ONTARIO ENERGY BOARD

EB-2021-0002

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

AND IN THE MATTER OF an application for a Multi-Year Natural Gas Demand Side Management Plan (2022 to 2027)

COMPENDIUM OF BOMA FOR ENBRIDGE HEARING PANELS

March 28, 2022

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TABLE OF CONTENT

Table 1: 2023 TRC-Plus and Net Benefits /u

2023 TRC-Plus Forecast	TRC-Plus Benefits[1]	TRC Costs	Net Benefits[2]	TRC-Plus Ratio
Residential Program	**$125,706,884**	**$66,254,346**	**$59,452,537**	**1.90**
Residential Whole Home	$73,977,785	$46,006,919	$27,970,866	1.61
Residential Single Measure	$8,961,854	$7,529,043	$1,432,811	1.19
Residential Smart Home	$42,767,245	$11,229,960	$31,537,285	3.81
Program Level Admin		$1,488,425	-$1,488,425	
Commercial Program	**$133,540,929**	**$30,573,084**	**$102,967,845**	**4.37**
Commercial Custom	$103,530,272	$12,205,023	$91,325,250	8.48
Prescriptive Downstream	$8,696,432	$3,602,595	$5,093,837	2.41
Direct Install	$14,451,859	$5,764,458	$8,687,401	2.51
Prescriptive Midstream	$6,862,366	$5,691,921	$1,170,445	1.21
Program Level Admin		$3,309,088	-$3,309,088	
Industrial Program	**$210,099,973**	**$15,949,294**	**$194,150,679**	**13.17**
Industrial Custom	$210,099,973	$12,171,680	$197,928,293	17.26
Program Level Admin		$3,777,614	-$3,777,614	
Low Income Program	**$52,688,511**	**$20,090,692**	**$32,597,819**	**2.62**
Home Winterproofing	$22,736,285	$14,088,455	$8,647,829	1.61
Affordable Housing Multi-Residential	$29,952,226	$4,554,095	$25,398,132	6.58
Program Level Admin		$1,448,142	-$1,448,142	
Large Volume Program	**$12,904,860**	**$4,625,266**	**$8,279,594**	**2.79**
Direct Access	$12,904,860	$4,408,642	$8,496,218	2.93
Program Level Admin		$216,624	-$216,624	
Energy Performance Program	**$0**	**$584,156**	**-$584,156**	**0.00**
Whole Building Pay 4 Performance (P4P)[3]	$0	$530,000	-$530,000	0.00
Program Level Admin		$54,156	-$54,156	
Building Beyond Code Program		**$5,618,903**		
Low Carbon Transition Program		**$625,291**		
Program Subtotal	**$534,941,157**	**$144,321,033**	**$390,620,124**	**3.71**
Portfolio Costs		$18,360,000		
Portfolio Total	**$534,941,157**	**$162,681,033**	**$372,260,124**	**3.29**

1. Forecast 2023 TRC-Plus Benefits are calculated using 2021 Avoided Costs (best available information at the time of plan submission).
2. Net Benefits are the difference between the TRC-Plus Benefits and the TRC Costs.
3. Based on the program design, energy savings are not forecasted until Year 2 (2024).

Table 3: 2022 DSM Plan Budget

Reference: Exhibit, Tab, Schedule	2022 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2022 Total
E-1-2	**Residential Program**	**$31,786,753**	**$3,086,749**	**$3,524,950**	**$1,549,240**	**$39,947,692**
	Residential Whole Home	$25,567,431	$1,497,935	$2,906,950		$29,972,316
	Residential Single Measure	$3,488,072	$788,814	$250,000		$4,526,886
	Residential Smart Home	$2,731,250	$800,000	$368,000		$3,899,250
E-1-3	**Low Income Program**	**$15,309,199**	**$3,280,000**	**$2,503,000**	**$1,444,747**	**$22,536,946**
	Home Winterproofing	$9,325,250	$2,450,000	$2,318,000		$14,093,250
	Affordable Housing Multi-Residential	$5,983,949	$830,000	$185,000		$6,998,949
E-1-4	**Commercial Program**	**$17,579,680**	**$1,208,900**	**$2,312,564**	**$3,723,298**	**$24,824,442**
	Commercial Custom	$10,730,000	$607,500	$329,000		$11,666,500
	Prescriptive Downstream	$2,098,068	$130,400	$160,000		$2,388,468
	Direct Install	$4,241,532	$271,000	$160,000		$4,672,532
	Prescriptive Midstream	$510,080	$200,000	$1,663,564		$2,373,644
E-1-5	**Industrial Program**	**$13,200,000**	**$400,000**	**$0**	**$3,878,543**	**$17,478,543**
	Industrial Custom	$13,200,000	$400,000	$0		$13,600,000
E-1-6	**Large Volume Program**	**$2,450,000**	**$50,000**	**$0**	**$212,377**	**$2,712,377**
	Direct Access	$2,450,000	$50,000	$0		$2,500,000
E-1-7	**Energy Performance Program**	**$637,500**	**$30,000**	**$450,000**	**$103,094**	**$1,220,594**
	Whole Building Pay For Performance (P4P)	$637,500	$30,000	$450,000		$1,117,500
E-2-2	**Building Beyond Code Program**	**$1,328,000**	**$1,484,806**	**$2,863,000**	**$513,207**	**$6,189,013**
	Residential Savings By Design	$450,000	$1,000,000	$810,000		$2,260,000
	Commercial Savings By Design	$0	$200,000	$925,000		$1,125,000
	Affordable Housing Savings By Design	$828,000	$160,000	$828,000		$1,816,000
	Commercial Air Tightness Testing	$50,000	$124,806	$300,000		$474,806
E-3-1	**Low Carbon Transition Program** [1]	**$2,472,000**	**$418,706**	**$0**	**$199,687**	**$3,090,393**
	Residential Low Carbon	$1,800,000	$261,539	$0		$2,061,539
	Commercial Low Carbon	$672,000	$157,167	$0		$829,167
	Program Subtotal	**$84,763,133**	**$9,959,161**	**$11,653,513**	**$11,624,193**	**$118,000,000**
E-4-1	**Administration Costs**				**$11,031,884**	**$11,031,884**
	Portfolio Administration				$8,401,884	$8,401,884
	System Maintenance & Improvements				$1,000,000	$1,000,000
	Municipal Engagement				$1,630,000	$1,630,000
E-4-2	**Evaluation and Regulatory Costs**				**$3,800,000**	**$3,800,000**
	EM&V				$2,600,000	$2,600,000
	Regulatory & Stakeholdering				$700,000	$700,000
	Process and Market Evaluation				$500,000	$500,000
E-4-3	**Research and Development Costs**				**$3,168,116**	**$3,168,116**
	Research Innovation Fund				$2,550,000	$2,550,000
	Market Data				$618,116	$618,116
	Portfolio Subtotal				**$18,000,000**	**$18,000,000**
	Total	**$84,763,133**	**$9,959,161**	**$11,653,513**	**$29,624,193**	**$136,000,000**

1. The Low Carbon Transition program has a three year budget (amounts detailed in the 2022 DSM Plan Budget serve to indicate the portion of the 2022 budget allocated to that three year program budget which is illustrated in Table 10)

Table 4: 2023 DSM Plan Budget

2023 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2023 Total
Residential Program	**$32,484,644**	**$3,148,484**	**$3,591,449**	**$1,580,225**	**$40,804,802**
Residential Whole Home	$26,140,935	$1,527,894	$2,961,089		$30,629,918
Residential Single Measure	$3,557,834	$804,590	$255,000		$4,617,424
Residential Smart Home	$2,785,875	$816,000	$375,360		$3,977,235
Low Income Program	**$15,615,383**	**$3,345,600**	**$2,553,060**	**$1,473,642**	**$22,987,685**
Home Winterproofing	$9,511,755	$2,499,000	$2,364,360		$14,375,115
Affordable Housing Multi-Residential	$6,103,628	$846,600	$188,700		$7,138,928
Commercial Program	**$17,931,274**	**$1,233,078**	**$2,354,815**	**$3,743,608**	**$25,262,775**
Commercial Custom	$10,944,600	$619,650	$331,580		$11,895,830
Prescriptive Downstream	$2,140,029	$133,008	$163,200		$2,436,237
Direct Install	$4,326,363	$276,420	$163,200		$4,765,983
Prescriptive Midstream	$520,282	$204,000	$1,696,835		$2,421,117
Industrial Program	**$13,464,000**	**$408,000**	**$0**	**$3,956,114**	**$17,828,114**
Industrial Custom	$13,464,000	$408,000	$0		$13,872,000
Large Volume Program	**$2,499,000**	**$51,000**	**$0**	**$216,624**	**$2,766,624**
Direct Access	$2,499,000	$51,000	$0		$2,550,000
Energy Performance Program	**$637,500**	**$30,000**	**$450,000**	**$104,156**	**$1,221,656**
Whole Building Pay For Performance (P4P)	$637,500	$30,000	$450,000		$1,117,500
Building Beyond Code Program	**$2,818,600**	**$1,393,432**	**$3,702,900**	**$522,571**	**$8,437,503**
Residential Savings By Design	$1,600,000	$900,000	$1,557,500		$4,057,500
Commercial Savings By Design	$0	$200,000	$1,036,000		$1,236,000
Affordable Housing Savings By Design	$993,600	$160,000	$984,400		$2,138,000
Commercial Air Tightness Testing	$225,000	$133,432	$125,000		$483,432
Low Carbon Transition Program [1]	**$3,965,550**	**$421,611**	**$0**	**$203,680**	**$4,590,841**
Residential Low Carbon	$2,436,750	$264,444	$0		$2,701,194
Commercial Low Carbon	$1,528,800	$157,167	$0		$1,685,967
Program Subtotal	**$89,415,951**	**$10,031,205**	**$12,652,224**	**$11,800,620**	**$123,900,000**
Administration Costs				**$11,252,522**	**$11,252,522**
Portfolio Administration				$8,569,922	$8,569,922
System Maintenance & Improvements				$1,020,000	$1,020,000
Municipal Engagement				$1,662,600	$1,662,600
Evaluation and Regulatory Costs				**$3,876,000**	**$3,876,000**
EM&V				$2,652,000	$2,652,000
Regulatory & Stakeholdering				$714,000	$714,000
Process and Market Evaluation				$510,000	$510,000
Research and Development Costs				**$3,231,478**	**$3,231,478**
Research Innovation Fund				$2,601,000	$2,601,000
Market Data				$630,478	$630,478
Portfolio Subtotal				**$18,360,000**	**$18,360,000**
Total	**$89,415,951**	**$10,031,205**	**$12,652,224**	**$30,160,620**	**$142,260,000**

1. The Low Carbon Transition program has a three year budget (the amounts detailed in the 2023 DSM Plan Budget serve to indicate the portion of the 2023 budget allocated to that three year program budget which is illustrated in Table 10).

Table 5: 2024 DSM Plan Budget

2024 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2024 Total
Residential Program	**$33,172,339**	**$3,401,790**	**$3,576,728**	**$1,611,830**	**$41,762,686**
Residential Whole Home	$26,701,756	$1,748,788	$2,933,761		$31,384,304
Residential Single Measure	$3,628,990	$820,682	$260,100		$4,709,772
Residential Smart Home	$2,841,593	$832,320	$382,867		$4,056,780
Low Income Program	**$15,927,691**	**$3,412,512**	**$2,604,121**	**$1,503,115**	**$23,447,439**
Home Winterproofing	$9,701,990	$2,548,980	$2,411,647		$14,662,617
Affordable Housing Multi-Residential	$6,225,701	$863,532	$192,474		$7,281,707
Commercial Program	**$18,289,899**	**$1,257,740**	**$2,315,362**	**$3,763,241**	**$25,626,242**
Commercial Custom	$11,163,492	$632,043	$251,662		$12,047,197
Prescriptive Downstream	$2,182,830	$135,668	$166,464		$2,484,962
Direct Install	$4,412,890	$281,948	$166,464		$4,861,302
Prescriptive Midstream	$530,688	$208,080	$1,730,772		$2,469,540
Industrial Program	**$13,733,280**	**$416,160**	**$0**	**$4,035,236**	**$18,184,676**
Industrial Custom	$13,733,280	$416,160	$0		$14,149,440
Large Volume Program	**$2,548,980**	**$52,020**	**$0**	**$220,957**	**$2,821,957**
Direct Access	$2,548,980	$52,020	$0		$2,601,000
Energy Performance Program	**$637,500**	**$30,000**	**$450,000**	**$105,239**	**$1,222,739**
Whole Building Pay For Performance (P4P)	$637,500	$30,000	$450,000		$1,117,500
Building Beyond Code Program	**$3,579,200**	**$1,107,231**	**$4,327,800**	**$532,123**	**$9,546,354**
Residential Savings By Design	$2,150,000	$650,000	$1,915,000		$4,715,000
Commercial Savings By Design	$0	$200,000	$1,147,000		$1,347,000
Affordable Housing Savings By Design	$1,159,200	$160,000	$1,140,800		$2,460,000
Commercial Air Tightness Testing	$270,000	$97,231	$125,000		$492,231
Low Carbon Transition Program [1]	**$6,605,120**	**$670,033**	**$0**	**$207,754**	**$7,482,907**
Residential Low Carbon	$4,762,720	$512,866	$0		$5,275,586
Commercial Low Carbon	$1,842,400	$157,167	$0		$1,999,567
Program Subtotal	**$94,494,009**	**$10,347,485**	**$13,274,011**	**$11,979,495**	**$130,095,000**
Administration Costs				**$11,477,572**	**$11,477,572**
Portfolio Administration				$8,741,320	$8,741,320
System Maintenance & Improvements				$1,040,400	$1,040,400
Municipal Engagement				$1,695,852	$1,695,852
Evaluation and Regulatory Costs				**$3,953,520**	**$3,953,520**
EM&V				$2,705,040	$2,705,040
Regulatory & Stakeholdering				$728,280	$728,280
Process and Market Evaluation				$520,200	$520,200
Research and Development Costs				**$3,296,108**	**$3,296,108**
Research Innovation Fund				$2,653,020	$2,653,020
Market Data				$643,088	$643,088
Portfolio Subtotal				**$18,727,200**	**$18,727,200**
Total	**$94,494,009**	**$10,347,485**	**$13,274,011**	**$30,706,695**	**$148,822,200**

1. The Low Carbon Transition program has a three year budget (the amounts detailed in the 2024 DSM Plan Budget serve to indicate the portion of the 2024 budget allocated to that three year program budget which is illustrated in Table 10).

Table 6: 2025 DSM Plan Budget

2025 DSM Budget	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2025 Total
Residential Program	**$33,835,785**	**$3,469,825**	**$3,648,262**	**$1,644,067**	**$42,597,940**
Residential Whole Home	$27,235,791	$1,783,763	$2,992,436		$32,011,990
Residential Single Measure	$3,701,570	$837,096	$265,302		$4,803,967
Residential Smart Home	$2,898,425	$848,966	$390,525		$4,137,916
Low Income Program	**$16,246,244**	**$3,480,762**	**$2,656,204**	**$1,533,177**	**$23,916,388**
Home Winterproofing	$9,896,030	$2,599,959	$2,459,880		$14,955,869
Affordable Housing Multi-Residential	$6,350,215	$880,803	$196,323		$7,427,341
Commercial Program	**$18,655,697**	**$1,282,894**	**$2,361,669**	**$3,838,506**	**$26,138,767**
Commercial Custom	$11,386,762	$644,684	$256,695		$12,288,141
Prescriptive Downstream	$2,226,487	$138,381	$169,793		$2,534,661
Direct Install	$4,501,148	$287,587	$169,793		$4,958,528
Prescriptive Midstream	$541,301	$212,242	$1,765,387		$2,518,931
Industrial Program	**$14,007,946**	**$424,483**	**$0**	**$4,115,941**	**$18,548,370**
Industrial Custom	$14,007,946	$424,483	$0		$14,432,429
Large Volume Program	**$2,599,960**	**$53,060**	**$0**	**$225,376**	**$2,878,396**
Direct Access	$2,599,960	$53,060	$0		$2,653,020
Energy Performance Program	**$650,250**	**$30,600**	**$459,000**	**$107,344**	**$1,247,194**
Whole Building Pay For Performance (P4P)	$650,250	$30,600	$459,000		$1,139,850
Building Beyond Code Program[1]	**$21,272,696 to be reassessed**				
Residential Savings By Design					
Commercial Savings By Design					
Affordable Housing Savings By Design					
Commercial Air Tightness Testing					
Low Carbon Transition Program[1]					
Residential Low Carbon					
Commercial Low Carbon					
Program Subtotal	**$98,823,998**	**$10,980,258**	**$14,576,409**	**$12,219,085**	**$136,599,750**
Administration Costs				**$11,707,123**	**$11,707,123**
Portfolio Administration				$8,916,147	$8,916,147
System Maintenance & Improvements				$1,061,208	$1,061,208
Municipal Engagement				$1,729,769	$1,729,769
Evaluation and Regulatory Costs				**$4,032,590**	**$4,032,590**
EM&V				$2,759,141	$2,759,141
Regulatory & Stakeholdering				$742,846	$742,846
Process and Market Evaluation				$530,604	$530,604
Research and Development Costs				**$3,362,030**	**$3,362,030**
Research Innovation Fund				$2,706,080	$2,706,080
Market Data				$655,950	$655,950
Portfolio Subtotal				**$19,101,744**	**$19,101,744**
Total	**$98,823,998**	**$10,980,258**	**$14,576,409**	**$31,320,829**	**$155,701,494**

1. The Building Beyond Code and Low Carbon Transition budget to be reassessed at the mid-point assessment.

Table 7: 2026 DSM Plan Budget

2026 DSM Budget	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2026 Total
Residential Program	**$34,512,501**	**$3,539,222**	**$3,721,228**	**$1,676,948**	**$43,449,899**
Residential Whole Home	$27,780,507	$1,819,439	$3,052,285		$32,652,230
Residential Single Measure	$3,775,601	$853,838	$270,608		$4,900,047
Residential Smart Home	$2,956,393	$865,946	$398,335		$4,220,674
Low Income Program	**$16,571,169**	**$3,550,378**	**$2,709,328**	**$1,563,841**	**$24,394,716**
Home Winterproofing	$10,093,951	$2,651,958	$2,509,078		$15,254,987
Affordable Housing Multi-Residential	$6,477,219	$898,419	$200,250		$7,575,888
Commercial Program	**$19,028,811**	**$1,308,552**	**$2,408,902**	**$3,915,276**	**$26,661,542**
Commercial Custom	$11,614,497	$657,578	$261,829		$12,533,903
Prescriptive Downstream	$2,271,016	$141,149	$173,189		$2,585,354
Direct Install	$4,591,171	$293,339	$173,189		$5,057,699
Prescriptive Midstream	$552,127	$216,487	$1,800,695		$2,569,309
Industrial Program	**$14,288,105**	**$432,973**	**$0**	**$4,198,260**	**$18,919,337**
Industrial Custom	$14,288,105	$432,973	$0		$14,721,077
Large Volume Program	**$2,651,959**	**$54,122**	**$0**	**$229,884**	**$2,935,964**
Direct Access	$2,651,959	$54,122	$0		$2,706,080
Energy Performance Program	**$663,255**	**$31,212**	**$468,180**	**$109,491**	**$1,272,138**
Whole Building Pay For Performance (P4P)	$663,255	$31,212	$468,180		$1,162,647
Building Beyond Code Program[1]	**$25,796,143 to be reassessed**				
Residential Savings By Design					
Commercial Savings By Design					
Affordable Housing Savings By Design					
Commercial Air Tightness Testing					
Low Carbon Transition Program[1]					
Residential Low Carbon					
Commercial Low Carbon					
Program Subtotal	**$103,362,593**	**$11,646,977**	**$15,956,701**	**$12,463,467**	**$143,429,738**
Administration Costs				**$11,941,266**	**$11,941,266**
Portfolio Administration				$9,094,469	$9,094,469
System Maintenance & Improvements				$1,082,432	$1,082,432
Municipal Engagement				$1,764,364	$1,764,364
Evaluation and Regulatory Costs				**$4,113,242**	**$4,113,242**
EM&V				$2,814,324	$2,814,324
Regulatory & Stakeholdering				$757,703	$757,703
Process and Market Evaluation				$541,216	$541,216
Research and Development Costs				**$3,429,271**	**$3,429,271**
Research Innovation Fund				$2,760,202	$2,760,202
Market Data				$669,069	$669,069
Portfolio Subtotal				**$19,483,779**	**$19,483,779**
Total	**$103,362,593**	**$11,646,977**	**$15,956,701**	**$31,947,246**	**$162,913,517**

1. The Building Beyond Code and Low Carbon Transition budget to be reassessed at the mid-point assessment.

Table 8: 2027 DSM Plan Budget

2027 DSM Budget	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2027 Total
Residential Program	**$35,202,751**	**$3,610,006**	**$3,795,652**	**$1,710,487**	**$44,318,896**
Residential Whole Home	$28,336,117	$1,855,827	$3,113,330		$33,305,274
Residential Single Measure	$3,851,113	$870,914	$276,020		$4,998,048
Residential Smart Home	$3,015,521	$883,265	$406,302		$4,305,087
Low Income Program	**$16,902,593**	**$3,621,385**	**$2,763,514**	**$1,595,118**	**$24,882,610**
Home Winterproofing	$10,295,830	$2,704,998	$2,559,259		$15,560,086
Affordable Housing Multi-Residential	$6,606,763	$916,388	$204,255		$7,727,406
Commercial Program	**$19,409,388**	**$1,334,723**	**$2,457,080**	**$3,993,582**	**$27,194,773**
Commercial Custom	$11,846,787	$670,729	$267,065		$12,784,581
Prescriptive Downstream	$2,316,437	$143,972	$176,653		$2,637,062
Direct Install	$4,682,994	$299,206	$176,653		$5,158,853
Prescriptive Midstream	$563,170	$220,817	$1,836,709		$2,620,696
Industrial Program	**$14,573,867**	**$441,632**	**$0**	**$4,282,225**	**$19,297,724**
Industrial Custom	$14,573,867	$441,632	$0		$15,015,499
Large Volume Program	**$2,704,998**	**$55,204**	**$0**	**$234,481**	**$2,994,683**
Direct Access	$2,704,998	$55,204	$0		$2,760,202
Energy Performance Program	**$676,520**	**$31,836**	**$477,544**	**$111,680**	**$1,297,580**
Whole Building Pay For Performance (P4P)	$676,520	$31,836	$477,544		$1,185,900
Building Beyond Code Program[1]	**$30,614,958 to be reassessed**				
Residential Savings By Design					
Commercial Savings By Design					
Affordable Housing Savings By Design					
Commercial Air Tightness Testing					
Low Carbon Transition Program[1]					
Residential Low Carbon					
Commercial Low Carbon					
Program Subtotal	**$108,120,065**	**$12,349,387**	**$17,419,037**	**$12,712,736**	**$150,601,225**
Administration Costs				**$12,180,092**	**$12,180,092**
Portfolio Administration				$9,276,360	$9,276,360
System Maintenance & Improvements				$1,104,081	$1,104,081
Municipal Engagement				$1,799,652	$1,799,652
Evaluation and Regulatory Costs				**$4,195,507**	**$4,195,507**
EM&V				$2,870,610	$2,870,610
Regulatory & Stakeholdering				$772,857	$772,857
Process and Market Evaluation				$552,040	$552,040
Research and Development Costs				**$3,497,856**	**$3,497,856**
Research Innovation Fund				$2,815,406	$2,815,406
Market Data				$682,450	$682,450
Portfolio Subtotal				**$19,873,455**	**$19,873,455**
Total	**$108,120,065**	**$12,349,387**	**$17,419,037**	**$32,586,192**	**$170,474,680**

1. The Building Beyond Code and Low Carbon Transition budget to be reassessed at the mid-point assessment.

Table 1: 2022 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2022 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	7,378,637	14,757,274	22,135,910
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	1,436,398	2,872,796	4,309,194
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	2,507,802	5,015,604	7,523,406
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	7,720,641	15,441,281	23,161,922
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	4,457,031	8,914,062	13,371,094
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	25,188,449	50,376,897	75,565,346
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	4,650,000	9,300,000	13,950,000
Energy Performance Program Scorecard					
Whole Building Pay For Performance (P4P) [3]	Number of Participants	100%	12.5	25	37.5
	Net Annual Gas Savings (m^3)	0%	0	0	0
Building Beyond Code Program Scorecard					
Residential Savings By Design [4]	Number of Energy Star Homes	30%	150	300	450
	Number of Net Zero Ready Homes	0%	0	0	0
Commercial Savings By Design	Number of Participants	30%	12.5	25	37.5
Affordable Housing Savings By Design	Number of Participants	30%	7.5	15	22.5
Commercial Air Tightness Testing[5]	Number of Participants	0%	0	0	0
	Number of Qualified Agents	10%	3	6	9

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. Whole Building P4P metrics are weighted 50%/50% except for yr. 1 (2022) which is 100%/0% as no energy savings measured until yr. 2

4. Residential SBD metrics are weighted 50%/50% except for year 1 (2022) which is 100%/0% as no Net Zero buildings until year 2

5. Commercial Air Tightness metrics are weighted 50%/50% except for year 1 (2022) which is 100%/0% as no participants until year 2

Consideration of Inputs Impacting 2022 Annual Scorecard Targets:

4. While Enbridge Gas has outlined proposed targets for the 2022 base year of the DSM Plan, it should be noted that there are cases where the 2022 targets will need to be adjusted. While the Proposed Framework (Exhibit C, Tab 1, Schedule 1, Section 9.2) outlines a number of cases where changes to input assumptions and adjustment factors would impact targets in the following year, since 2022 targets are not formulaic based on prior year results, Enbridge Gas is outlining the specific cases below that will necessitate updates to 2022 targets. No other changes to input assumptions would trigger any such update to 2022 proposed targets.

   - Input assumption changes made to prescriptive measures through any TRM update process completed in 2021.
     - Since 2022 targets are based on the TRM measure inputs at the time of filing (and prior to the completion of any 2021 TRM updates), if any inputs are updated in the 2021 TRM process, 2022 targets should be updated accordingly.
   - Codes and standards changes in 2021 or 2022.
     - As outlined in the Proposed Framework, Section 9.3, changes to codes and standards should be included in both results and targets. This ensures targets are not inappropriately set based on outdated codes and standards. Should a code change occur in 2022, the 2022 targets should be updated accordingly.
   - Net-to-Gross ("NTG") adjustment changes if NTG studies are completed as part of the 2021 program year evaluation and verification process.[1]
     - Since 2022 targets are based on the currently best available information for NTG adjustments, if a NTG study is completed on the 2021 program

[1] Or completed in the 2021 program year for NTG studies that would be applied prospectively.

year, the 2022 targets should be updated based on the new NTG adjustments from the study.

- Changes to input assumptions and adjustment factors for new prescriptive measures submitted in the DSM plan.
    - Any input assumptions and adjustment factors for new prescriptive measures included in the DSM Plan that have not been submitted to the Evaluation Contractor ("EC") should be treated as placeholder values. A list of specific measures can be found in Exhibit E, Tab 5, Schedule 1, Table 2. Once Enbridge Gas submits measure research and substantiation documentation to the EC, the 2022 targets should be updated based on those updated values. If further changes are made in 2022 through the TRM update process, the 2022 targets should reflect the newly updated values.
- Any specific changes to input assumptions or adjustment factors included in Enbridge Gas's proposed 2022 targets that are made through the course of this DSM Plan application approval process.

Table 2: 2023 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2023 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Energy Performance Program Scorecard					
Whole Building Pay For Performance (P4P)	Number of Participants (P4P)	50%	12.5	25	37.5
	Net Annual Gas Savings (m^3)	50%	62,500	125,000	187,500
Building Beyond Code Program Scorecard					
Residential Savings By Design	Number of Energy Star Homes	15%	725	1,450	2,175
	Number of Net Zero Ready Homes	15%	5	10	15
Commercial Savings By Design	Number of Participants	30%	14	28	42
Affordable Housing Savings By Design	Number of Participants	30%	9	18	27
Commercial Air Tightness Testing	Number of Participants	5%	2.5	5	7.5
	Number of Qualified Agents	5%	5	10	15

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. The 100% Target is calculated according to the TAM Methodology set out in the Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 5.2

Table 3: 2024 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2024 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Energy Performance Program Scorecard					
Whole Building Pay For Performance (P4P)	Number of Participants (P4P)	50%	12.5	25	37.5
	Net Annual Gas Savings (m^3)	50%	125,000	250,000	375,000
Building Beyond Code Program Scorecard					
Residential Savings by Design	Number of Energy Star Homes	15%	1,000	2,000	3,000
	Number of Net Zero Ready Homes	15%	5	10	15
Commercial Savings by Design	Number of Participants	30%	15.5	31	46.5
Affordable Housing Savings By Design	Number of Participants	30%	10.5	21	31.5
Commercial Air Tightness Testing	Number of Participants	5%	3	6	9
	Number of Qualified Agents	5%	5	10	15

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. The 100% Target is calculated according to the TAM Methodology set out in the Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 5.2

Table 4: 2025 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2025 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Energy Performance Program Scorecard [4]					
Whole Building Pay For Performance (P4P)	Number of Participants (P4P)				
	Net Annual Gas Savings (m^3)				
Building Beyond Code Program Scorecard [4]					
Residential Savings by Design	Number of Energy Star Homes				
	Number of Net Zero Ready Homes				
Commercial Savings by Design	Number of Participants				
Affordable Housing Savings By Design	Number of Participants				
Commercial Air Tightness Testing	Number of Participants				
	Number of Qualified Agents				

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. The 100% Target is calculated according to the TAM Methodology set out in the Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 5.2

4. Energy Performance and Building Beyond Code Programs to be reassessed at the mid-point assessment.

Table 5: 2026 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2026 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Energy Performance Program Scorecard [4]					
Whole Building Pay For Performance (P4P)	Number of Participants (P4P)				
	Net Annual Gas Savings (m^3)				
Building Beyond Code Program Scorecard [4]					
Residential Savings by Design	Number of Energy Star Homes				
	Number of Net Zero Ready Homes				
Commercial Savings by Design	Number of Participants				
Affordable Housing Savings By Design	Number of Participants				
Commercial Air Tightness Testing	Number of Participants				
	Number of Qualified Agents				

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. The 100% Target is calculated according to the TAM Methodology set out in the Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 5.2

4. Energy Performance and Building Beyond Code Programs to be reassessed at the mid-point assessment.

Table 6: 2027 Annual Scorecard Targets

Offering(s)	Metric	Metric Weighting	Lower Band (50%) [1]	2027 100% Target	Upper Band (150%) [1]
Residential Program Scorecard					
Residential Whole Home Residential Single Measure Residential Smart Home	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Low Income Program Scorecard					
Home Winterproofing	Single Family Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Affordable Housing Multi-Residential	Multi-Residential Net Annual Gas Savings (m^3)	50%	TAM x 50%	TAM [3]	TAM x 150%
Commercial Program Scorecard					
Commercial Custom Prescriptive Downstream Direct Install Prescriptive Midstream	Large Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
	Small Customer Net Annual Gas Savings (m^3) [2]	50%	TAM x 50%	TAM [3]	TAM x 150%
Industrial Program Scorecard					
Industrial Custom	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Large Volume Program Scorecard					
Direct Access	Net Annual Gas Savings (m^3)	100%	TAM x 50%	TAM [3]	TAM x 150%
Energy Performance Program Scorecard [4]					
Whole Building Pay For Performance (P4P)	Number of Participants (P4P)				
	Net Annual Gas Savings (m^3)				
Building Beyond Code Program Scorecard [4]					
Residential Savings by Design	Number of Energy Star Homes				
	Number of Net Zero Ready Homes				
Commercial Savings by Design	Number of Participants				
Affordable Housing Savings By Design	Number of Participants				
Commercial Air Tightness Testing	Number of Participants				
	Number of Qualified Agents				

1. The calculation of the Upper and Lower Bands of the 100% Targets result in non-integer amounts and the Scorecard Incentive will be calculated based on these precise thresholds.

2. Large commercial customers have a 3 year average annual consumption greater than/or equal to 100,000 m3/yr. Small commercial customers are below 100,000 m3/yr.

3. The 100% Target is calculated according to the TAM Methodology set out in the Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 5.2

4. Energy Performance and Building Beyond Code Programs to be reassessed at the mid-point assessment.

Whole Building Pay for Performance (P4P): Unlocking Ontario's Untapped Commercial Sector Gas Conservation Potential

March 24, 2022

Ian Jarvis

President, Enerlife Consulting

Gillian Henderson

Vice-President, Enerlife Consulting

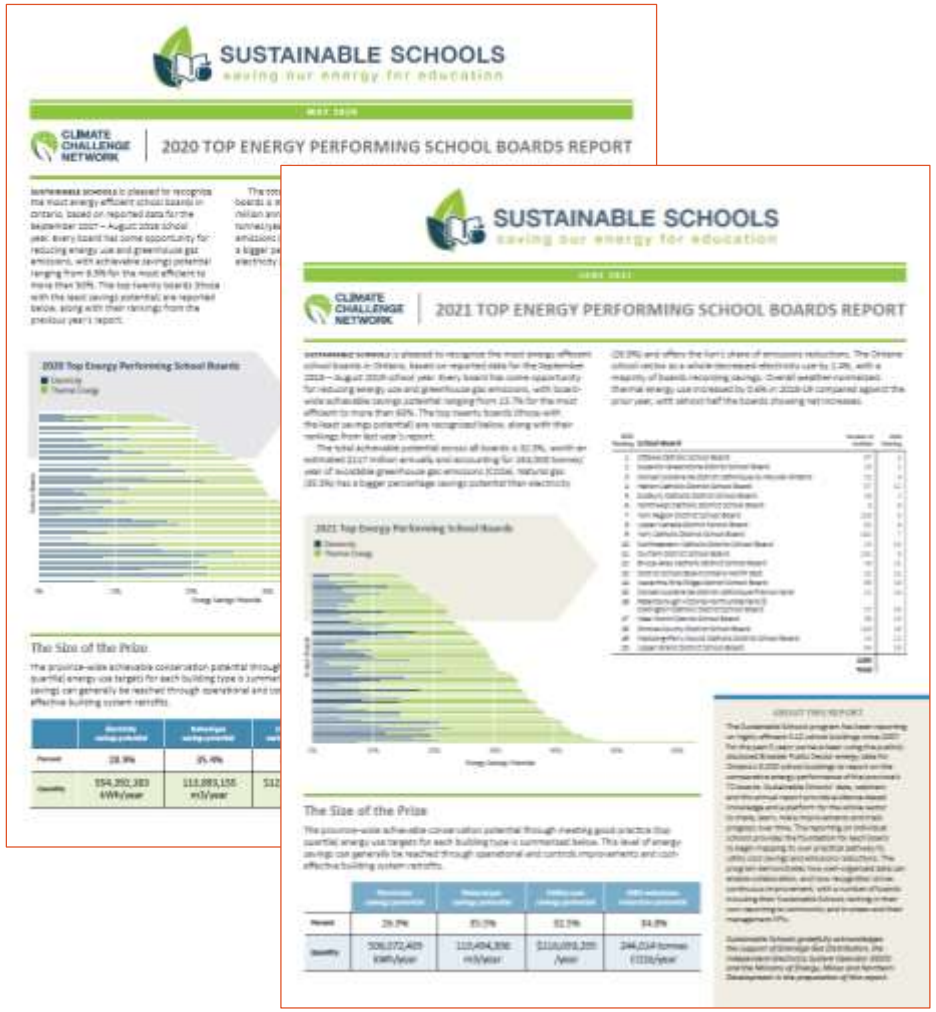
Building Towards a Sustainable Future

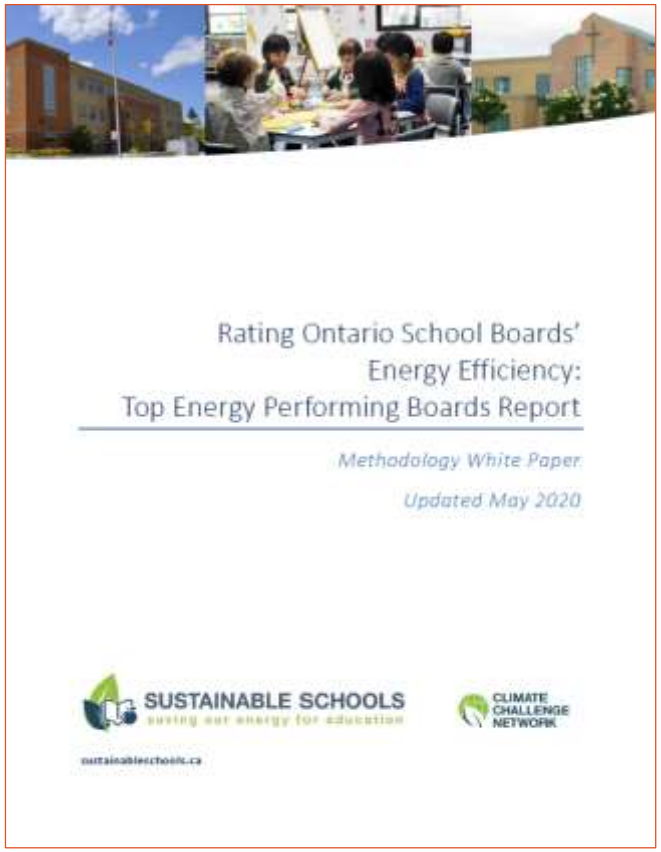
The Power of P4P – Performance-Based Conservation

Rapid growth in knowledge derived from metered energy data is transforming the understanding of the magnitude and nature of the energy conservation potential in commercial, institutional and multi-residential buildings:

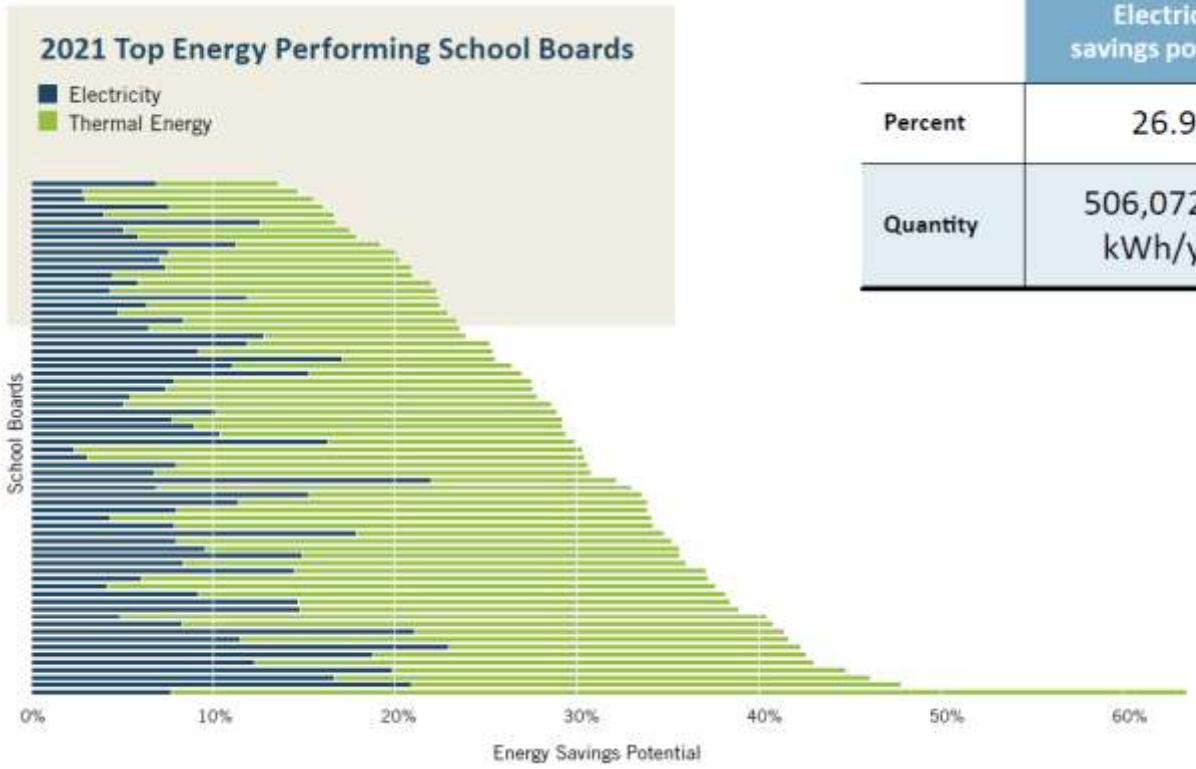
- Achievable savings are far greater than traditional APS studies indicate
- The biggest savings are in operational changes and are site-specific
- Savings must be measured at the meter to have confidence that progress is being made
- Annual province-wide targets and reporting of savings results are needed to drive continuous progress towards emissions reduction goals

Ranking Ontario's School Boards – Sustainable Schools





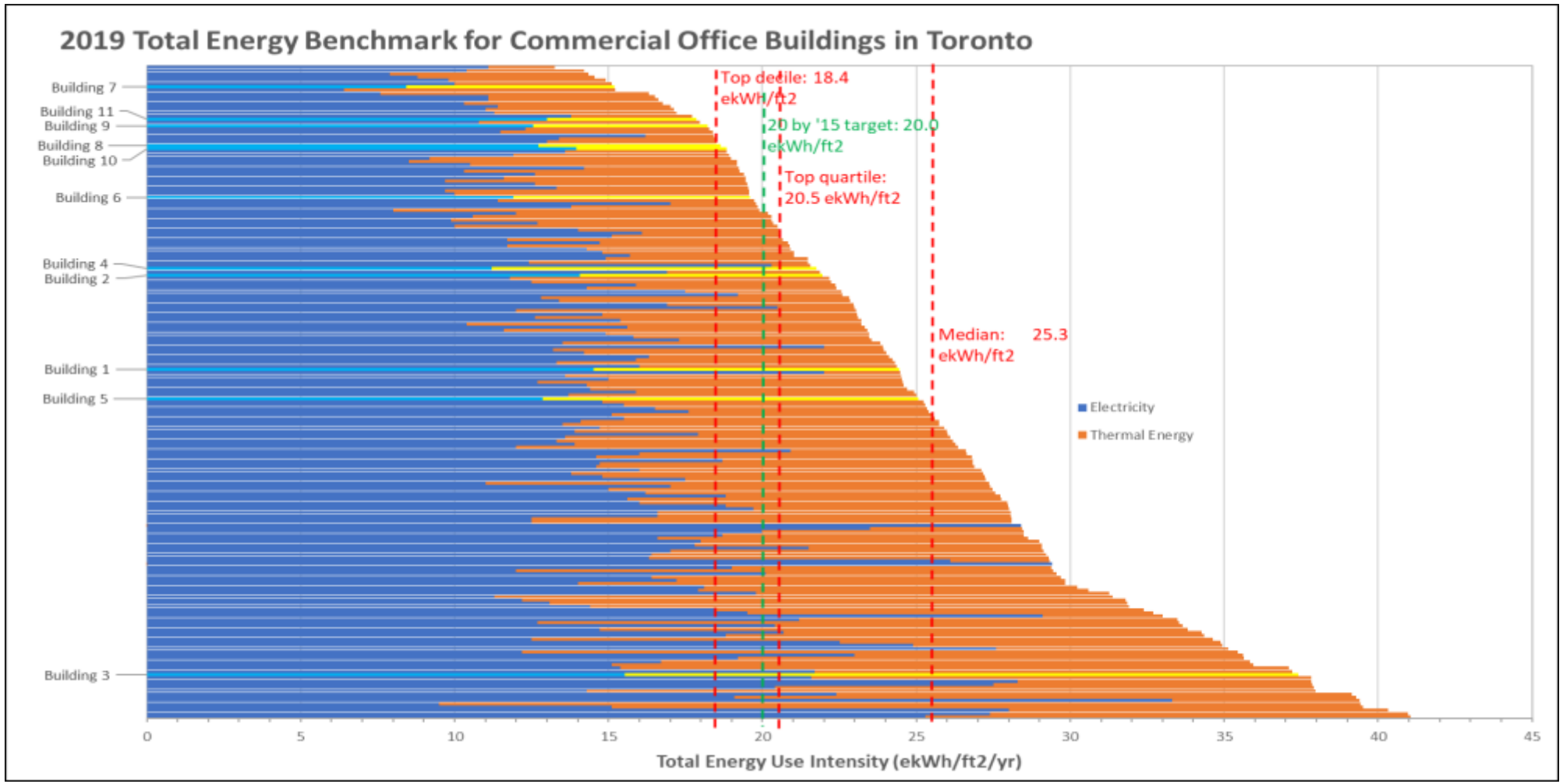
Target Achievable Savings Potential



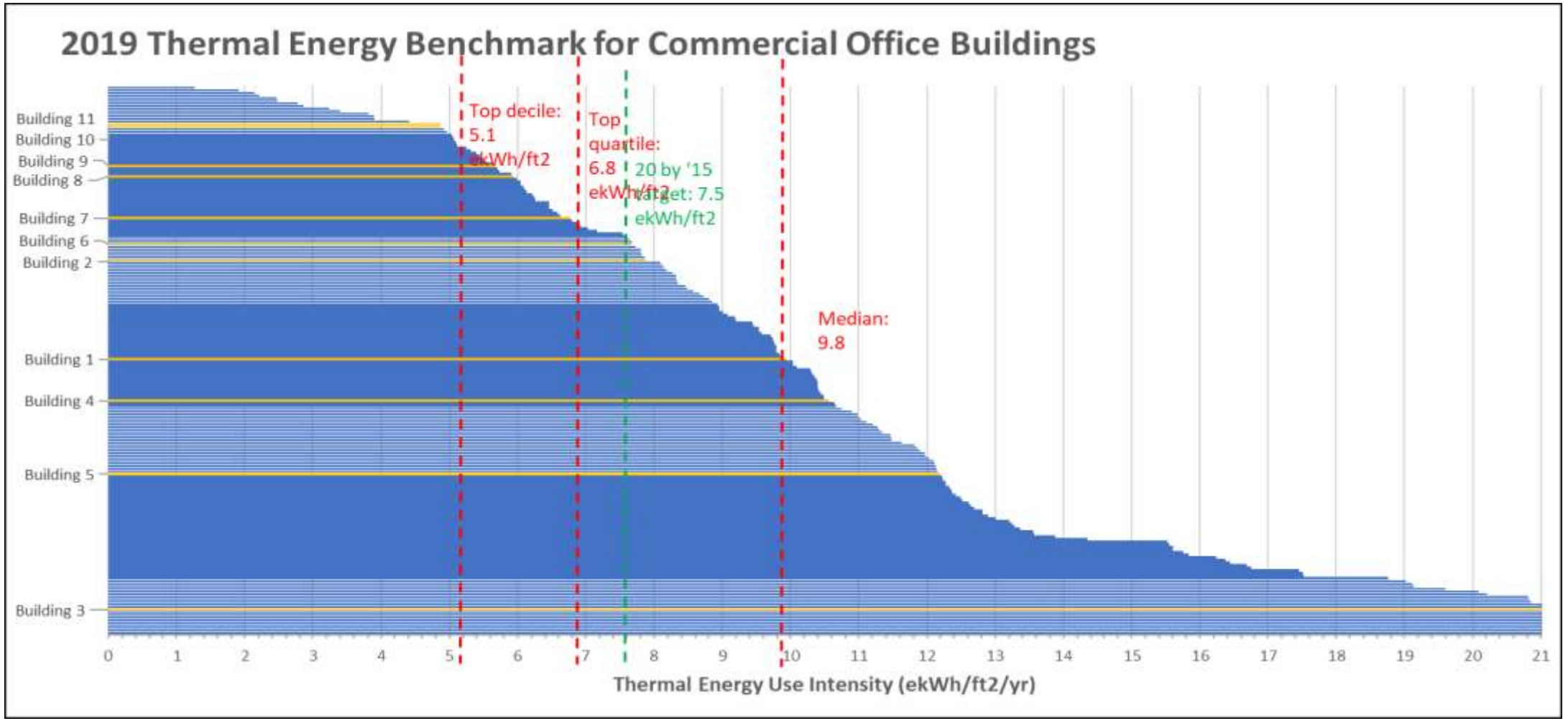
	Electricity savings potential	Natural gas savings potential	Utility cost savings potential	GHG emissions reduction potential
Percent	26.9%	35.5%	32.5%	34.8%
Quantity	506,072,409 kWh/year	119,494,398 m3/year	$116,693,295 /year	244,014 tonnes CO2e/year

Source: 2021 Top Energy Performing School Boards Report (sustainableschools.ca)

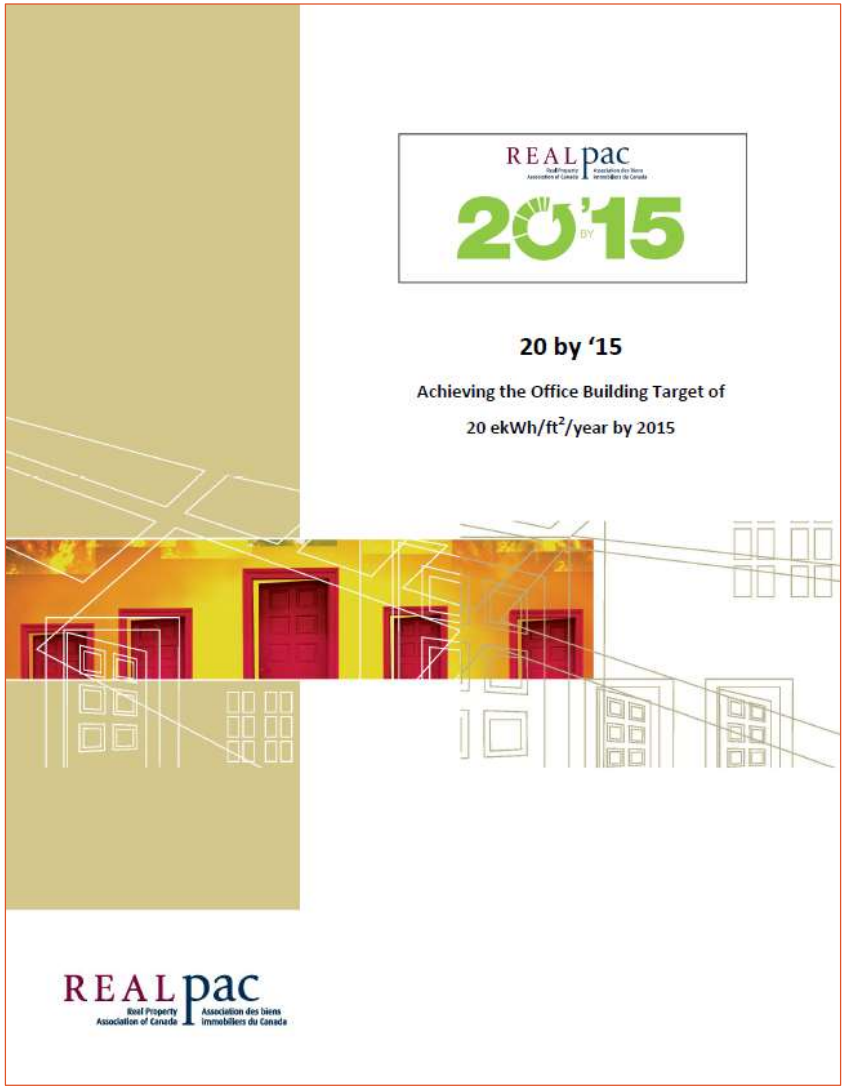
Commercial Office Benchmarking (EWRB data)



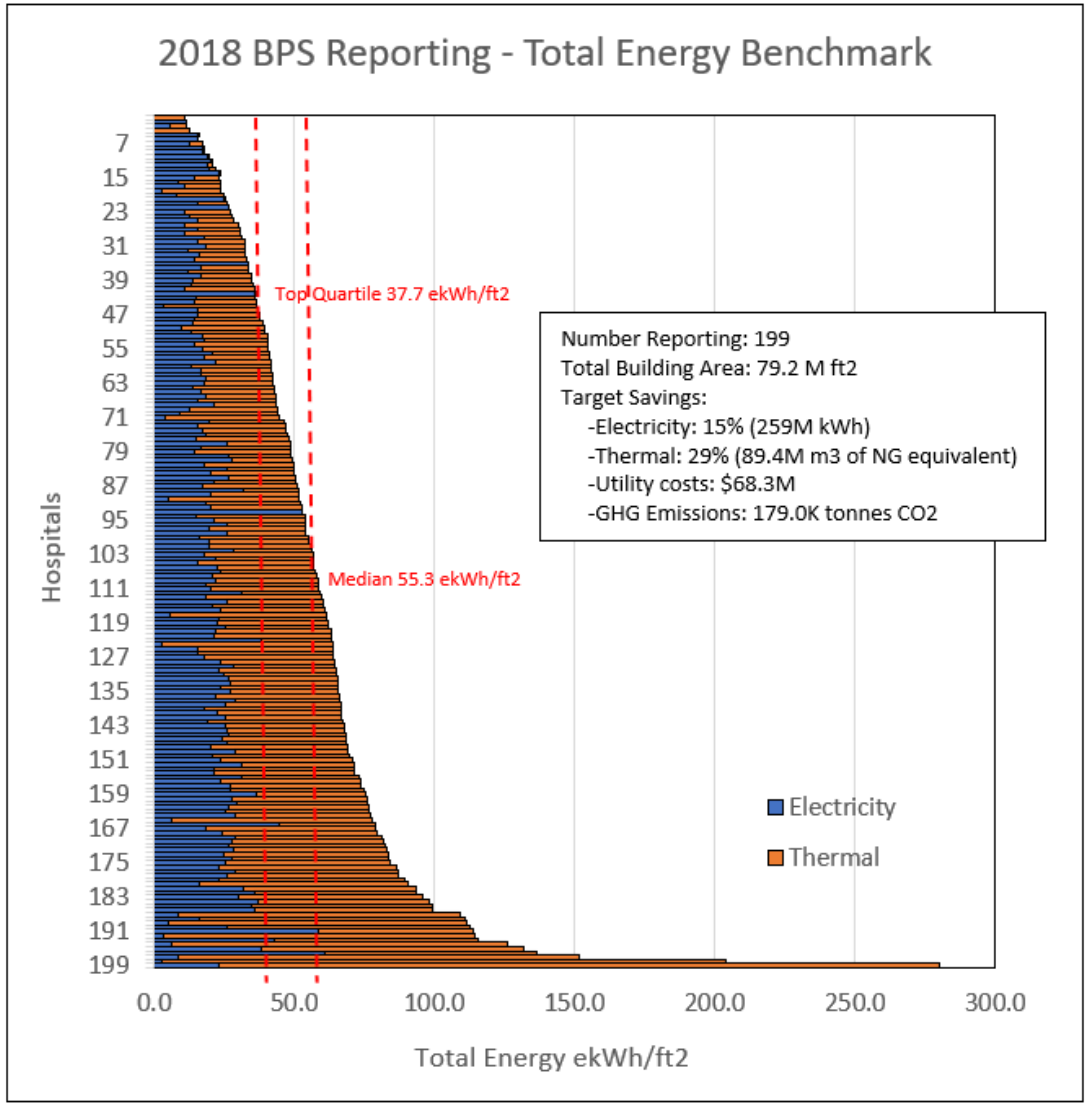
TEDI – The Low Carbon Driver



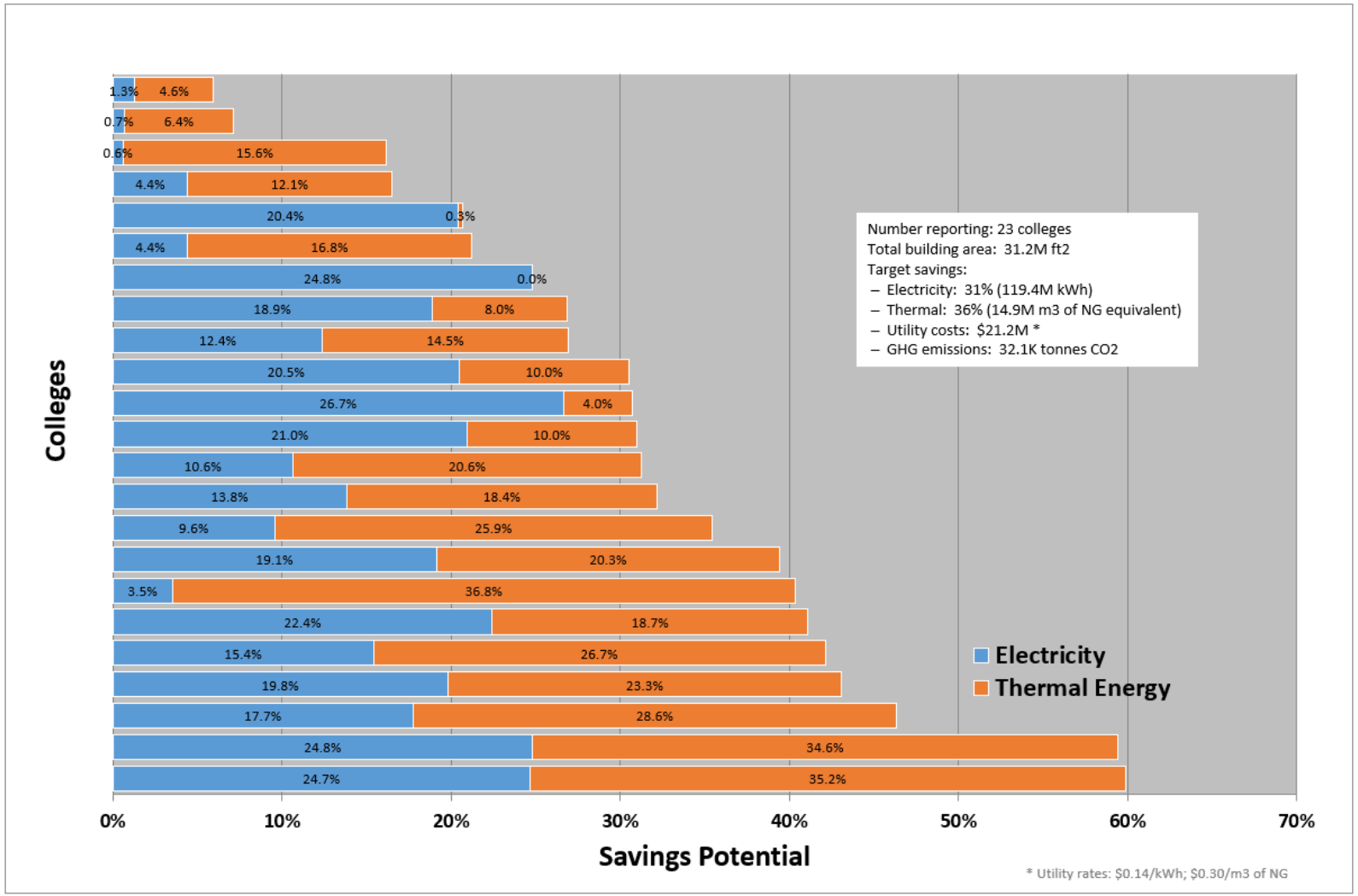
Rational Energy Targets – REALPAC 20 by ‘15



Ontario Hospitals – Target Savings Potential (BPS data)



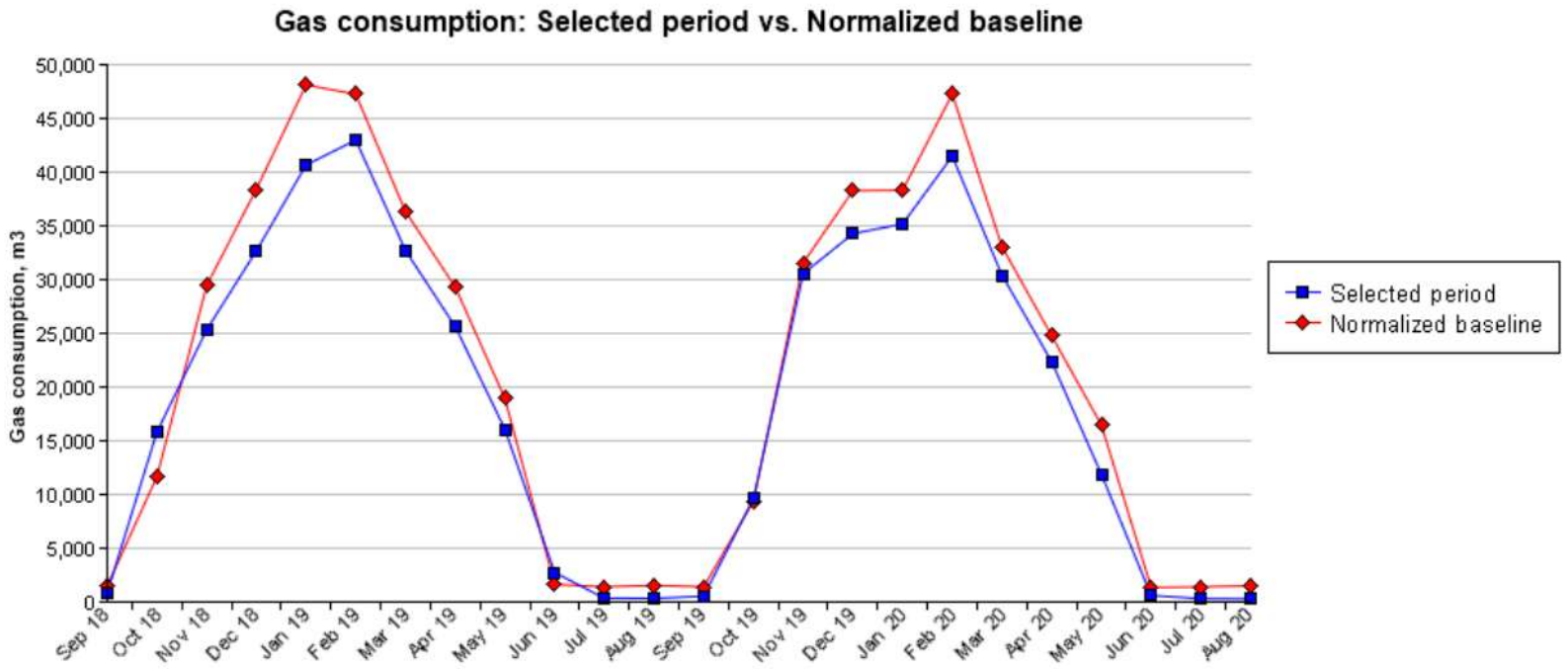
Ontario Colleges – Target Savings Potential (BPS data)



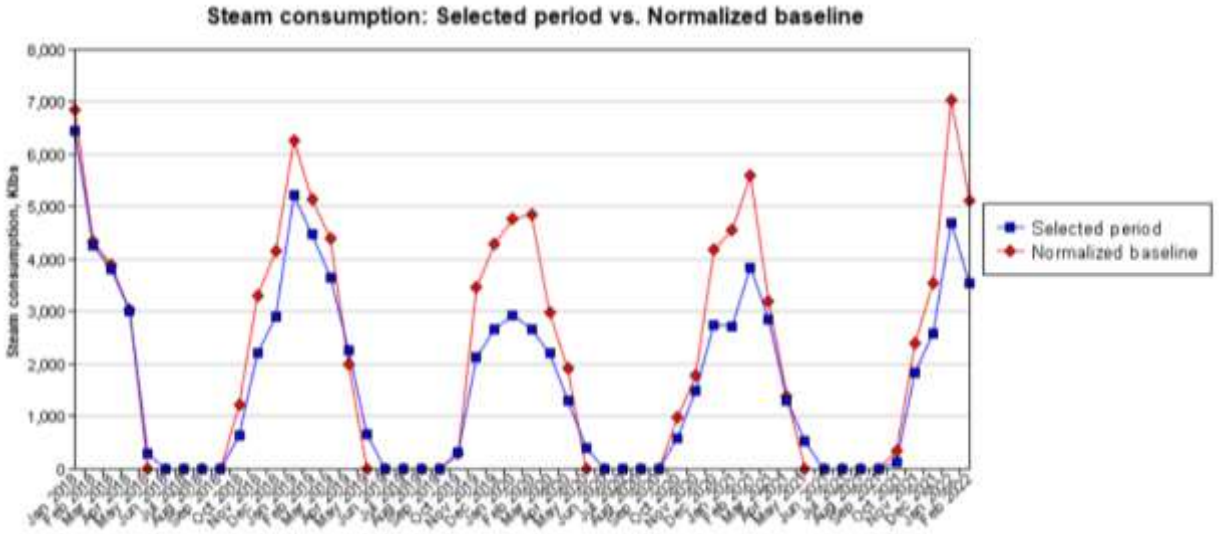
Using Benchmarking to Determine Achievable Savings Potential

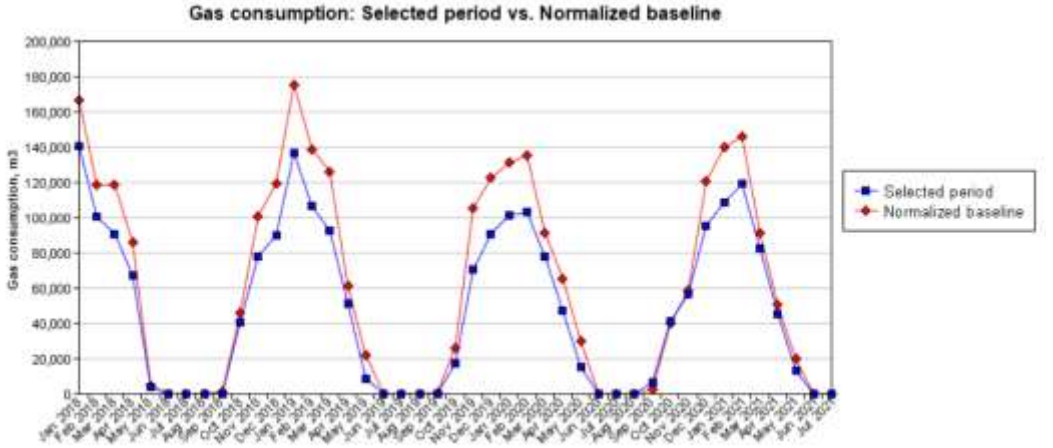
- Real data readily available from Ontario's BPS and EWRB reporting regulations
- Top-quartile targets documented for most building types and updated each year
  - Weather normalization protocol is straightforward
  - Adjustments made for material HVAC system, operational and envelope variances
- Conventional (TRM, modeling) calculations underestimate the magnitude of operational savings
- Annual reporting enables tracking of actual province-wide progress towards reduction targets
- Determining savings potential by building provides a foundation for program design

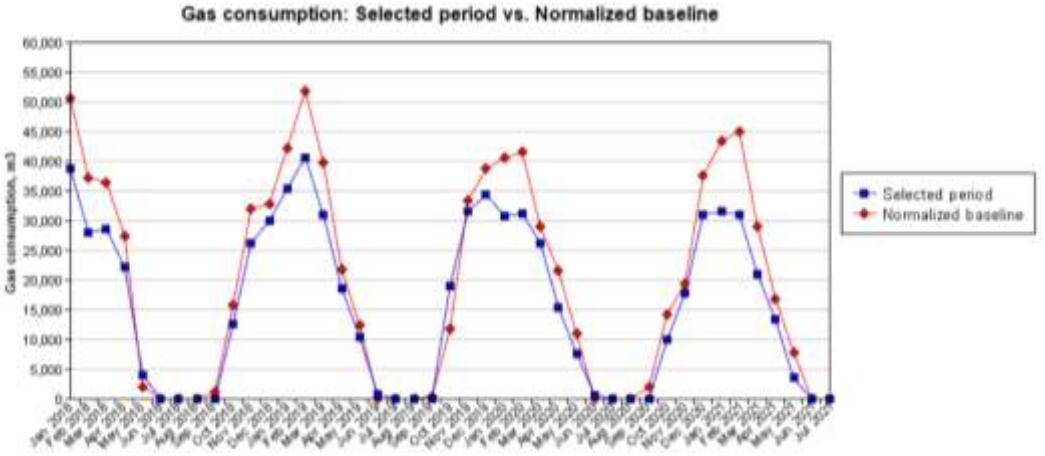
Measuring Actual Savings at the Meter: School



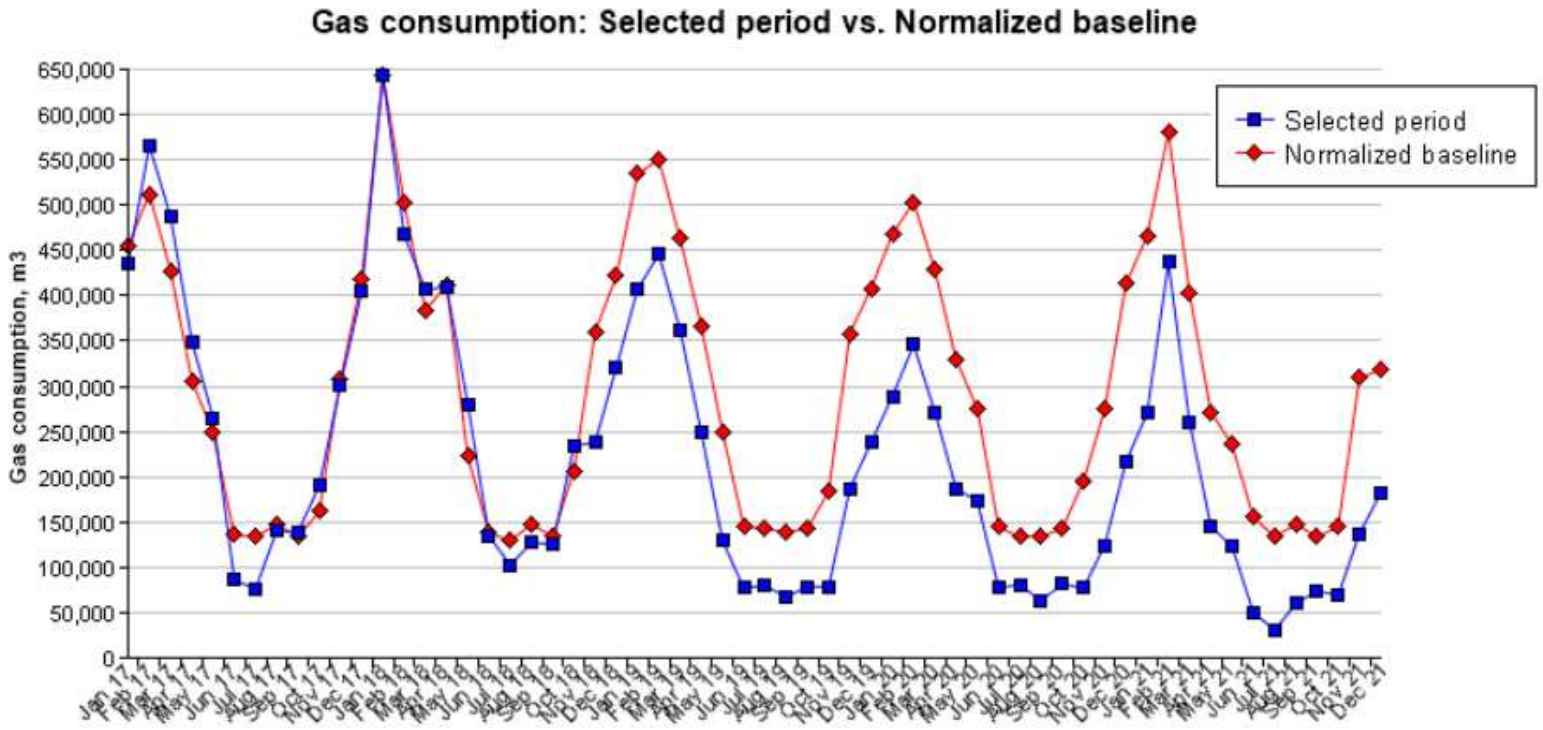
Measuring Actual Savings at the Meter: Office Buildings







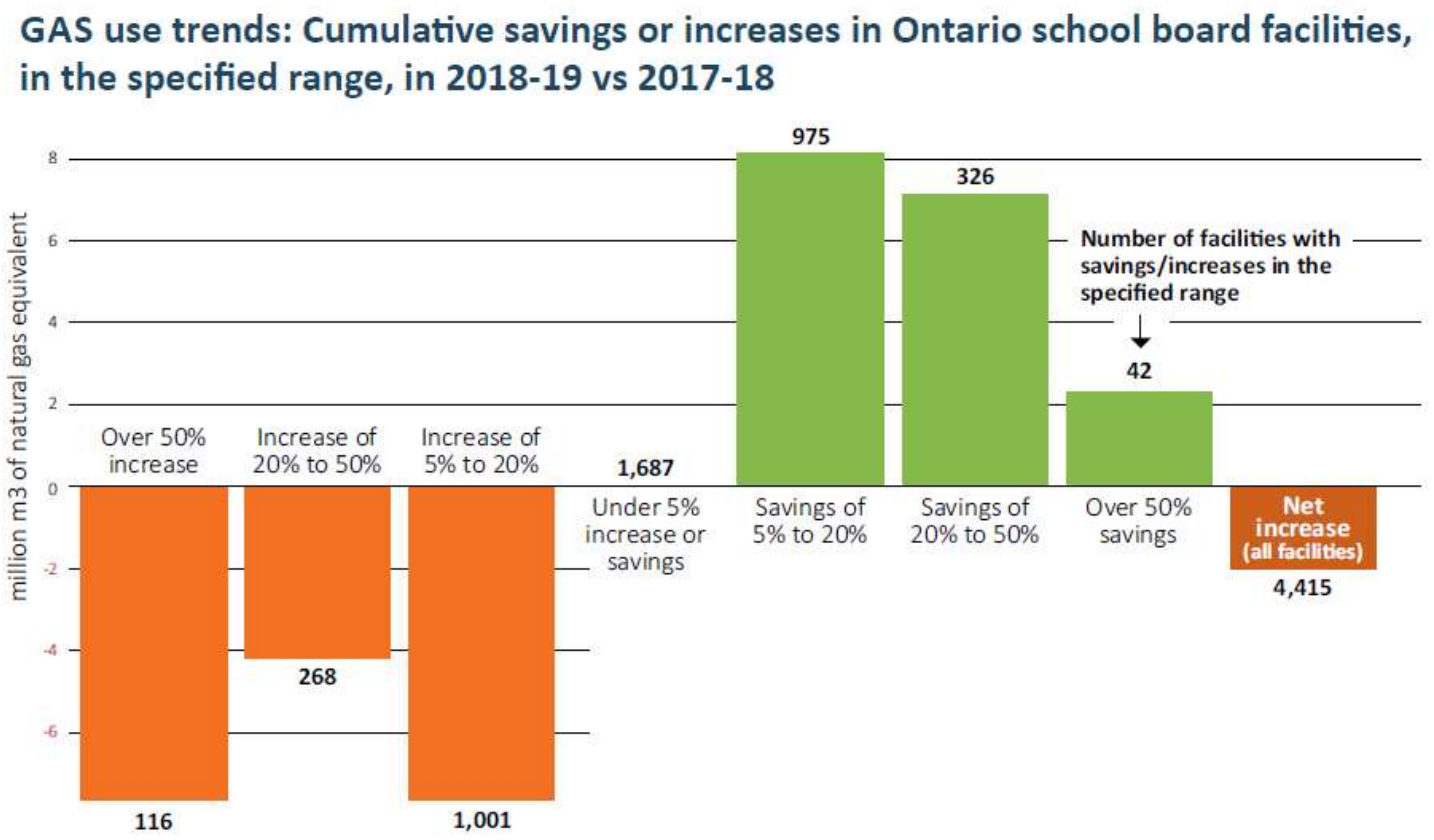
Measuring Actual Savings at the Meter: Hospital



The Nature of Actual Savings

- Variances between higher and lower target and actual savings show little correlation with building age, envelope or technology
- The predominant differences are found in:
  - Building system operations (scheduling)
  - Equipment maintenance (control valves, dampers, boilers)
  - Building automation and controls (setpoints and resets)
  - Air and water flow imbalances (zoning and testing)

Gas Use Trends in Schools



Source: 2021 Top Energy Performing School Boards Report (sustainableschools.ca)

The Counterfactual Argument

- The biggest gas savings can only be identified and quantified through empirical (metered consumption) data
  - Weather and material operational variance adjustments are readily made
- Uncertainty about baseline variations is small compared to uncertainty around assumptions and calculations
  - Site-specific issues cannot be generalized or assumed
- Modeling and engineering calculations (with targeted measurement and testing) should still be used selectively to help understand the savings, refine the TRM and inform program design and improvement

Pay For Performance (P4P): Design Principles

- Responding to customer demand for deeper savings, less administrative burden
- Focus on high savings potential portfolios and buildings
  - Target 20% savings
- Whole building performance with savings measured at the meter
  - Drive innovation, site-specific solutions
- Multiple year engagement with technical support for persistence of savings, low free ridership

Pay For Performance (P4P) Draft Metrics: K-12 Schools

Building Type	Total Gas Savings During Program (m3)	Total P4P Lifetime Gas Savings (m3)	Total Incentive Cost ($)	Total Administrative Cost ($)	Total Technical Cost ($)	Total Participant Cost ($)	Total Program Costs ($)	Total Cost of Savings ($/m3)	TRC-Plus Ratio
Schools (K-12)	23,898,880	119,494,398	8,364,608	1,194,944	1,194,944	4,596,421	15,350,917	0.13	2.50

Pay For Performance (P4P) Expansion to Other Building Types

Building Type	Total Gas Savings Potential (m
Schools (K-12)	119,494,398
Commercial	407,827,000
Hospitals	89,357,604
Multi-Residential	384,462,560
Colleges	14,900,000
Total	**1,016,041,562**

Working Together

- Integration with the IESO's EPP
- Community Partnerships with:
  - BOMA's Race to Reduce
  - City of Toronto's Green Will Initiative
  - Toronto's Tower Renewal Office
  - Climate Challenge Network

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association (BOMA)

Interrogatory

Issue 10

Reference:

EB-2021-0002, Exhibit E, Tab 2, Schedule 1, Page 3, Section 8

Question(s):

Under what circumstances will this offering be expanded to other segments during the course of this framework? How would such an expansion be funded?

Response

Please see response at Exhibit I.10f.EGI.STAFF.61a.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association (BOMA)

Interrogatory

Issue 10

Reference:

EB-2021-0002, Exhibit E, Tab 3, Schedule 1, Page 1, Section 2

"Enbridge Gas's Low Carbon Transition program is designed to support the plans of the federal government to bring these types of low carbon technologies to market. The Low Carbon Transition program specifically focuses on expanding the deployment of heat pump technologies…"

Question(s):

Has Enbridge evaluated the relative merits of other low carbon technologies including VRF, GeoExchange, exhaust air and discharge water heat recovery and electric heat pumps compared against gas-fired heat pumps in terms of potential emission reductions and cost effectiveness? If so, please provide the results of this comparative analysis.

Has Enbridge explicitly consulted with the IESO regarding a coordinated approach to helping meet national and provincial carbon reduction goals? If so, what conclusions were reached? What limitations are there on collaboration to help maximize carbon reductions?

Does Enbridge have the authority to support GeoExchange (ground source heat pump) installations?

Response

a) Through the Commercial Custom offering Enbridge Gas has supported customers who have installed other low carbon technologies such as variable refrigerant flow (VRF) and electric heat pumps which use waste heat or geothermal heat. These are customized applications of the technology that take into account specific customer circumstances and baseline conditions. These technologies also include an electricity penalty which makes them less attractive when determining Total Resource Cost.

Enbridge Gas has not performed an explicit comparative analysis of these various technologies to gas heat pumps. Enbridge Gas evaluates technologies relative to their most reasonable baselines. The most common application of many of these aforementioned technologies is different than that of gas heat pumps.

Enbridge Gas specifically pursues natural gas heat pumps in its Commercial Low Carbon offering for the following reasons:

- Natural gas heat pumps are called out as being an important contributor to achieving the federal government's aspirations goals for space heating;[1]
- Natural gas heat pumps are a more direct replacement for a gas boiler in a retrofit scenario and thus have significant market potential as a measure;
- Enbridge Gas has completed research to demonstrate the potential for cost effective applications;[2]
- Whereas Enbridge Gas sees the growing market acceptance of technologies such as electric VRF, natural gas heat pumps face greater barriers in relation to accessibility, awareness, and acceptance.

As market conditions evolve, Enbridge Gas will continue to evaluate alternative commercial low carbon technologies through its research and custom offer and consider them for future inclusion in its Commercial Low Carbon offering if appropriate and aligned with the OEB's stated DSM objectives.

b) No such consultation has occurred. Please see response to Exhibit I.10.EGI.BOMA.5 regarding IESO collaboration.

c) Enbridge Gas interprets the question to ask whether the Company could provide DSM programming/customer incentives for geothermal technologies. The Company does not believe there are any restrictions based solely on technology for providing DSM programming to natural gas customers. As stated in Exhibit C, Tab 1, Schedule 1, page 15, "where fuel switching away from natural gas aligns with the OEB's stated DSM objectives Enbridge Gas may pursue these activities."

[1] Paving the Road to 2030 and Beyond: Market transformation road map for energy efficient equipment in the building sector – Supporting the transition to a low-carbon economy, Energy and Mines Ministers' Conference (August 2018), p. 31. 18-00072-nrcan-road-map-eng.pdf

[2] Gas Absorption Heat Pumps, Technology Assessment and Field Test Findings, The Atmospheric Fund (TAF)(2018). TAF_GAHP-White-Paper_2018.pdf

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence

Interrogatory

Issue 10

Reference:

Exhibit D, Tab 1, Schedule 4

Preamble:

Enbridge includes the following table:

Table 1: 2023 TRC-Plus and Net Benefits /u

2023 TRC-Plus Forecast	TRC-Plus Benefits[1]	TRC Costs	Net Benefits[2]	TRC-Plus Ratio
Residential Program	**$125,706,884**	**$66,254,346**	**$59,452,537**	**1.90**
Residential Whole Home	$73,977,785	$46,006,919	$27,970,866	1.61
Residential Single Measure	$8,961,854	$7,529,043	$1,432,811	1.19
Residential Smart Home	$42,767,245	$11,229,960	$31,537,285	3.81
Program Level Admin		$1,488,425	-$1,488,425	
Commercial Program	**$133,540,929**	**$30,573,084**	**$102,967,845**	**4.37**
Commercial Custom	$103,530,272	$12,205,023	$91,325,250	8.48
Prescriptive Downstream	$8,696,432	$3,602,595	$5,093,837	2.41
Direct Install	$14,451,859	$5,764,458	$8,687,401	2.51
Prescriptive Midstream	$6,862,366	$5,691,921	$1,170,445	1.21
Program Level Admin		$3,309,088	-$3,309,088	
Industrial Program	**$210,099,973**	**$15,949,294**	**$194,150,679**	**13.17**
Industrial Custom	$210,099,973	$12,171,680	$197,928,293	17.26
Program Level Admin		$3,777,614	-$3,777,614	
Low Income Program	**$52,688,511**	**$20,090,692**	**$32,597,819**	**2.62**
Home Winterproofing	$22,736,285	$14,088,455	$8,647,829	1.61
Affordable Housing Multi-Residential	$29,952,226	$4,554,095	$25,398,132	6.58
Program Level Admin		$1,448,142	-$1,448,142	
Large Volume Program	**$12,904,860**	**$4,625,266**	**$8,279,594**	**2.79**
Direct Access	$12,904,860	$4,408,642	$8,496,218	2.93
Program Level Admin		$216,624	-$216,624	
Energy Performance Program	**$0**	**$584,156**	**-$584,156**	**0.00**
Whole Building Pay 4 Performance (P4P)[3]	$0	$530,000	-$530,000	0.00
Program Level Admin		$54,156	-$54,156	
Building Beyond Code Program		**$5,618,903**		
Low Carbon Transition Program		**$625,291**		
Program Subtotal	**$534,941,157**	**$144,321,033**	**$390,620,124**	**3.71**
Portfolio Costs		$18,360,000		
Portfolio Total	**$534,941,157**	**$162,681,033**	**$372,260,124**	**3.29**

1. Forecast 2023 TRC-Plus Benefits are calculated using 2021 Avoided Costs (best available information at the time of plan submission).
2. Net Benefits are the difference between the TRC-Plus Benefits and the TRC Costs.
3. Based on the program design, energy savings are not forecasted until Year 2 (2024).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association (BOMA)

Interrogatory

Issue 11

Reference:

EB-2021-0002, Exhibit E, Tab 4, Schedule 3, Page 2, Section 5

"The Company understands that it is a crucial time to move up the innovation adoption curve for energy efficiency technology, and Enbridge Gas believes it has a central role to play in advancing the research and innovation necessary to support energy transition through the ongoing evolution of energy efficiency technology."

Question(s):

Will Enbridge adopt a more comprehensive R&D approach, working with other parties to address high impact knowledge gaps which can achieve the greatest carbon reductions as early as possible at the lowest life-cycle costs?

Given the urgency of the climate change challenge, is the proposed R&D funding level sufficient to enable Enbridge to play its full role?

Response

Enbridge Gas takes a comprehensive approach to support R&D activities. Specifically, Enbridge Gas supports collaborative R&D through the various stages of Technology Readiness Level (TRL) by working with various research organizations such as Gas Technology Institute and CGA's Natural Gas Innovative Fund to leverage its funding contribution.

Addressing high impact knowledge gaps is fundamental to good program design and is an objective of Enbridge Gas's R&D activities. Carbon reduction is an important consideration when identifying and prioritizing R&D opportunities but is not the sole determinant; compatibility with the DSM Framework and alignment with the priorities, goals and objectives of the OEB, including the prospect for cost effectiveness (in line with the primary objective of DSM) or providing opportunities to a broad range of ratepayers, among other things, must be given due consideration.

Enbridge Gas has proposed R&D funding levels that, to date, have been sufficient to support the activities necessary for the evolution of the Company's programs; this includes, as noted in evidence, the development of new measures through research, demonstration, and pilot programs. The proposed funding levels are consistent with historical budget levels with modest increases in line with the OEB's guidance. Furthermore, the funding levels are commensurate with the capacity of staff to oversee and execute research projects while providing flexibility through a single budget to respond to shifting program needs and opportunities.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association (BOMA)

Interrogatory

Issue 12

Reference:

EB-2021-0002, Exhibit C, Schedule 1, Page 1, Section 8

Question(s):

To what extent does the Evaluation Contractor (EC) include at the meter savings verification as part of the evaluation and audit process? Please comment on Adjustment Factors and Verification Adjustments in this regard.

Approximately what proportion of the verified gas savings achieved in the 2015-2020 period were validated by measurements at the meter of participating buildings?

Response

Natural gas savings verification adjustments applied by the EC as part of the audit process are in the table below. The table refers only to gas savings verification and does not include verification adjustments related to installation rates, desk review of prescriptive measures or NTG adjustments.

Natural gas savings verification adjustments	**How did the EC develop this verification adjustment?**
Low-Income Home Weatherization and Indigenous Whole Home savings verification adjustments	Review and/or rerun of HOT2000 energy modeling
Residential Home Efficiency Rebate savings verification adjustments	Review and/or rerun of HOT2000 energy modeling
Energy Leaders savings verification adjustments	Engineering Estimates
Custom Project Savings Verification ("CPSV") verification adjustments for Custom CI and Large Volume program offerings	Engineering estimates, modeling, pre/post production data, and pre/post measurements at the submeter or meter of participating buildings[1]
RunItRight, RunSmart, and Strategic Energy Management ("SEM") offering savings verification adjustments	Pre/post measurements at the meter of participating buildings

1- As part of the Evaluation Contractor's CPSV work, the EC can select a verification method that it determines to be appropriate for the specific project and baseline. The EC's latest CPSV findings conclude that "both utilities chose to retain engineers with a strong understanding of their customers' building and process systems and showed a commitment to finding accurate savings estimates."[1] The EC often retains the savings methods used by Enbridge Gas as being appropriate.

In the joint 2017/2018 audit, the EC directly verified approximately 10% of Enbridge Gas's portfolio net cumulative gas savings. Within these verified savings, approximately 32% were validated using measurements at the submeter or meter of participating buildings. This amounts to approximately 4% of all 2017/2018 portfolio net cumulative gas savings.

Enbridge uses measurements at the submeter or meter of participating buildings for custom project savings claims that were not directly verified by the EC. An estimated 11% of Enbridge Gas's 2017/2018 portfolio net cumulative gas savings were claimed using measurements at the submeter or meter of participating buildings. [2]

Enbridge Gas notes that measurements at the meter of participating buildings are not always a suitable means of calculating natural gas savings. For many projects and

[1] OEB 2017-2018 Natural Gas Demand Side Management Custom Savings Verification (March 13, 2020), p. 23. https://www.oeb.ca/sites/default/files/2017-2018-DSM-Custom-Savings-Verification.pdf
[2] Due to COVID-19, CPSV studies were not completed in 2019 and 2020. CPSV study results from 2017/18 were applied to 2019 and 2020 program years. All percentages reported in response to this IR are assumed to be reasonable proxies to these years and to 2015 and 2016 as well.

measures across Enbridge Gas's DSM portfolio, savings are calculated using baselines that are more efficient than existing equipment. Savings for these projects are generally not compatible to measurements at the meter unless the meter-based savings are adjusted with engineering estimates. It is also common for project savings to be too small of a percentage of total meter consumption to be reliably measured.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association (BOMA)

Interrogatory

Issue 16

Reference:

EB-2021-0002, Exhibit E, Tab 4, Schedule 4, Page 4

Question(s):

Are attribution issues resolved to allow full collaboration between Enbridge and the IESO? Are there any other impediments to collaboration?

Would Enbridge support a formal working group with the IESO to jointly address challenges and opportunities related to progression towards the low carbon future?

Is there funding capacity to support worthy community-led programs?

Response

a) As outlined in evidence in the Proposed Framework (see Exhibit C, Tab1, Schedule 1, page 22 of 66), with respect to energy savings, Enbridge Gas is proposing a continuance of the attribution approach previously outlined by the OEB in the 2015 - 2020 DSM Framework for programs coordinated jointly between the IESO and Enbridge Gas, wherein all gas savings are attributed to the gas utility and all electricity savings are attributed to the IESO/CDM program.

   Beyond continuance of this simplified attribution policy, in line with the Guiding Principle outlined in the Proposed Framework that states: "Enbridge Gas should not have a disincentive to coordinate DSM efforts with external energy conservation and carbon reduction initiatives"[1]. In order to ensure that any such coordination efforts (including those with the IESO) do not potentially disadvantage the Company, Enbridge Gas expects that any evaluation activities pertaining to such joint programming should consider the entire program effort as a whole and avoid attempts to divide or allocate contributions or outcomes of the overall program effort.

[1] EB-2021-0002, EGI Multi-year Plan and Framework Application (Updated September 29, 2021), Exhibit C, Tab 1, Schedule 1, p. 8.

b) With consideration of the OEB's stated objectives for natural gas ratepayer funded DSM, Enbridge Gas program managers are in frequent and ongoing communication with their counterparts at the IESO to investigate and discuss opportunities to coordinate the delivery of DSM programs with CDM programs where possible. Enbridge Gas does not believe it necessary to establish any formal working group as the appropriate personnel at both the IESO and Enbridge Gas are already fully engaged in this effort.

c) As outlined in evidence at Exhibit 4, Schedule 1, page 4 of 5, Enbridge Gas has proposed funding to support community based efforts through the establishment of a Municipal Energy Solutions team and budget allocations to support the development and execution of local, municipal or community-led programming.

10J-BOMA-5-ED

Reference:

Exhibit L.ED.1 page 16

Preamble:

"There are four options for commercial buildings considered in this review: a) Air source heat pumps (ASHPs) with electric backup heating, b) hybrid heating systems that use an ASHP with a natural gas furnace as backup, c) ground source heat pumps (GSHP) that are also fully electrified, and d) gas heat pumps of various configurations (GHP: e.g. absorption, engine driven and thermal compression technologies)."

Question:

1. Has consideration been given to electric heat pumps which recycle internally generated heat (without necessarily being supplemented with air- or ground-source heat), which are increasingly used to great effect in hospitals (such as Humber River and Mackenzie Vaughan) and being considered for commercial office buildings as part of net zero planning?

Response:

Electric heat pumps that recycle internally generated heat were not considered in this analysis. However, these heat pumps have the potential to operate at net zero emissions, have greater potential to reduce energy than gas heat pumps, have greater potential to reduce GHGs than gas heat pumps, and would therefore be an appropriate technology for a Low Carbon Transition program.

ENBRIDGE GAS INC.

First Tracks Consulting Service In. Answers to
Interrogatories from Building Owners and Managers Association (BOMA)

Exhibit I.8.EGI.BOMA.1

Ref: Enbridge Reply Evidence, Section 3.4.3.1. Lifecycle vs. Annual Savings for Resource Acquisition Scorecards pages 50-52

The evidence states agreement with "both Optimal and EFG that the most important objectives achieved by Enbridge's portfolio align better with lifecycle savings than they do with annual savings" and "I am not opposed to lifecycle savings metrics in principle. However, I believe that Enbridge's recommendation for annual savings in this proceeding is reasonable and I recommend that the OEB approve it."

For the commercial sector, does Mr. Weaver agree that, for either annual or lifecycle savings, verification of actual savings at the meter should be applied wherever practical to do so?

Response:

The scope of my evidence in Section 3 of my report is limited to responding to recommendations made by Optimal Energy and Energy Futures Group regarding performance incentives. Selecting the appropriate evaluation methods for specific programs was beyond the scope of my evidence. However, I provide the following comments:

Evaluators need to balance multiple objectives in selecting the best approach for estimating annual and lifecycle savings for an individual program or measure.

Savings can almost never be measured as "actual savings at the meter". While post-implementation conditions can sometimes be measured at the meter, the counterfactual conditions that would have occurred in the absence of the program cannot ever be measures at the meter. Therefore, evaluators must estimate counterfactuals through methods such as: measuring pre-installation conditions for the same customer; measuring pre- and post-installation conditions for control groups of other customers; using simulation models; applying appropriate engineering algorithms; or other methods. All of these methods require the evaluator to adjust data collected for the counterfactual proxies to normalize for differences between the proxy and the actual participant, e.g., for changes in weather, economic conditions, operations, etc.

Also, measuring consumption “at the meter” often does not provide the best information for estimating savings, especially if usage and savings are a small fraction of total metered usage. In these situations, better estimates of savings can be developed by measuring other key metrics at the end use such as equipment capacity, equipment efficiency, operating hours, temperature, etc.

Finally, evaluators must consider population sizes of program participants, as well as the costs and resources required for equipment and analysis in selecting the best approach for estimating savings.

Exhibit I.8.EGI.BOMA.2

Mr. Weaver’s evidence goes on to state “On the other hand, I do have a practical concern with evaluation issues around measuring lifecycle savings. Converting from annual to lifecycle savings requires two calculations:

- One is a calculation multiplying annual savings by the equipment life. While this is straightforward, the data supporting equipment lives are poorly documented and rarely developed through actual measurements. This poses evaluation risks to Enbridge, when evaluators assign measure lives shorter than those Enbridge used to forecast lifecycle savings in its plan.
- Second, is a more complicated calculation of adjusting baselines for measures — like building insulation—with initial savings that change over time as underlying equipment— furnaces, in the insulation example—degrades or gets replaced with new, more efficient units. These calculations are far from straightforward and represent substantial evaluation risks to Enbridge when evaluators change assumptions from those Enbridge used to establish performance metrics.

Again, just for the commercial sector, does Mr. Weaver agree that monitoring actual savings at the meter over multiple years, as is contemplated in Enbridge’s Performance Program, can simplify and reduce risks in program evaluation?

Response:

No. My statement addresses the assumptions and calculations used to apply measure lives and adjusted baselines in setting lifecycle savings targets and then evaluate against those targets. I think measuring savings over multiple years will complicate and add risks to program evaluation, especially given the issues I raise in response to Exhibit I.8.EGI.BOMA.1.

Exhibit I.8.EGI.BOMA.3

Ref: Enbridge Reply Evidence, Section 3.4.3.2. Participation vs. Savings Metrics for Multi Year Scorecards pages 52-53

The evidence recommends participation metrics on the basis of enabling early-stage activities like "validating new technology performance and economics; training contractors to be able to support installations and maintenance; building market awareness with trade allies, consumers, and other market actors; and working with code officials." It goes on to state "These activities are not intended to generate large energy savings in the near term, but instead represent investments that bear fruit in future portfolios. Enbridge's proposed participation metrics rightly focus on the early market building activities that indicate early-stage success.

For the proposed Pay for Performance Program for commercial buildings:

1. Does Mr. Weaver agree that the activities referenced do not apply?
2. Does Mr. Weaver agree that the magnitude of projected gas savings and the requirement to meet the province's emissions reduction targets create some urgency to proceed with this initiative expeditiously rather than wait for "future portfolios"?
3. Would Mr. Weaver support a hybrid metric weighted towards savings?

Response:

1. My comments addressed market transformation programs in general. Because this offering involves new technology and business processes for helping schools and other commercial building owners identify and execute strategies to capture operational savings, it is my understanding that at least some of these strategies apply to the Pay for Performance program.

2. The scope of my evidence in Section 3 of my report is limited to responding to recommendations made by Optimal Energy and Energy Futures Group regarding performance incentives. Commenting on the size and speed of individual program offerings is beyond the scope of my evidence. However, I believe that Enbridge should invest in established offerings that can provide savings in the near term, and also invest in innovation to produce new offerings and measures that will grow to produce additional savings in the mid and long term. Both will be needed to contribute to meeting Ontario's emissions reduction targets. For example, in the December 1, 2020 letter outlining a Post-2020 Natural Gas Demand Side Management Framework, the OEB defines that one objectives of gas DSM is to support "technology development and market adoption of new and lower-carbon alternatives to enable longer term energy efficiency and carbon reductions."

3. For the Whole Building Pay for Performance program offering, Enbridge has proposed a hybrid metric that includes a mix of savings and participation. For the other programs, I believe that the participation metrics identified by Enbridge are the best metrics for tracking success of these offerings.

Exhibit I.8.EGI.BOMA.4

Ref: Enbridge Reply Evidence, Sections 3.4.1.3. Multi Year Components page 48 and 3.5.2.1 Performance Incentive Components page 58

Mr. Weaver's evidence in 3.5.2.1 recommends "Reject EFG recommendation to shift focus of Low Carbon Transition program away from gas heat pumps" while in 3.4.1.3 states "evaluating the merits of those [Multiyear] offerings is beyond the scope of my evidence in this proceeding."

Is Mr. Weaver recommending the gas heat pump initiative or just the Long-Term Scorecard for any Low Carbon Transition Program?

Response:

In Section 3.4.1.3 of my report, I state:

"Obviously, if the OEB accepts EFG's recommendations and eliminates some offerings, those components should also be eliminated. However, evaluating the merits of those offerings is beyond the scope of my evidence in this proceeding.

In my compromise proposal, I assume the OEB approves these offerings, and so I maintain the Multi Year components as proposed by Enbridge."

If other parties recommend changing the Low Carbon Transition Program to a different offering, it is their responsibility to characterize how that change should be addressed in the performance incentive mechanism.

David I. Poch Barrister tel. (613) 264-0055 fax (613) 264-2878

19 January 2022

Nancy Marconi, Registrar
Ontario Energy Board

VIA RESS AND EMAIL

Dear Ms Marconi:

Re: EB-2021-0002 – EGI 2022-2027 DSM – GEC/ED IRRs to BOMA Interrogatories

Please find interrogatory responses filed by GEC-ED in response to IRs from BOMA on the evidence of Energy Futures Group.

Sincerely,

Cc: All parties

1649 Old Brooke Road, Maberly, Ontario K0H 2B0 e-mail: dpoch@eelaw.ca

GEC/ED Responses of Energy Futures Group to BOMA Interrogatories

2-BOMA-1-GEC/ED.1

Ref: Exhibit L.GEC/ED.1/page 6

Preamble:

Reference to "the province's 2018 Environment Plan "*commits Ontario to achieving a GHG emissions reduction target of 30 percent below 2005 levels by 2030…and includes action to work with the Ontario Energy Board and natural gas utilities* ***to increase the cost-effective conservation of natural gas*** *to simultaneously reduce emissions and* ***lower energy bills***."

Question(s):

1. Given that emissions reductions (and lower customer bills) require absolute reductions in natural gas consumption, and that EGI has reported that only about 15% of annual savings are measured at the meter, is it recommended that gas savings for commercial buildings should be, to the greatest practical extent, verified at the meter and that DSM programs and M&V processes be designed accordingly?

2. Given the emerging evidence that natural gas consumption tends to increase over time in buildings which are not subject to conservation action, and that such increases within portfolios and segments (including K-12 schools) can substantially offset gains due to DSM programs in other buildings, is it recommended that emphasis be placed on strategic energy management programs covering whole portfolios?

Response:

1. The impacts of DSM programs, as with any other policy or program, should be measured relative to what would have occurred absent the programs. The level of gas consumption before an efficiency measure is installed is only *sometimes* a good proxy for what would have occurred absent the measure. Generally speaking, measurement of the difference in consumption pre- versus post-installation of efficiency measures – what is often called "billing analysis" in the industry – is the best approach only for estimating savings from discretionary retrofit measures and programs. Those are programs in which a customer who would not otherwise have made *any* investment or change (efficient or otherwise) to their building is persuaded to do so. Classic examples include customers who elect to add insulation to the attic or ceiling of their buildings, who add controls to reduce use of ventilation when it is not actually needed (e.g., when buildings are not occupied) and/or who receive education and training to improve operating practices so that less energy is wasted.

Even for discretionary retrofit measures and programs there can be factors other than the adoption of an efficiency measure or practice that affect consumption. One example is changes in occupancy that would have occurred irrespective of whether an efficiency measure is installed.[1] It would obviously not be appropriate to attribute reductions in consumption resulting from reduced occupancy to efficiency programs, just as it would not be appropriate to suggest an efficiency measure or practice did not produce savings (or worse, let to increased energy use) if consumption increased solely as a result of increased occupancy. Thus, even for discretionary retrofit programs, billing analyses may not, by themselves, be appropriate for estimating savings at individual buildings. Instead, they may be better applied to groups of buildings. They may also benefit from the use of control groups and/or other evaluation mechanisms to adjust billing analysis results.

In contrast, it is not possible to directly measure savings at the meter for DSM programs that help convince customers to buy the most efficient equipment when they are in the market to replace their boiler, water heater, oven or other appliance – what are sometimes called "time-of-replacement" programs in the efficiency industry – because the baseline for savings in such cases is a standard efficiency new appliance that they would have purchased absent the program, not the 15 or 20-year old appliance that died and needed replacing. It is also obviously not possible to directly measure savings at the meter for DSM programs designed to influence the design and efficiency of new buildings. That said, billing analyses can sometimes be useful tools for calibrating other approaches to modeling savings for "time-of-replacement" or new construction programs.

The bottom line is that there is an important place for analysis of changes in consumption "at the meter", but such analyses also have important limitations and need to be supplemented and complemented by other evaluation, measurement and verification (EM&V) techniques.

2. Strategic energy management can be a useful efficiency program strategy. To the extent that it can be applied to portfolios of buildings managed by the same entity, the reach and therefore the effectiveness of the strategy in generating energy savings should be enhanced.

[1] This is perhaps particularly important in the current/recent context of the Covid pandemic. However, occupancy patterns can and do change even in more "normal" times.

9g-BOMA-6-GEC/ED.1

Ref: Exhibit L.GEC/ED.1/page 18

Preamble:

Section III Performance Incentives: "The inclusion of both savings and participation metrics for the Energy Performance program is inappropriate since this program should stand on its own merits, in terms of energy savings and/or other benefits provided, relative to other programs that could serve the same customers. Incentive dollars allocated to this metric should be allocated instead to savings metrics."

Question(s):

1. While BOMA fully supports the principle that actual gas savings should be the predominant measure of effectiveness, and also that, to the greatest practical extent, savings should be measured at the meter rather than by assumption and calculation, should some degree of participation incentive be considered for this new and unfamiliar approach, which BOMA considers to be a major advancement over traditional programs, to ensure it receives the focus necessary to get it successfully off the ground?

Response:

No. Enbridge should be expected to continually explore and test new approaches to generating cost-effective efficiency savings. Such investments in new ideas are necessary to successfully evolving efficiency programming over time – particularly in the current Ontario context in which DSM plans cover fairly long time horizons (5 or 6 years or longer). It is not appropriate or practical to create shareholder incentives for participation for each potential new efficiency measure or program approach. Instead, such new approaches should be included in Enbridge's plans and, to the extent that they show promise for significant cost-effective savings in the future (once more fully developed and tested), there should be an expectation from the Board and other parties that Enbridge will follow through on their development and implementation unless and until they are shown to not be as effective as initially anticipated.

One other option is to set aside a portion of the DSM plan budget – e.g., 3% to 5% - for pilot programs for which savings are not counted towards goals for which shareholder incentives can be earned. In this way, utilities can test new program approaches – which often have significant costs to set up and which may not provide great savings yields per dollar spent until they reach a certain scale – without incentives to shift funds away from them to maximize shareholder earnings. The utility can then transition new initiatives from pilots to full scale programs for which savings are counted towards goals once they have been demonstrated to be good candidates for such a transition. In our view, this would be a much better approach than providing shareholder incentives for new programs.

We should emphasize that we support Enbridge testing strategic energy management and other program approaches designed to improve the energy efficiency of building or facility operation and maintenance practices by business customers. We just do not think that a separate shareholder incentive for them is appropriate.

Reference

Exhibit L.OEB Staff.1, p. 40

Preamble:

On p. 40 of Staff.1, Optimal states that Enbridge's proposed Savings by Design and Low Carbon Transition program performance metrics be modified to "savings metrics" (rather than participation and trade ally training metrics) "to allow the OEB and stakeholders assurance that these programs are contributing to the overall objectives of DSM."

Question(s):

(a) Is Optimal suggesting that there still be separate performance metrics for these programs, but that they just be modified to be savings metrics?

(b) If the answer to part "a" is "yes", why does Optimal believe it would be appropriate to retain any separate performance metrics for these programs? Why not simply let the results of these programs be captured in the primary net benefits metric Optimal has proposed?

Response

(a) This statement was intended to apply to the case where our recommendation to move to a net benefits metric is not adopted and the scorecard structure is left largely in place.

(b) See above. If our recommendation to move to a net benefits metric for 70% of the total is adopted, there still could be a case where a countervailing metric would be designed to encourage performance in a program that is underperforming or deemed particularly important.

Interrogatory from Building Owners and Managers Association

9d-BOMA-2-OEB Staff.1

Reference
Exhibit L.OEB Staff.1, p. v

Preamble:

Choice of Metrics Recommendation 7: "simplifying the performance incentive structure using a main metric based on net benefits for 70% of the incentive amount."

Question(s):

(a) Given that EGI has reported that only about 15% of annual savings are measured at the meter, should gas savings for commercial buildings included in net benefits be, to the greatest practical extent, verified at the meter?

(b) Given the increasing availability of publicly reported data for individual commercial market segments, should overall province-wide actual savings be included in net benefits?

Response

(a) We believe that current evaluation practices are sufficient. It is not clear whether greater emphasis on billing analysis would improve savings estimation accuracy.

(b) All savings in Enbridge territory that are attributable to Enbridge's efficiency programs should be included in net benefits.

Interrogatory from Building Owners and Managers Association

9d-BOMA-7-OEB Staff.1

Reference
Exhibit L.OEB Staff.1, p. 26

Preamble:

"In the 2015-2020 DSM Framework, the OEB expressed its interest in exploring a "pay-for-performance" structure, in which "both budget recovery and shareholder incentive payments would be included in one single rate ($/m3) and paid to the utility based on final net natural gas savings." This type of mechanism is very uncommon… and …we do not believe that this type of model is this best approach for Ontario. Most of the theoretical benefit of the pay-for-performance approach (encouraging aggressive efficiency savings and the pursuit of all cost-effective efficiency possible) can be achieved through thoughtful design of more traditional performance incentive mechanisms."

Question(s):

Please relate Enbridge's proposed Energy Performance program to this assessment and whether this recommendation applies to that program. If so, how would "thoughtful design" achieve the intended results of that program?

Response

The “pay for performance” structure referenced above relates to how Enbridge recovers its costs for running efficiency programs and earns a shareholder incentive. The proposed Energy Performance Program relates to how Enbridge gives incentives to its customers that install efficiency measures. These are two separate considerations, so the recommendation does not apply to that program.

Question(s):

(a) Would Optimal agree that the average cost of savings could potentially be reduced one of two ways: (1) adding spending addressing lower cost savings; and/or (2) shifting spending from higher cost savings such as whole building retrofits to lower cost programs?

(b) Which of the two approaches in "a" is Optimal recommending?

Response

(a) Yes, though we would add a third way – more delivery of the same measures and savings more cost-efficiently and/or reductions in administrative and other non-measure related costs.

(b) We would advocate for option 1 and 3. We would not advocate, for example, shifting spending on building envelope to items like low-flow showerheads.

Interrogatory from Building Owners and Managers Association

10c-BOMA-3-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. ii

Preamble:

Optimal Suite of Programs – Commercial Sector Recommendations 21 and 22: "Evaluate the effectiveness and extent of current account management for large and medium customers and encourage account managers to push to create multi-year Memoranda of Understanding outlining specific energy commitments. Alternatively, expand the Energy Performance (Whole Building P4P) program to include all large C&I customers; and Consider adding RCx/SEM/Energy Manager programs."

Question(s):

(a) Given the growing evidence that a substantial share of the achievable gas savings is to be found in improved building operations, maintenance and controls and that owners need technical support over a number of years to identify, implement and make permanent these savings, should these recommendations be merged into an integrated program offering with expanded account management, dedicated owner support, savings measured at the meter and full integration with the IESO?

(b) Is there any reason in your opinion that this type of programming could not be expanded into commercial office and retail segments (like the IESO's EPP)?

Response

(a) We think that this is a good idea.

(b) No, we think it can and should be expanded into these segments, especially in large offices and retail buildings.

Interrogatory from Building Owners and Managers Association

10c-BOMA-4-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. iii

Preamble:

Optimal Suite of Programs – Commercial Sector Recommendation 31: "Offer financial incentives on Commercial New Construction, in addition to training and workshops."

Question(s):

Given the growing evidence that many new buildings designed to exceed code fail to operate efficiently post construction, should part of the incentive be held back until design performance levels are achieved?

Response:

Yes, a portion of the incentive should be held back to ensure that the building is built as designed and that any other program requirements are met (including potentially a commissioning requirement).

Interrogatory from Environmental Defense

10c-ED-6-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. 23