ANSWER 1-5, OR N/A]

d. How important were the Advanced scheduling options and occupancy sensors that adapt to your routine in motivating your decision to purchase an ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

e. How important was being able to connect the smart thermostat to other smart home devices in motivating your decision to purchase an ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

f. How important was reducing household environmental footprint and/or greenhouse gas emissions in motivating your decision to purchase an ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

g. How important was your interest in having New Tech in motivating your decision to purchase an ecobee smart thermostat?
[INPUT ANSWER 1-5, OR N/A]

[ASK ALL]

Q26. Based on your experience with your ecobee thermostat, please rate the extent to which you agree or disagree with the following statements on a one-to-five scale, where "1" is completely disagree and "5" is completely agree:

[PROVIDE ADDITIONAL DEFINITIONS OF SCORING RANGE AS NEEDED]:

1. Completely disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Completely agree
6. Not Applicable

a. Based on your experience, a smart thermostat helps my home save energy.
[INPUT ANSWER 1-5, OR N/A]

b. Based on your experience, using a smart thermostat introduces privacy and data security risks.
[INPUT ANSWER 1-5, OR N/A]

c. Based on your experience, a smart thermostat helps keep my home more comfortable
[INPUT ANSWER 1-5, OR N/A]

d. Based on your experience, using a smart thermostat is difficult or complicated [INPUT ANSWER 1-5, OR N/A]

e. Based on your experience, the benefits of a smart thermostat outweigh the drawbacks [INPUT ANSWER 1-5, OR N/A]

[ASK ALL]

Q27. Is there anything else you would like to share about your experience with the Enbridge Gas Smart Thermostat Discount program?

[SELECT ONE]

a. Yes, please explain: [OPEN-ENDED RESPONSE]

b. No

[END – ASK ALL]

Q28. Thank you for your time taking this survey. As a thank you, Enbridge Gas will mail a $25 gift card to you for one of the following grocery stores: Farm Boy, Food Basics, Metro, No Frills, or Sobeys. Please let us know which of these grocery stores you would prefer:

a. Farm Boy

b. Food Basics

c. Metro

d. No Frills

e. Sobeys

Look for a letter in the mail from Enbridge Gas with your gift card. Please note, given the Canada Post Strike, there will unfortunately be a delay in receiving the thank you letter and gift card from Enbridge Gas, and we apologize in advance if this causes you any inconvenience. Thank you again for your time.

ONTARIO ENERGY BOARD | COMMISSION DE L'ÉNERGIE DE L'ONTARIO

Meeting Notes

Natural Gas Demand Side Management Evaluation Advisory Committee (EB-2022-0295)

Meeting #28

Meeting Date: May 6, 2025 **Time:** 1:30 PM – 3:00 PM

Location: Virtual Meeting (MS Teams)

Attendees

EAC Members	Affiliation
Bailey Kaufman	Enbridge Gas Inc. representative
Kristina Tremblay	Enbridge Gas Inc. representative
Robert Wirtsafter	Non-utility member (Wirtsafter Associates, Inc.)
Katherine Johnson	Non-utility member (Johnson Consulting Group)
Chris Neme	Non-utility member (Energy Futures Group)
Dan Violette	Non-utility member (Apex Analytics)

Additional Attendees	Role/Affiliation
DNV Team	OEB's Evaluation Contractor
Alice Herrera	IESO
Luke Bond	IESO

OEB Staff	Role
Josh Wasylyk	OEB Staff/EAC Chair, Senior Advisor, Application Policy and Conservation
James Smith	OEB Staff, Senior Advisor, Application Policy and Conservation
Taiwo Ishmail	OEB Staff, Advisor, Application Policy and Conservation

Purpose

These notes summarize the discussions of the Evaluation Advisory Committee.

Meeting Agenda:

1. **Residential Adaptive Thermostat Rebate Offer Process Evaluation –** Discussion (50 mins)

2. **Custom Boilers – Impact of Amendment 15** – Discussion (10 mins)

3. **Project Status Update** (25 mins)
   - Technical Resources Manual (TRM)
   - Annual Verification Process and Schedule
   - Custom Commercial and Industrial Net-to-Gross
   - 2025/2026 Evaluation Measurement & Verification (EM&V) RFPs

Welcome

OEB staff welcomed the group and provided an overview of the topics to be discussed.

1. Residential Adaptive Thermostat Rebate Offer Process Evaluation – Discussion

Item Description	Discussion Comments/Outcome	Action Items
OEB and Enbridge led the group discussions on the Enbridge-led process evaluation of the residential adaptive thermostat rebate offer.	Enbridge Gas staff provided an overview of the process evaluation of the residential adaptive thermostat rebate offer. The process evaluation focused on participating customers who did not register a successful Wi-Fi connection (or "ping") with ecobee. The study asked questions to help understand the challenges customers may have faced or perceived and to provide insights into potential program performance improvement opportunities that could reduce barriers associated with installing and connecting the thermostat to Wi-Fi. Enbridge and OEB staff explained that ecobee ping rates are used to inform adjustment factors applied to gross natural gas savings from smart thermostats. In program years 2021 and 2022, the adjustment factor used was approximately 85%, meaning 15% of participant savings were excluded from the year-end performance. The survey results found that 87.5% of no ping respondents indicated the ecobee device was installed, and 95% of those had connected their devices to Wi-Fi. EGI and OEB staff noted that additional technical reasons may also result in an unsuccessful ping response (e.g., use of a VPN or certain parental controls). Based on these reasons, Enbridge noted that the ecobee ping rates might be understating the actual installation rates, negatively	OEB staff to collaborate with DNV to explore alternative approaches for the process evaluation and study.

	impacting its claimed natural gas savings and the overall performance of the offering. EGI suggested that the OEB and the EC consider a different or revised methodology to determine the adjustment factor for natural gas savings from the smart thermostat offer. EAC members generally agreed that OEB staff and the EC should consider the findings of the process evaluation and general ping response rate as part of the 2024 Annual Verification process. EAC Members discussed the merit of the survey, the objective of the process evaluation, and considerations for next steps. EAC members noted several potential concerns, including response bias, the low response rate, and potential limitations in how and where the survey responses could be applied. EAC members also raised concerns about relying on the Ecobee ping rate as a savings adjustment factor, given that Ecobee thermostats account for only 10% of smart thermostat participants. While this approach has been used in previous savings adjustments, members highlighted its limited representativeness remains a point of concern. However, EAC members agreed that the results of the study warrant further consideration of limitations to the ecobee ping response rate as an adjustment factor. OEB staff committed to investigating the topic further and discussing additional evaluation options with DNV.	

2 Amendment 15 – Discussion

Item Description	Discussion Comments/Outcome	Action Items
Enbridge Gas led a discussion on the change in boiler efficiency standards (Amendment 15) and its impact on Enbridge's offers. .	Enbridge provided an overview of the change in boiler efficiency standards through Amendment-15 and its impact on their offerings, seeking feedback from EAC members. Amendment-15 in Ontario changes the minimum efficiency allowed for boilers starting in 2025. Hence, changes in the code and standards imply that Enbridge Gas must adjust its 2025 targets accordingly. To align with the new efficiency standard, Enbridge explained the analysis it conducted to determine the impacts on 2025 natural gas savings targets expected from the reduction in allowable boiler projects originally anticipated when it developed its 2023 DSM plan. Enbridge described that by assessing 2021 to 2023 program results. The results indicated the following reductions in natural gas savings targets for the three offers where commercial boilers are included:	Enbridge to provide more details to members for review and consideration, including methodology, draft calculations and any other information available.

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	• Affordable Multi-Residential: 34% • Large Commercial: 21% • Small Commercial: 11% EAC members requested that Enbridge provide more details about the target revision methodology and for further review and feedback.	

3. Project Status Update – Discussion

Item Description	Discussion Comments/Outcome	Action Items
DNV and OEB staff provided status updates on various ongoing evaluation activities.	DNV and OEB provided EAC member status updates on the following projects: • **TRM Update**: Three updated substantiation documents have been submitted to the OEB, including Residential Smart Thermostats, Destratification Fans, and Commercial Hybrid Heat Pump Rooftop Units. The EC team is currently reviewing the updates. Enbridge is currently conducting research to support additional updates. • **Annual Verification**: The DNV team is currently developing the 2025 Annual Verification (AV) work plan, which will be provided to the EAC for review. • **Custom Commercial and Industrial NTG Round 2**: DNV updated the EAC to indicate that, following the completion of the sample design, it is proceeding with the initial phase of implementing the updated free ridership evaluation, including outreach to participating customers. • **2025/2026 OEB Evaluation Procurements**: OEB staff informed the EAC that progress continues on issuing a request for proposal to undertake additional evaluation work.	N/A

List of Action Items

No.	Action Item	Assignment/Owner	Due Date
1.	OEB staff and DNV to explore alternative approaches for determining an adjustment factor for natural gas savings from the Adaptive Thermostat Offer.	OEB staff and DNV	TBD

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No.	Action Item	Assignment/Owner	Due Date
2.	Enbridge Gas to send more about Amendment 15 and 2025 TAM details to members for review and consideration.	Enbridge	TBD

Meeting Adjourned: 3:00 pm.

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Memo to:
Josh Wasylyk, OEB

Copied to:
Taiwo Ishmail, OEB
Hatem Hassam, OEB
James Smith, OEB

From: DNV – Energy Systems
Date: May 29, 2025
Prep. By: Tammy Kuiken, DNV
Sam Harms, DNV
Chris Hoffman, DNV

Residential Smart Home (Residential Adaptive Thermostat) Evaluation Background

The Residential Smart Home offering provides point-of-sale incentives to Enbridge residential customers for purchasing smart thermostats, which create fuel savings while optimizing comfort. The offering is essentially a continuation of the Residential Adaptive Thermostat program, which originated in the 2015-2020 DSM Plan. As Enbridge stated in its initial application, "Adaptive thermostats do not passively await input. Rather, they can anticipate needs, patterns, and behaviours, and can be accessible almost anywhere."[1] While smart thermostats work best when connected to Wi-Fi, smart thermostats are still able to learn from customer behaviour to achieve savings without said connectivity.

For the first four years of the 2015-2020 DSM Plan, despite the fact that incentives were given before installation, Enbridge did not utilize any installation rate adjustment factors. This changed during the Annual Verification of 2019 programs, when Enbridge began using a "ping report" provided by ecobee as a proxy for an installation rate factor.[2]

Each year, ecobee "pings" all ecobee devices that claimed the offering's discount to identify which purchased thermostats have been installed and connected to the internet. Multiple pings are attempted to mitigate the possibility of an unsuccessful ping from any temporary connectivity issues. If a device is determined to be online during at least one ping attempt, it is considered an installed device. The resulting installation verification adjustment factor is applied to all thermostats incentivized through the Smart Home offering, regardless of manufacturer (others include Google Nest, Honeywell Home, Copland Sensi, and Wyze). For reference, ecobee was 17% of installed thermostats in 2021,14% in 2022, and 10% in 2023.[3]

[1] Decision and Order EB-2015-0049 for Enbridge Gas Inc. Application for Multi-Year Demand Side Management Plan (2015 to 2020), April 1, 2015, Page 193. (Page 28 of 100)

[2] From the Residential Adaptive Thermostat Rebate Offer Process Evaluation, January 6, 2025: "Prior to 2023, ecobee used an Energy Control Platform ("ECP") to pull customer Wi-Fi connect data associated with participant device serial numbers; however, the ECP was designed to help enable electricity demand-response and was not designed to verify Wi-Fi connection rates. In 2023, ecobee developed a new tool to enable Wi-Fi ping tracking."

[3] The EC compared the total number of thermostats listed in ping reports to the total number of rebated thermostats in the tracking data to obtain percentages for 2021 – 2023.

The table below shows the ping rate and count of pings (the number of times ecobee attempted to contact the device) annually since 2019. The resulting installation rate remained somewhat consistent but trended slightly upward (from 78% to 85%).

Table 1 Ping Reports by Year

Program Year	Installation Rate (Ping Rate)	Ping Counts
2019	78.40%[4]	3
2020	81.03%[5]	3
2021	82.52%[6]	3[6]
2022	86.71%[6]	5[6]
2023	84.15%[7]	8[7]
2024	84.70%[8]	?[9]

In 2024, Enbridge conducted a process evaluation which primarily contacted Residential Smart Home participants who purchased ecobee thermostats that were unsuccessfully pinged. Participants were contacted via phone survey to examine why their devices were not responding to the ping. The evaluation found that, among the 69 survey respondents with unsuccessful pings, 89% claimed to have installed their devices. Ninety-five percent of the 89% stated their thermostat was connected to their Wi-Fi. When coupled with findings from a control group of respondents with successful pings, Enbridge's results suggest a 97% installation rate for all incentivized ecobee thermostats.

Considerations and Analysis

- Internal conversations with DNV experts found that thermostats do not need to have a Wi-Fi connection to achieve some savings but achieve less than smart thermostats connected to Wi-Fi.[10]
- DNV compared the results of the process evaluation to the ping report (97% from the evaluation compared to 84% from the ping report) and found them to be statistically significantly different; however, the process evaluation did not sample from the entire population, only ecobee participants. Therefore a targeted telephone survey of non-ping ecobee installations isn't sufficient to support the usage of the 97% adjustment factor.
- Additionally, internal conversations with DNV experts found that ping reports are not widely used as installation rates for similar point-of-sale rebate programs. Rather, participant surveys are widely used for similar programs and typically show 80-90% installation rates.[11] [12]

2024 PY Evaluation Recommendations

- The ping report provides a cost-effective method to adjust for non-installation in the absence of a complete population survey of all residential adaptive thermostat installations.

[4] 2019 Natural Gas Demand-Side Management Annual Verification Report, December 2, 2020, Page 68
[5] 2020 Natural Gas Demand-Side Management Annual Verification Report, December 2, 2021, Page 62
[6] Residential Adaptive Thermostat Rebate Offer Process Evaluation, January 6, 2025. Page 4
[7] 2023 Natural Gas Demand-Side Management Annual Verification Report, December 2, 2021, Page E-9
[8] At the time of writing, the EC has not requested the ping report. However, adjustment factor (ping rate) is listed in 2024 tracking data and referenced
[9] Currently unavailable for the 2024 program year.
[10] https://support.ecobee.com/s/articles/Wi-Fi-FAQ-Setup-Guide-and-Troubleshooting
[11] Residential Direct Install Program Impact Evaluation - Program Year 2021, California Public Utilities Commission, April 26, 2023, page 9
[12] SMART THERMOSTAT PROGRAM Final Report 2022-2023 Impact and Process Evaluation, Puget Sound Energy, February 15, 2024, page 16

- The EC will continue to use the ping report in lieu of an installation rate until an entire population study can be conducted. The ping report provides a cost-effective method to adjust for non-installation in the absence of a complete survey.
- EGI should share any additional information regarding ping report methodology improvements such as updated reasons for an invalid ping for consideration as part of the 2024 Annual Verification process.

Future Evaluation Recommendations

The EC continues to recommend a billing analysis to measure gross energy savings from smart thermostats. The EC also agrees with the first recommendation of the process evaluation which states: *Consider conducting a study to compare the ecobee ping rates with a traditional telephone verification survey of a sample of participants installing devices from all five of the manufacturers included in the Residential Smart Home offering.*[13] This partially matches the 2023 – 2025 Evaluation Measurement and Verification Plan which recommended a phone survey to calculate free ridership and spillover rates. Such a study may discover an installation rate higher or lower than the 97% suggested within the process evaluation. However, until a telephone survey or billing analysis is conducted, the EC recommends the continued usage of the ping report to complete annual verification work for the 2024 program year and through the current framework. A telephone survey would require additional ad-hoc funds to complete as part of the Annual Verification. A billing analysis would be even more expensive to conduct and should be done as a stand-alone study.

[13] Residential Adaptive Thermostat Rebate Offer Process Evaluation, January 6, 2025. Page 2

ONTARIO ENERGY BOARD | COMMISSION DE L'ÉNERGIE DE L'ONTARIO

Meeting Notes

Natural Gas Demand Side Management
Evaluation Advisory Committee
(EB-2022-0295)

Meeting #29

Meeting Date: June 3, 2025 **Time:** 1:30 PM – 2:30 PM

Location: Virtual Meeting (MS Teams)

Attendees

EAC Members	Affiliation
Bailey Kaufman	Enbridge Gas Inc. representative
Geoff Chung	Enbridge Gas Inc. representative
Robert Wirtsafter	Non-utility member (Wirtsafter Associates, Inc.)
Katherine Johnson	Non-utility member (Johnson Consulting Group)
Chris Neme	Non-utility member (Energy Futures Group)
Dan Violette	Non-utility member (Apex Analytics)

Additional Attendees	Role/Affiliation
DNV Team	OEB's Evaluation Contractor
Alice Herrera	IESO
Luke Bond	IESO
Enbridge Gas Inc.	Enbridge Gas Inc. Technical Staff

OEB Staff	Role
Christopher Humphries	OEB Staff, Manager, Application Policy and Conservation
Josh Wasylyk	OEB Staff/EAC Chair, Senior Advisor, Application Policy and Conservation
James Smith	OEB Staff, Senior Advisor, Application Policy and Conservation
Taiwo Ishmail	OEB Staff, Advisor, Application Policy and Conservation

***These notes are for the purposes of the DSM EAC only and do not represent the view of the OEB.*

Purpose

These notes summarize the discussions of the Evaluation Advisory Committee.

Meeting Agenda:

1. **Enbridge's proposed target adjustment methodology in response to NRCan's Energy Efficiency Regulation changes (Amendment 15 and its impact on Custom Boilers)** – Discussion (25 min)

2 **Residential Adaptive Thermostat – Participation Rate Assumptions –** Discussion (35 mins)

Welcome

OEB staff welcomed the group and provided an overview of the topics to be discussed.

1. Enbridge's proposed target adjustment Methodology in response to Amendment 15 – Discussion

Item Description	Discussion Comments/Outcome	Action Items
EAC members discussed the reasonableness of Enbridge's proposed target adjustments that consider the impact on its forecast natural gas savings from custom boilers due to NRCan's Amendment 15. .	Enbridge provided an overview of the methodology used to adjust its targets in response to the new efficiency standards introduced through Amendment 15. This amendment raises the minimum efficiency requirement for boilers in Ontario from 83%+ thermal efficiency (TE) to 90%+ TE condensing boilers, necessitating adjustments to Enbridge's 2025 targets. As a result, changes to the code and standards mean that Enbridge must revise its 2025 targets accordingly. EAC raised several questions, including the rationale behind the chosen base case and the potential impact of the new efficiency standards on customer uptake. Enbridge clarified the assumptions of the base case and explained that it is not appropriate to directly factor in customer behaviour and adoption rate in the target-setting methodology. Rather, this is a factor that Enbridge's program design team will consider as part of its delivery strategy. Following the discussion, EAC members expressed general support for the target adjustment methodology.	N/A

2 Residential Adaptive Thermostat - Participation Rate Assumptions – Discussion

Item Description	Discussion Comments/Outcome	Action Items
OEB staff led the group discussion regarding smart thermostat assumptions to be used in the evaluation process.	OEB staff provided an overview of the DNV memo that summarized its review of Enbridge's process evaluation, including an assessment of a reasonable adjustment factor to apply to smart thermostat results in light of feedback from customers that highlighted inaccuracies in the ping test results provided by ecobee that have been historically relied on as part of the OEB's Annual Verification process. DNV also offered recommendations for next steps. EAC members discussed DNV's assessment and recommendations related to an appropriate adjustment factor for residential adaptive smart thermostats. Enbridge clarified that their objective in conducting the process evaluation was not to determine an updated installation rate for the adaptive thermostat offer but to understand why some participants had not installed their smart thermostats. However, the findings revealed that most participants had installed the devices, indicating a potential flaw in the ping test results. The EAC agreed with Enbridge's assessment that the ping results appear unreliable. The EAC suggested that the OEB prioritize a detailed analysis, potentially as part of a residential billing analysis study, to more accurate estimate the true level of installed smart thermostats, as well as conduct an assessment of the level of natural gas savings produced by smart thermostats. In the interim, the EAC agreed with Enbridge's suggestion that additional research and analysis be conducted of available primary research that has been recently conducted, starting with the evaluation studies referenced by DNV in its memo. Enbridge offered to initiate this jurisdictional review and provide the EAC with a summary of recent smart thermostat installation rate evaluation studies and results for consideration.	Enbridge to conduct a jurisdictional scan to assess smart thermostat installation rates and adjustment factors.

List of Action Items

No.	Action Item	Assignment/Owner	Due Date
1.	Enbridge to conduct a jurisdictional scan to assess smart thermostat installation rates and adjustment factors.	Enbridge	June 4, 2025

Meeting Adjourned: 2:30 pm.

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Meeting Notes

Natural Gas Demand Side Management
Evaluation Advisory Committee
(EB-2022-0295)

Meeting #30

Meeting Date: July 8, 2025 **Time:** 1:30 PM – 2:30 PM

Location: Virtual Meeting (MS Teams)

Attendees

EAC Members	Affiliation
Bailey Kaufman	Enbridge Gas Inc. representative
Geoff Chung	Enbridge Gas Inc. representative
Robert Wirtsafter	Non-utility member (Wirtsafter Associates, Inc.)
Katherine Johnson	Non-utility member (Johnson Consulting Group)
Chris Neme	Non-utility member (Energy Futures Group)
Dan Violette	Non-utility member (Apex Analytics)

Additional Attendees	Role/Affiliation
DNV Team	OEB's Evaluation Contractor
Alice Herrera	IESO

OEB Staff	Role
Josh Wasylyk	OEB Staff/EAC Chair, Senior Advisor, Application Policy and Conservation
James Smith	OEB Staff, Senior Advisor, Application Policy and Conservation
Taiwo Ishmail	OEB Staff, Advisor, Application Policy and Conservation

Purpose

These notes summarize the discussions of the Evaluation Advisory Committee.

Meeting Agenda:

1. **Welcome** (5 mins)
2. **Residential Adaptive Thermostat Installation Rate Assumptions –** EAC Consensus Recommendation (30 mins)
3. **Enbridge Process Evaluation: Commercial Custom Utility Influence Study –** Discussion (10 min)
4. **Wrap Up** (5 mins)

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1. Welcome

OEB staff welcomed the group and provided an overview of the topics to be discussed.

2. Residential Adaptive Thermostat Participation Rate Assumptions – Discussion

Item Description	Discussion Comments/Outcome	Action Items
OEB staff led a discussion on the reasonableness of Enbridge's proposed installation rate assumptions for residential smart thermostats to be used in the evaluation process. .	Enbridge provided an overview of a jurisdictional scan on in-service rates (or installation rate) for smart thermostat installations across six North American jurisdictions. This scan was conducted in response to the EAC's suggestion, given the challenges associated with the current installation rate approach ("the ping rate" from Ecobee) The jurisdiction scan revealed an average installation rate of 88.4%, compared to Enbridge Gas's current installation rate of 84.15% which was applied as a gross savings adjustment factor to the 2023 smart thermostat results under the Smart Home program offering. Enbridge sought EAC's approval to adopt the average installation rate from the jurisdictional scan as the applicable installation rate for the Enbridge smart thermostat measure. During the discussion, EAC raised several questions, including whether the jurisdictions considered in the scan were selected solely based on in-service rates or if installation rates and savings adjustments were also taken into account. For example, what assumptions were made regarding internet connectivity for smart thermostats, and how might this impact customer savings or the savings adjustment factor? Enbridge clarified that the installation rate values from the scan were based solely on in-service rates, primarily derived from online participant surveys. In one case, device activation data from a single	Enbridge will update its 2023 final net savings for residential adaptive thermostats to reflect the change in installation rate from 84.15% to 88.4%. Enbridge will incorporate this update as part of its 2023 DSM deferral and variance account application.

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	manufacturer was also considered. Non-utility members noted that internet connectivity does influence savings, as it enables utilities or providers to control the smart thermostat and optimize energy use. Following the discussion, EAC members achieved consensus and agreed that the average installation rate of 88.4% from those jurisdictions considered in the analysis represents a value that is based on more rigorous analysis than Enbridge's current assumption. The EAC supported Enbridge's proposal to apply the jurisdictional scan's 88.4% average installation rate to its 2023 smart thermostat results and to be used going forward, pending further research to determine an Ontario-specific installation rate and any other relevant savings adjustment related to smart thermostats.	

3. Enbridge Process Evaluation: Commercial Custom Utility Influence Study – Discussion

Item Description	Discussion Comments/Outcome	Action Items
Enbridge brought forward initial plans for a process evaluation to assess its influence on participation in the Commercial Custom offer for the EAC's consideration.	Enbridge provided background information on the study process, highlighting that the intention letter provided to the EAC is a new component of this process. This reflects feedback from the EAC to be involved earlier in the process evaluation, before the scope is finalized. Enbridge noted that it is currently working to define the study scope and engage a contractor. The intention letter outlined the proposed direction and was shared with the EAC for input. The Commercial Custom offering aims to encourage customers to reduce natural gas consumption by identifying, recommending, and incentivizing energy-saving projects. Enbridge noted that it expects the process evaluation will explore factors influencing commercial customer participation in the 2024 program year, including motivations, barriers, and experiences with the application, installation, and commissioning processes. EAC member appreciated the opportunity to comment early in the process. EAC members largely supported the proposed work and suggested that non-participating customers, vendors, contractors and delivery agents be included in the research, as their input will help identify participation barriers. Enbridge noted that non-participants are harder to reach and that certain restrictions from the OEB may limit the ability for non-participants to be included. OEB staff are committed to providing feedback on whether and	EAC members to review the intention letter and provide feedback. OEB staff to provide guidance on if/how non-participants may be included in the process evaluation.

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	how non-participants may be included in the process evaluation. EAC members committed to reviewing the intention letter and providing feedback ahead of the next meeting.	

4. Wrap up – Next Steps

OEB staff provided an overview of the agenda for the next meeting.

List of Action Items

No.	Action Item	Assignment/Owner	Due Date
1	Enbridge to update its 2023 draft DSM Annual Report with the new smart thermostat installation rate for inclusion in its 2023 DSM DVA application.	Enbridge Gas	N/A
2	EAC members to review the Commercial Custom Utility Influence Study Process Evaluation intention letter and provide written comments.	EAC Members	July 18, 2025
3	OEB staff to provide information regarding if/how non-participating commercial customers may be included in Enbridge's Commercial Custom Process Evaluation.	OEB staff	August 15, 2025

Meeting Adjourned: 2:30 pm.

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