

EB-2011-0327

UNION GAS LIMITED

SETTLEMENT AGREEMENT

January 31, 2012

EB-2011-0327

SETTLEMENT AGREEMENT

1/ AGREEMENT

This Settlement Agreement (“Agreement”) is for the consideration of the Ontario Energy Board (the “Board”) in its determination, under Docket No. EB-2011-0327 of the 2012 to 2014 Demand Side Management Plan for Union Gas Limited (“Union”).

On June 30, 2011, the Board issued a letter (the “Letter”) and the new Demand Side Management (“DSM”) Guidelines for Natural Gas Utilities (“Guidelines”) developed in the EB-2008-0346 proceeding. On September 23, 2011, Union filed an Application and evidence for its proposed 2012-2014 DSM Plan.

By Procedural Order No. 2 dated November 18, 2011, the Board scheduled a Settlement Conference to commence at 9:30 a.m. on December 19, 2011. As part of Procedural Order No. 2, the Board ordered that any settlement agreement that resulted from the Settlement Conference needed to be filed on or before Friday, January 20, 2012.

The Settlement Conference was duly convened, in accordance with Procedural Order No. 2. On December 19 and 20, 2011 parties attended the Settlement Conference. On December 20, 2011 the Parties agreed to continue the Settlement Conference on January 9, 2012. On January 16, 2012 Union filed a letter seeking an extension to the filing date of any settlement or partial settlement agreement from January 20, 2012 to January 27, 2012. The Board accepted Union’s request for an extension. The Settlement Conference concluded on January 20, 2012.

On January 26, 2012, Union filed a letter with the Board seeking a further extension to the filing date of any settlement or partial settlement agreement from January 27, 2012 to January 31, 2012. The Board accepted Union’s request for an extension.

In addition to Union, the following parties participated in the Settlement Conference:

Association of Power Producers of Ontario (“APPrO”)

BOMA Greater Toronto (“BOMA”)

Consumers Council of Canada (“CCC”)

Canadian Manufacturers & Exporters (“CME”)

Energy Probe Research Foundation (“Energy Probe”)

Federation of Rental-housing Providers of Ontario (“FRPO”)

Green Energy Coalition (“GEC”)

Industrial Gas Users Association (“IGUA”)

Low-Income Energy Network (“LIEN”)

London Property Management Association (“LPMA”)

Pollution Probe (“PP”)

School Energy Coalition (“SEC”)

Vulnerable Energy Consumers Coalition (“VECC”)

Union and the above parties are hereinafter referred to as the “Participating Parties”.

The following parties did not participate in the Settlement Conference and are not parties to this Agreement.

Enbridge Gas Distribution Company (“EGD”)

City of Kitchener

EnerQuality

The evidence in this proceeding (referred to here as the “Evidence”) consists of the Application including the updates to the Application, and Union’s responses to the interrogatories.

Appendices A and C to this Settlement Agreement are also included in the Evidence. References to the Evidence are provided in relation to each of the agreed items contained in the Agreement. Those Evidence references are not exhaustive, and each of the agreed items is supported by all of the Evidence.

With the exception of Pollution Probe, the Participating Parties explicitly request that the Board consider and accept this Settlement Agreement as a package. None of the matters in respect of which a settlement has been reached is severable. Numerous compromises were made by the Participating Parties with respect to various matters to arrive at this comprehensive Agreement. The distinct issues addressed in this proposal are intricately interrelated, and reductions or increases to the agreed-upon amounts may have financial consequences in other areas of this proposal which may be unacceptable to one or more of the Participating Parties. If the Board does not accept the Agreement in its entirety, including any partially settled issues, then there is no Agreement unless the Participating Parties agree that those portions of the Agreement that the Board does accept may continue as a valid settlement.

There are several issues referred to in this Agreement that are not settled. The Board’s determination of any of those issues will only affect settled issues when, and in the manner, that the Agreement expressly sets out.

It is further acknowledged and agreed that parties will not withdraw from this Agreement under any circumstances except as provided under Rule 32.05 of the Board's Rules of Practice and Procedure.

It is also acknowledged and agreed that this Agreement is without prejudice to parties re-examining these issues in any other proceeding provided that re-examination does not have the effect of varying the terms of this Agreement.

These settlement proceedings are subject to the rules relating to confidentiality and privilege contained in the Board's *Settlement Conference Guidelines*. The Participating Parties understand this to mean that the documents and other information provided (other than those attached as Appendix A to this Agreement), the discussion of each issue, the offers and counter-offers, and the negotiations leading to the settlement – or not – of each issue during the Settlement Conference are strictly confidential and without prejudice. None of the foregoing is admissible as evidence in this proceeding, or otherwise, with one exception: the need to resolve a subsequent dispute over the interpretation of any provision of this Settlement Agreement.

The role adopted by Board Staff in Settlement Conferences is set out on page 5 of the Board's Settlement Conference Guidelines. Although Board Staff is not a party to this Agreement, as noted in the Guidelines, "Board Staff who participate in the settlement conference are bound by the same confidentiality standards that apply to parties to the proceeding".

In this Agreement, scorecards have been expressed using the terms Lower Band, Target, and Upper Band to replace the terms 50%, 100% and 150% levels in the Guidelines and in the Application. This is a terminology change only and does not reflect a departure from the methodology to calculate the DSM incentive outlined in Section 11 of the Guidelines. The Lower Bands generally do not reflect 50% of Target, and Upper Bands do not reflect 150% of Target. In each case, Lower and Upper Bands have been agreed based on the views of the Participating Parties as to the appropriate range given the nature of the metric being measured. The terminology has been changed to reflect that more general approach to the ranges on the scorecards.

In this Agreement, and notwithstanding the terminology in the Guidelines, the Participating Parties have not included resource acquisition programs for Large Industrial T1/R100 customers in the Resource Acquisition scorecards or budgets. Where the term Resource Acquisition is used, it does not include programs for Large Industrial T1/R100 customers.

All parties acknowledge that some of the input assumptions contained in Union's DSM Plan Appendix H have not been approved by the Board, and no new Board approvals for input assumptions are being sought in this Application. All input assumptions that have not yet been approved by the Board will be considered in the manner set forth in the Stakeholder Engagement Agreement. The LRAM and DSM incentive amounts will be based on the best available information resulting from the evaluation and audit process of the same program year, also as outlined in the Stakeholder Engagement Agreement.

The form of the Agreement generally follows the major issues outlined in the prefiled evidence. As described above, the evidence supporting the agreement on each issue is cited in each section of the Agreement. Abbreviations will be used when identifying exhibit references. For example, Exhibit B1, Tab 4, Schedule 1, Page 1 will be referred to as B1/T4/S1/p. 1. The structure and presentation of the settled issues is consistent with settlement agreements which have been accepted by the Board in prior cases. The parties agree that this Agreement forms part of the record in this proceeding.

UNION DSM FRAMEWORK ISSUES

2/ BUDGET

2.1 BUDGET INCREASE FOR 2012 PER SUBSECTION 8.3 OF THE GUIDELINES

(Complete Settlement)

Evidence Reference: A/p.15-16; B1.5

The Guidelines, at Section 8, set a 2012 DSM budget for Union of \$27.355 million. Subsection 8.3 of the Guidelines provides that the 2012 budget may be increased by up to 10 percent, provided the funds are solely used to support Low-income programs. The Parties accept Union's proposal that the budget should be increased by 10 percent (resulting in an increase of \$2.736 million to a total of \$30.091 million) and, that the entire increase will be used to support the Low-income program.

Table 1 provides the annual DSM budget by Program for each year of the Plan prior to the addition of inflation. The cumulative inflation for each program year is provided to arrive at the total DSM budget post-inflation. For presentation purposes, the assumed inflation rate for 2012, 2013 and 2014 is 2.87%. For 2013 and 2014 inflation rate that will be applied will use the four quarter rolling average GDP-IPI inflation factor at Q2 of each year, released at the end of August. While the 2013 and 2014 Large Industrial Rate T1/Rate 100 Program budget is displayed for continuity it is not included in this Agreement. Table 1 supersedes the DSM Plan budget at EB-2011-0327, Exhibit A, Table 3, p. 19.

Table 1: 2012 – 2014 DSM Plan Budget

	Year		
	2012 (\$000)	2013 (\$000)	2014 (\$000)
Program Budget			
Resource Acquisition			
<i>Residential Incentives/Promotion</i>	\$ 2,567	\$ 2,567	\$ 2,567
<i>Residential Administration</i>	\$ 576	\$ 576	\$ 576
<i>Residential Evaluation</i>	\$ 20	\$ 20	\$ 20
Total Residential Program	\$ 3,163	\$ 3,163	\$ 3,163
<i>Commercial/Industrial Incentives/Promotion</i>	\$ 8,118	\$ 8,118	\$ 8,118
<i>Commercial/Industrial Administration</i>	\$ 2,682	\$ 2,682	\$ 2,682
<i>Commercial/Industrial Evaluation</i>	\$ 60	\$ 60	\$ 60
Total Commercial/Industrial Program	\$ 10,859	\$ 10,859	\$ 10,859
Total Resource Acquisition Programs	\$ 14,022	\$ 14,022	\$ 14,022
Large Industrial T1/R100			
<i>Large Industrial T1/R100 Incentives/Promotion</i>	\$ 3,587	\$ 3,587	\$ 3,587
<i>Large Industrial T1/R100 Administration</i>	\$ 907	\$ 907	\$ 907
<i>Large Industrial T1/R100 Evaluation</i>	\$ 40	\$ 40	\$ 40
Total Large Industrial T1/R100 Program	\$ 4,534	\$ 4,534	\$ 4,534
Low-Income			
<i>Low-Income Incentives/Promotion</i>	\$ 5,827	\$ 5,827	\$ 5,827
<i>Low-Income Administration</i>	\$ 972	\$ 972	\$ 972
<i>Low-Income Evaluation</i>	\$ 40	\$ 40	\$ 40
Low-Income Program	\$ 6,839	\$ 6,839	\$ 6,839
Market Transformation			
<i>New Home Efficiency Incentives/Promotion</i>	\$ 635	\$ 1,185	\$ 1,185
<i>New Home Efficiency Administration</i>	\$ 194	\$ 194	\$ 194
High Efficiency Residential New Build Program	\$ 829	\$ 1,379	\$ 1,379
Programs Sub-total	\$ 26,223	\$ 26,773	\$ 26,773
DWHR Sunset	\$ 550	\$ -	\$ -
Portfolio Budget			
Research	\$ 766	\$ 766	\$ 766
Evaluation	\$ 969	\$ 969	\$ 969
Administration	\$ 1,582	\$ 1,582	\$ 1,582
Total DSM Budget Pre-Inflation	\$ 30,091	\$ 30,091	\$ 30,091
Cumulative Inflation @2.87%	\$ 864	\$ 1,752	\$ 2,666
Total DSM Budget Post-Inflation	\$ 30,954	\$ 31,842	\$ 32,756

2.2 APPLICATION OF INFLATION FOR 2012

(No Settlement)

Evidence Reference: A/ p. 15-19; B1.1; B1.2; B9.1

Union has interpreted the Board's Guidelines to allow for the application of inflation to Union's 2011 DSM budget, increased by 10% for Low-income programming, to arrive at the 2012 DSM Budget.

An inflation factor calculated using the four quarter rolling average at Q1, 2011 of the Gross Domestic Product Implicit Price Index ("GDP-IPI") of 2.87% was applied to Union's pre-inflation DSM budget of \$30.091 million, resulting in an inflationary adjustment of \$0.864 million for 2012.

Not all of the Participating Parties agree that the Guidelines intend an inflationary adjustment to be applied for 2012, and therefore those Participating Parties have agreed that the Board should be asked to interpret the Guidelines with respect to this issue.

For the purposes of the Agreement, all targets have assumed a DSM budget of \$30.954 million.

In the event that the Board determines that the inflation factor should not be applied to 2012, then the 2012 Resource Acquisition, Large Industrial Rate T1/Rate 100 Resource Acquisition, and 2012 Low-income scorecard targets, including lower and upper bands, will be reduced by the 2.87% inflation factor, i.e. the targets will be multiplied by 0.9721 to get the revised targets.

By way of example, the Upper Band for 2012 Resource Acquisition cumulative m³ will be reduced from 1,032,500,000 m³ to 1,003,693,000 m³. The same mathematical adjustment will be

applied to the 2013 and 2014 Resource Acquisition Deep Savings – Residential targets and Low Income cumulative m³ targets. The Deep Savings – Commercial/Industrial targets would not be adjusted. The use of \$30.954 million as the assumption in this Agreement is not intended to suggest that it is more likely to be the correct number, and the positions of the Participating Parties on this issue shall not be prejudiced in any way by the use of this assumption for drafting and explanatory purposes.

2.3 2013 AND 2014 INFLATION FACTOR

(Complete Settlement)

Evidence Reference: A/p.15; B1.2

The Participating Parties accept Union’s proposal that, for 2013 and 2014, inflation will be calculated using the four quarter rolling average of the GDP-IPI inflation factor at Q2 of each year, and the budgets will be increased by that factor.

2.4 DRAIN WATER HEAT RECOVERY PROGRAM

(Complete Settlement)

Evidence Reference: B1.11

Union agrees to exit the Drain Water Heat Recovery (“DWHR”) market transformation program in 2012. The maximum budget attributable to the DWHR Program is \$0.550 million, which has not been included in the program budgets, but is instead treated as a separate, non-program component of the budget. The DWHR budget will be used to support commitments already

made to builders and other market participants as Union exits the DWHR program. The 2012 DWHR budget is isolated for the purpose of the 2012 DSM Plan and cannot be otherwise used for any other DSM activity. To the extent that Union does not require the full amount of \$0.550 million to exit the DWHR Program the difference between the DWHR budget and the actual spending will be credited to the Demand Side Management Variance Account (“DSMVA”) and will be disposed as part of Union’s disposition of its 2012 non-commodity related deferral accounts. Any overspending on DWHR, above the \$0.550 budget allocated, will not be recoverable from ratepayers.

2.5 EVALUATION BUDGET

(Complete Settlement)

Evidence Reference: A/p.19; B1.12; B4.3; B6.3; B12.1

The 2012 – 2014 evaluation budget of \$1.129 million per year, made up of \$0.969 million in general evaluation budget, and specific evaluation budgets totalling \$0.160 included in the Resource Acquisition, Large Industrial Rate T1/Rate 100 and Low Income budgets, is isolated for the purpose of the DSM Plan and cannot otherwise be used for any other DSM activity. To the extent that Union does not spend, in any year, the total evaluation budget, the difference between the evaluation budget and the actual spending will be credited to the DSMVA and will be disposed as part of Union’s annual disposition of its non-commodity related deferral accounts.

3/ DSM INCENTIVE

(No Settlement)

Evidence Reference: A/p.38; B1.10; B4.8; B4.9; B9.2; B11.18

The Agreement contemplates increasing the DSM budget set out in the Guidelines for Union by \$2.736 million (\$27.355 million x 10% increase) and to spend all of this increase on the Low-income Program. There is no settlement on the application of Section 11 of the Guidelines, “Incentive Payment” as to whether the maximum incentive available is also increased by 10%, to \$10.450 million, in proportion to the increase in the Low-income budget.

The Participating Parties have agreed to seek the Board’s interpretation of the Guidelines on these issues.

For the purposes of this Agreement, all calculations of incentives have assumed the maximum total incentive of \$10.450 million in 2012. The use of \$10.450 million as the assumption in this Agreement is not intended to suggest that it is more likely to be the correct number, and the positions of the Participating Parties on this issue shall not be prejudiced in any way by the use of this assumption for drafting and explanatory purposes. Should the Board determine that the incentive for 2012 is capped at \$9.500 million, Union may, at its discretion, decline to increase the budget for Low-income Programs by all or any portion of the \$2.736 million.

The Participating Parties acknowledge that if the Board finds that the DSM incentive is capped at \$9.500 million for 2012 and, as a result, Union reduces its Low-income budget to align with the lower incentive, two categories of adjustments will occur:

1. The Low-income scorecard targets shall be reduced proportionately. The Resource Acquisition, Large Industrial Rate and T1/Rate 100 Resource Acquisition and Market Transformation budgets and targets will not change.
2. The allocation of overhead will change. As a result, the DSM incentive allocation will be adjusted depending on the revised spending allocation across program types.

Table 2 displays the maximum shareholder financial incentive allocated to each scorecard based on the Program budget shares prior to the addition of the GDP-IPI. The Program budgets, and Programs Sub-total, align with the budget values presented in Table 1. While the 2013 and 2014 Large Industrial Rate T1/Rate 100 Program budget is displayed for continuity it is not included in this Agreement. A change in the 2013/2014 Large Industrial Rate T1/Rate 100 program budget may result in a change in the maximum Utility incentive by allocation for each scorecard for these years.

This table supersedes the DSM Plan Exhibit A, Table 8, p. 38.

Table 2: Maximum DSM Incentive Allocated to Each Scorecard Prior to Inflation

Scorecard	Year								
	2012			2013			2014		
	Budget	Budget Share	Max Utility Incentive	Budget	Budget Share	Max Utility Incentive	Budget	Budget Share	Max Utility Incentive
	(\$000)	%	(\$000)	(\$000)	%	(\$000)	(\$000)	%	(\$000)
Resource Acquisition	14,022	53.5%	5,588	14,022	52.4%	5,473	14,022	52.4%	5,473
Large Industrial T1/R100	4,534	17.3%	1,807	4,534	16.9%	1,769	4,534	16.9%	1,769
Low-Income	6,839	26.1%	2,725	6,839	25.5%	2,669	6,839	25.5%	2,669
Market Transformation	829 ⁽¹⁾	3.2%	330	1,379	5.2%	538	1,379	5.2%	538
Programs Sub-total	26,223	100.0%	10,450	26,773	100.0%	10,450	26,773	100.0%	10,450

⁽¹⁾ Does not include \$0.550 million budget for DWHR Sunset

4/ ALLOCATION OF LOW-INCOME PROGRAM COSTS AND OVERHEADS

(Complete Settlement)

Evidence References: A/p.17; B1.6; B3.2; B4.8; B9.2; B10.2

To allocate Low-income program costs and overheads to rate classes, Union will use its most recent Board-approved distribution revenue by rate class. For example, to allocate 2012 Low-income program costs and overheads Union will use 2012 distribution revenue from its EB-2011-0025 Rate proceeding (EB-2011-0025 Rate Order Working Papers, approved December 2, 2011). The allocation of Low-income program costs and overheads is provided at Appendix C.

5/ STAKEHOLDER TERMS OF REFERENCE

The Guidelines (page 42-43) contemplate the development of Terms of Reference for stakeholder engagement. Union and Enbridge Gas Distribution Inc. have entered into an agreement (the

“Stakeholder Engagement Agreement”) with stakeholders covering the period 2012 through 2014. For Union, the Stakeholder Engagement Agreement was filed with the Board for its consideration and approval on November 10, 2011, and is incorporated into this Agreement at Appendix B.

6/ RESOURCE ACQUISITION PROGRAM

(Partial Settlement)

Evidence Reference: A/p.19; A/p.24; A/Ap.A/p.15-17; A/Ap.A/p.36; B1.1; B1.7; B1.8; B4.9; B6.5; B6.13; B9.1; B9.3; B10.1; B11.10; B11.11; B11.18

The Participating Parties, except Pollution Probe, agree to a program budget of \$14.022 million for 2012 – 2014 related to Union’s Resource Acquisition programming. The budget of \$14.022 million includes program-specific evaluation, administration and overhead costs, but excludes inflation, general evaluation and research costs, and allocated overheads.

Parties acknowledge that if the Board finds that the increase in the DSM incentive related to the additional Low-income budget should not be approved and, as a result, Union reduces its Low-income budget to align with the lower incentive, the allocation of overheads will change.

Subject to the Board’s findings on Section 3 of this Agreement, the maximum incentive for the Resource Acquisition Scorecard in 2012 is 53.5% (\$14.022 million/\$26.233 million) of the maximum incentive of \$10.450 million. This equates to a maximum incentive of \$5.588 million for the Resource Acquisition scorecard.

Subject to the Board's findings on Section 3 of this Agreement, the maximum incentive for the Resource Acquisition Scorecard in 2013 and 2014 is 52.4% (\$14.022 million /\$26.773 million) of the maximum incentive of \$10.450 million. This equates to a maximum incentive of \$5.473 million for the Resource Acquisition scorecard.

Parties, except Pollution Probe, agree to the following Resource Acquisition scorecards for each of years 2012, 2013 and 2014.

The scorecard targets contained in this agreement supersede Union's DSM Plan Exhibit A, Table 4.

2012 Resource Acquisition Scorecard				
Metrics	Metric Target Levels			Weight
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings (m3)	619,500,000	826,000,000	1,032,500,000	90%
Deep Savings - Residential (homes)	120	160	200	5%
Deep Savings - Commercial/Industrial (% of baseline consumption)	4.00%	5.00%	6.00%	5%

2013 Resource Acquisition Scorecard				
Metrics	Metric Target Levels			Weight
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings (m3)	75% of Target	2012 Post-Audit Scorecard Cost Effectiveness (m3 per Promotion and Incentive Dollar Spent) times \$10.684M times 1.02	125% of Target	90%
Deep Savings - Residential (homes) ⁽¹⁾	2013 Target minus 50 homes	2012 Actual times 1.25	2013 Target plus 50 homes	5%
Deep Savings - Commercial/Industrial (% of baseline consumption)	The higher of: i) 2012 Actual ii) 4.5%	The higher of: i) 2012 Actual + 1% ii) 5.5%	The higher of: i) 2012 Actual + 2% ii) 6.5%	5%

⁽¹⁾ In the event the calculated 2013 Target (2012 Actual times 1.25) is lower than the 2012 Target (160 homes), the 2013 Metric Target Levels will become the 2012 targets (Lower Band: 120, Target:160, Upper Band: 200)

2014 Resource Acquisition Scorecard				
Metrics	Metric Target Levels			Weight
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings (m3)	75% of Target	2013 Post-Audit Scorecard Cost Effectiveness (m3 per Promotion and Incentive Dollar Spent) times \$10.684M times 1.02	125% of Target	90%
Deep Savings - Residential (homes) ⁽¹⁾	2014 Target minus 50 homes	2013 Actual times 1.25	2014 Target plus 50 homes	5%
Deep Savings - Commercial/Industrial (% of baseline consumption)	The higher of: i) 2013 Actual ii) 4.5%	The higher of: i) 2013 Actual + 1% ii) 5.5%	The higher of: i) 2013 Actual + 2% ii) 6.5%	5%

⁽¹⁾ In the event the calculated 2014 Target (2013 Actual times 1.25) is lower than the 2012 Target (160 homes), the 2014 Metric Target Levels will become the 2012 targets (Lower Band: 120, Target:160, Upper Band: 200)

For 2013 and 2014, the cumulative natural gas savings target will be determined by multiplying the previous year's Resource Acquisition Scorecard post-audit cost effectiveness (m³ per promotion and incentive dollar spent) by \$10.684 million (the current year's Resource Acquisition promotion and incentive budget prior to inflation). The result of the calculation will be further multiplied by 1.02 to arrive at the final cumulative natural gas savings targets for the year in question. For example, if in 2012 Union achieves 875,000,000 m³s (post-audit) on the cumulative natural gas savings metric and spent \$10.9 million in promotion and incentive costs within Resource Acquisition programs, the cost effectiveness would be 80.3 m³ per promotion and incentive dollar spent (875 million m³ divided by \$10.9 million). The 2012 cost effectiveness (80.3 m³/\$) would then be multiplied by the 2013 Resource Acquisition promotion and incentive budget of \$10.684 million (2013 Residential promotion and incentive budget plus 2013 Commercial/Industrial promotion and incentive budget, as per Table 1), results in a 2013 pre-adjusted cumulative natural gas savings of 857,925,200 m³. The 2013 pre-adjusted cumulative natural gas savings of \$857,925,200 m3 is further increased by 2% for a final 2013 cumulative

natural gas savings target of 875,083,703 m³. The Lower Band would be 656,312,778 m³ (75% of 875,083,703 m³) and the Upper Band would be 1,093,854,629 m³ (125% of 875,083,703 m³).

For 2013 and 2014, the Deep Savings – Residential Target will be determined by taking the previous year's Deep Savings – Residential result and multiplying it by 1.25. If by using this methodology the 2013 and/or 2014 Target is lower than the 2012 Target, then the Target, Lower Band, and Upper Band, will revert to the 2012 Target, Lower Band, and Upper Band. For example:

- a) If in 2012 Union achieves 180 homes on the Deep Savings – Residential Metric, the 2013 Target would be 225 homes (180 homes multiplied by 1.25). The Lower Band would be 175 homes (225 homes minus 50 homes) and the Upper Band would be 275 homes (225 homes plus 50 homes).
- b) If in 2012 Union achieves 120 homes on the Deep Savings – Residential Metric, the calculated 2013 Target would be below the 2012 Target (120 homes multiplied by 1.25 is 150 homes; 10 homes fewer than the 2012 Target of 160 homes). In this example, the 2013 Target, Lower Band, and Upper Band, would revert to the 2012 levels of 160 homes at the Target, 120 homes at the Lower Band, and 200 homes at the Upper Band.

For 2013 and 2014, the Deep Savings – Commercial/Industrial Target will be determined by taking the previous year's Deep Savings – Commercial/Industrial result and adding 1%. If by using this methodology the Target is less than 5.5%, then the Target will be 5.5%. The Lower Band will be the previous year's Deep Savings – Commercial/Industrial result. If the previous year's result is less than 4.5%, then the Lower Band will be 4.5%. The Upper Band will be

determined by taking the previous year's Deep Savings – Commercial/Industrial result and adding 2%. If by using this methodology the Upper Band is less than 6.5%, then the Upper Band will be 6.5%. For example:

- a) If in 2012 Union achieves 5.2% on the Deep Savings – Commercial/Industrial Metric, the 2013 Target would be 6.2% (5.2% plus 1%). The Lower Band would be 5.2% and the Upper Band would be 7.2% (5.2% plus 2%).
- b) If in 2012 Union achieves 4.3% on the Deep Savings – Commercial/Industrial Metric, the calculated 2013 Target would be below 5.5% (4.3% plus 1% is 5.3%). In this example, the 2013 Target would be 5.5%, the Lower Band would be 4.5% (since the 2012 result is only 4.3%), and the Upper Band would be 6.5% (since the 2012 result plus 2% would only be 6.3%).

With respect to Union's Resource Acquisition plan, parties, except Pollution Probe, further agree that:

1. Union will move the Integrated Energy Management Systems ("IEMS") initiative from the Market Transformation scorecard to the Resource Acquisition scorecard. The budget associated with IEMS is \$0.600 million. There are no cubic meters savings associated with the IEMS budget. The Participating Parties further agree that, at Union's sole discretion, Union may use the IEMS budget for other programs or activities. In the event that Union uses IEMS funds for other programs, the cumulative cubic meter scorecard figures for Resource Acquisition in 2012, including (lower band, target, and upper band, shall increase

by 150 m³ for every dollar shifted in excess of 50% of the 2012 IEMS budget (i.e. greater than \$0.300 million). For example:

- a) If in 2012 Union spends \$0.200 million on IEMS and spends \$0.400 million of the IEMS budget on the Commercial/Industrial Program, the 2012 Resource Acquisition targets will be adjusted. As Union has shifted \$0.100 million greater than 50% of the IEMS budget (\$0.400 million - \$0.300 million), the 2012 Resource Acquisition Lower Band, Target, and Upper Band will be increased by 15,000,000 m³ (150 m³ multiplied by \$100,000).
 - b) If in 2012 Union spends \$0.200 million on IEMS and spends \$0.300 million of the IEMS budget on the Commercial/Industrial Program, the 2012 Resource Acquisition targets will not be adjusted. Union has not shifted greater than 50% of the IEMS budget to other programs. The unspent \$0.100 million of the IEMS budget will be credited to the DSMVA.
 - c) If in 2012 Union spends \$0.300 million on IEMS and spends \$0.300 million of the IEMS budget on the Commercial/Industrial Program, the 2012 Resource Acquisition targets will not be adjusted. Union has not shifted greater than 50% of the IEMS budget to other programs.
2. Residential Deep Savings – Homes will be included for the purpose of the Residential Deep Savings scorecard metric, only if they a) achieve a minimum gas savings of 11,000 lifetime m³ (based on HOT2000 software used in EnerGuide mode), and, b) implement a minimum of 2 major measures. In addition the aggregate of all of the homes counted towards the Residential Deep Savings metric must achieve, on average, at least a 25% reduction in annual

gas usage for space and water heating (also based on HOT2000 software used in EnerGuide mode). The savings for any major measure that cannot be measured based on HOT2000 software will be based on the best available input assumptions at the time of the Audit. Free ridership and spillover will not be included in the calculations for this metric. The current major measures are:

- Heating system replacement
- Water heating system replacement
- Attic insulation
- Wall insulation
- Basement insulation
- Air sealing (minimum reduction of at least 10% as measured by a blower door)
- Window replacements
- Drain water heat recovery

Any measures in addition to those provided above will be determined by the Technical Evaluation Committee.

3. Commercial/Industrial Deep Savings targets will be based on the percentage of baseline consumption achieved within all Commercial/Industrial custom projects undertaken in the program year. This will be calculated by comparing the forecast weather normalized annual gas savings for all Commercial/Industrial custom projects against the actual weather normalized consumption of the participants in those projects for the immediately preceding

year. An example of the calculation, using 2010 projects, is annexed as Appendix D. For any Commercial/Industrial custom project, should a prescriptive measure be installed, the savings relating to that measure will be included for the purpose of calculating the normalized annual gas savings.

4. The Participating Parties, except Pollution Probe, have agreed that Union's ability to make budget changes within the overall Resource Acquisition budget, and to access DSMVA, will be restricted on a rate class basis. A shift in Resource Acquisition budget between rate classes shall be limited to an increase of 100% of the amount allocated to the rate class (includes the program budget, allocated portfolio budget and allocated Low-income costs). For example, if \$1.0 million of DSM costs are allocated to a rate class, Union is able to make budget changes or access DSMVA that cumulatively increase the resulting allocation to that rate class by \$1.0 million for a total rate class allocation of \$2.0 million, but no more. Union will notify intervenors in writing as soon as the company is aware (and, for 2013 and 2014, seek Board approval) should budget shifts and DSMVA access between rate classes exceed 100%. In recognition that Union does not have experience managing DSM spending at a rate class level, parties agree that for 2012 only, any amount in excess of 100% will be debited to the DSMVA and brought forward for disposition in Union's 2012 non-commodity deferral account disposition proceeding. The agreement to include any amounts in excess of the 100% in the DSMVA is without prejudice to the position any party may take as to the appropriateness of the recovery of the DSMVA. The 2012 allocation of Union's total DSM budget to rate classes is provided at Appendix C. For 2013 and 2014, Union will consult with the Participating Parties with respect to possible changes to the rate class allocation relative to the 2012 rate class allocation of Union's total DSM budget, if any.

5. Union will not add draft proofing materials to the Energy Savings Kits (“ESKs”) as originally proposed. Union will also on a best efforts basis reduce the number of ESKs distributed to customers as part of its Residential DSM programming over the term of the plan. The intention with this provision is, over time, to reduce reliance on ESKs to generate savings, and shift the emphasis in residential programming to other offerings.

7/ **LARGE INDUSTRIAL RATE T1 AND RATE 100 PROGRAM**

(Partial Settlement)

Evidence Reference:

A/p.19; A/p.26; A/Ap.A/p.52; B1.1; B1.7; B1.9; B4.9; B6.6; B6.13; B9.1; ; B9.3; B9.5; B10.1; B11.10; B11.11; B11.13; B11.14; B11.18

The Participating Parties, except Pollution Probe, agree to the following with respect to Large Industrial Rate T1 and Rate 100 DSM programming, for 2012 only;

1. Union’s Large Industrial Rate T1/Rate 100 program may include incentives for capital and O&M projects.
2. The Participating Parties rely on Union’s Evidence that the amount proposed to be included in 2012 rates for Rate T1 and Rate 100 related to DSM programming is \$5.095 million. This amount is inclusive of promotion and incentive costs (\$3.587 million), program salaries, employee expenses and program evaluation (\$0.947 million) and allocated overheads (\$0.562 million).

3. The Participating Parties acknowledge that if the Board finds that the increase in the DSM incentive related to the additional Low-income budget should not be approved and, as a result, Union reduces its Low-income budget to align with the lower incentive, the allocation of overheads will change.
4. The Participating Parties rely on Union's Evidence that the amount of \$5.095 million proposed to be included in rates for Rate T1 and Rate 100 excludes the allocation of Low-income DSM costs and inflation to Rate T1 and Rate 100.
5. The Participating Parties have agreed that, of the \$5.095 million, 70% shall be allocated to Rate T1 (\$3.567 million) and 30% shall be allocated to Rate 100 (\$1.529 million).
6. The 2012 Large Industrial Rate T1 and Rate 100 scorecard as agreed to by parties is presented below.

The scorecard targets contained in this agreement supersede Union's DSM Plan Exhibit A, Table 5.

2012 Large Industrial Rate T1/R100 Scorecard			
Metric	Metric Target Levels		
	Lower Band	Target	Upper Band
Cumulative Natural Gas Savings (m3)	750,000,000	1,000,000,000	1,250,000,000

7. The Participating Parties agree that the maximum incentive applicable to Rate T1 and Rate 100 is \$1.807 million. This equates to 17.3% of the maximum incentive of \$10.450 million. 17.3% represents the Large Industrial Rate T1 and Rate 100 program budget (\$4.534 million) as a percent of the Program Budget sub-total (\$26.223 million). The maximum incentive of \$1.806 million is subject to the Board's findings related to Section 3 of the Agreement.

8. At its sole discretion, Union may transfer a maximum of \$0.500 million of the program budget allocated to Rate T1 to Rate 100, or transfer a maximum of \$0.500 million of the program budget allocated to Rate 100 to Rate T1 (exclusive of the 15% allowable overspend). Union will not transfer budget dollars from any other part of the overall DSM budget of \$30.091 million into Rate T1 and Rate 100.
9. In the event that Union qualifies to access the 15% allowable overspend, Union will only access the overspend for the Large Industrial Rate T1/Rate 100 program up to a maximum of 15% of the budget allocated to the Large Industrial Rate T1/Rate 100 program, i.e. \$5.095 million. This maximum 15% overspend claim, which on \$5.095 million is \$0.764 million (not including inflation), may be allocated to programming for Rate T1, Rate 100, or any combination, at Union's discretion. The maximum total budget, including program budget, allocated overheads and 15% allowable overspend, which can be allocated to Rate T1 and Rate 100 is \$5.859 million (\$5.095 million plus \$0.764 million).
10. As a result of the above restrictions, the maximum budget, including program budget, allocated overheads and 15% allowable overspend, for Rate T1 in 2012 will be \$4.831 million (\$3.567 plus \$0.500 plus \$0.764). The maximum allocation of the DSM Incentive for Rate T1 is 82.4% (\$4.831 million divided by \$5.859 million) which equates to \$1.489 million (82.4% multiplied by \$1.807 million). The maximum budget for Rate 100 will be \$2.793 million (\$1.529 plus \$0.500 plus \$0.764). The maximum allocation of the DSM Incentive for Rate 100 is 47.7% (\$2.793 million divided by \$5.859 million) which equates to \$0.861 million (47.7% multiplied by \$1.807 million). The maximum total budget, including program budget, allocated overheads and 15% allowable overspend,

and DSM incentive for programs under the Large Industrial T1/R100 scorecard is \$7.666 million (\$5.095 plus \$1.807 plus \$0.764).

The above terms apply to 2012 only. The Participating Parties have agreed that the DSM Plan for 2013 and 2014 relating to Large Industrial Rate T1 Rate 100 will not be included in this Agreement, and Union hereby withdraws its requests for approvals of that part of its Plan as set forth in the Application. Union agrees to file a new application and evidence with the Board supporting a Large Industrial Rate T1 / Rate 100 DSM plan for 2013 and 2014 prior to September 1, 2012. Agreement to the 2012 DSM plan for T1 and Rate 100 is without prejudice to the position any party may have on Union's 2013 and 2014 Large Industrial Rate T1 and Rate 100 DSM application.

8/ **LOW-INCOME**

(Complete Settlement)

Evidence Reference:

A/p.19; A/p.28; A/Ap.A/p.69; B1.1; B1.5; B1.6; B1.7; B3.2; B4.9; B6.17; B6.18; B6.19; B8.1; B9.1; B9.3; B10.1; B10.2, B11.10; B11.11; B11.18; B12.5

For 2012 to 2014, the Participating Parties agree to a program budget of \$6.839 million related to Union's Low-income DSM programming. The budget amount of \$6.839 includes program-specific administration, evaluation, and overhead costs, but excludes inflation, general evaluation and research, and allocated overheads.

Parties acknowledge that if the Board finds that the increase in the DSM incentive related to the additional Low-income budget should not be approved and, as a result, Union reduces its Low-income budget to align with the lower incentive, the allocation of overheads will change.

Subject to the Board's findings on Section 3 of this agreement, the maximum incentive in 2012 for the Low-income scorecard is 26.1% (\$6.839 million / \$26.223 million) of the maximum incentive of \$10.450 million. This equates to a maximum incentive of \$2.725 million for the Low-income scorecard.

Subject to the Board's findings on Section 3 of this agreement, the maximum incentive for 2013 and 2014 for the Low-income scorecard is 25.5% (\$6.839 million / \$26.773 million) of the maximum incentive of \$10.450 million. This equates to a maximum incentive of \$2.669 million for the Low-income scorecard.

The Low-income scorecards for 2012, 2013 and 2014 as agreed to by the Participating Parties are provided below.

The scorecard targets contained in this agreement supersede Union's DSM Plan Exhibit A, Table 6.

2012 Low-income Scorecard				
Metric	Metric Target Levels			Weighting
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings from Single Family (m3) ⁽¹⁾⁽²⁾	20,600,000	30,000,000	37,500,000	65%
Cumulative Natural Gas Savings from Multi-Family (m3) ⁽³⁾	9,750,000	13,000,000	16,250,000	35%

Specific Terms for 2012 Low-income Scorecard

- (1) The maximum of cumulative m3 that can be claimed from the Helping Homes Conserve offering (i.e. low cost measures like showerheads, aerators, pipe wrap and thermostats) is the lesser of actual savings achieved from that program, and 7.7 million m3.
- (2) This metric measures lifetime cubic meters arising from the Helping Homes Conserve offering (basic measures) and the Home Retrofit offering (e.g. insulation upgrades).
- (3) This metric measures lifetime cubic meters arising from the Social and Assisted (or Market Rate) Housing Multi-Family offering, which includes prescriptive (e.g. condensing boilers) and custom measures.

2013 Low-income Scorecard				
Metric	Metric Target Levels			Weighting
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings from Single Family (m3) ⁽¹⁾⁽²⁾	19,500,000	26,000,000	32,500,000	60%
Cumulative Natural Gas Savings from Multi-Family (m3) ⁽³⁾	13,200,000	17,600,000	22,000,000	40%

Specific Terms for 2013 Low-income Scorecard

- (1) There is no Helping Homes Conserve offering as a stand-alone offering. Low cost measures like showerheads, aerators, pipe wrap and thermostats can only provide savings towards target if installed in homes receiving an audit.
- (2) This metric measures lifetime cubic meters arising from the Helping Homes Conserve offering in homes receiving an audit (basic measures) and the Home Retrofit offering (e.g. insulation upgrades).
- (3) This metric measures lifetime cubic meters arising from the Social and Assisted (or Market Rate) Housing Multi-Family offering, which includes prescriptive (e.g. condensing boilers) and custom measures.

2014 Low-income Scorecard				
Metric	Metric Target Levels			Weighting
	Lower Band	Target	Upper Band	
Cumulative Natural Gas Savings from Single Family (m3) ⁽¹⁾⁽²⁾	19,500,000	26,000,000	32,500,000	60%
Cumulative Natural Gas Savings from Multi-Family (m3) ⁽³⁾	13,200,000	17,600,000	22,000,000	40%

Specific Terms for 2014 Low-income Scorecard

- ⁽¹⁾ There is no Helping Homes Conserve offering as a stand-alone offering. Low cost measures like showerheads, aerators, pipe wrap and thermostats can only provide savings towards target if installed in homes receiving an audit.
- ⁽²⁾ This metric measures lifetime cubic meters arising from the Helping Homes Conserve offering in homes receiving an audit (basic measures) and the Home Retrofit offering (e.g. insulation upgrades).
- ⁽³⁾ This metric measures lifetime cubic meters arising from the Social and Assisted (or Market Rate) Housing Multi-Family offering, which includes prescriptive (e.g. condensing boilers) and custom measures.

With respect to Union's Low-income DSM Plan for 2012 – 2014, parties further agree;

1. In 2012, Union will exit the Helping Homes Conserve ("HHC") offering as a stand-alone offering.
2. Once the HHC offering has been exited, measures formerly associated with HHC may continue to be provided to customers receiving an audit as part of the Low-income Home Retrofit offering.
3. For any dwelling treated with the Home Retrofit offering, all cost effective measures (any measure with TRC of 0.7 or greater) must be offered.
4. For any dwelling treated with the Social and Assisted Housing Multi-Family offering incentives will be offered for all cost effective measures (any measures with TRC of 0.7 or greater).

5. The cumulative cubic meters claimed in the Social and Assisted Housing Multi-Family offering associated with Hot Water Conservation (“HWC”) shall not exceed 2.2 million m³ in any one program year.
6. Union will conduct research in 2012 into the viability of offering Low-income DSM programming to market rate multi-family buildings.
7. Union will track and report on Low-income DSM participation by geographic region (i.e., by community, town, municipality) in consultation with VECC and LIEN.

9/ MARKET TRANSFORMATION

(Complete Settlement)

Evidence Reference:

A/p.19; A/p.33-34; A/Ap.A/p.91-92; B1.1; B3.5; B4.9; B9.1; B9.3; B10.1, B11.11; B11.18; B12.9

For 2012, the Participating Parties agree to a program budget for Market Transformation initiatives of \$0.829 million, which excludes the \$0.550 million for the wind down of the Drain Water Heat Recovery program, dealt with in Section 4 of this Agreement. For each of 2013 and 2014, the Participating Parties agree to a program budget for Market Transformation initiatives of \$1.379 million. The budget amounts include program-specific administration, evaluation, and overhead costs, but exclude inflation, research and evaluation costs, and allocated overheads.

Parties acknowledge that if the Board finds that the increase in the DSM incentive related to the additional Low-income budget should not be approved and, as a result, Union reduces its Low-income budget to align with the lower incentive, the allocation of overheads will change.

Subject to the Board's findings on Section 3 of the agreement, the maximum incentive for the Market Transformation scorecard in 2012 is 3.2% (\$0.829 million / \$26.223 million) of the maximum incentive of \$10.45 million. This equates to a maximum incentive of \$0.330 for the Market Transformation scorecard.

Subject to the Board's findings on Section 3 of the Agreement, the maximum incentive for the Market Transformation scorecard for 2013 and 2014 is 5.2% (\$1.379 million / \$26.773 million) of the maximum incentive of \$10.450 million. This equates to a maximum incentive of \$0.538 million for the Market Transformation scorecard.

The Market Transformation scorecard as agreed to by parties is presented below.

The scorecard targets contained in this agreement supersede Union's DSM Plan Exhibit A, Table 7.

2012 Market Transformation Scorecard					
Program	Metric ⁽¹⁾	Metric Target Levels			Weight
		Lower Band	Target	Upper Band	
New Home Efficiency	Top 10 Builders Participating	1	2	4	50%
	Top 50 Builders Participating	5	8	15	50%

⁽¹⁾ Top builders based on number of housing starts in Union's franchise area in prior calendar year.

2013 Market Transformation Scorecard					
Program	Metric	Metric Target Levels			Weight
		Lower Band	Target	Upper Band	
New Home Efficiency	New Participating Builders ⁽¹⁾	6	8	15	60%
	Prototype Homes Built ⁽²⁾	20% of Participating Builders	30% of Participating Builders	40% of Participating Builders	40%

⁽¹⁾ Top 50 builders based on number of housing starts in Union's franchise area in prior calendar year.

⁽²⁾ Percentage of participating builders based on the total number of builders who have ever enrolled in the program.

2014 Market Transformation Scorecard					
Program	Metric	Metric Target Levels			Weight
		Lower Band	Target	Upper Band	
New Home Efficiency	New Participating Builders ⁽¹⁾	2	4	10	40%
	Prototype Homes Built ⁽²⁾	50% of Participating Builders	60% of Participating Builders	70% of Participating Builders	40%
	Homes Built (>20% above OBC 2012) by Participating Builders	3%	6%	9%	20%

⁽¹⁾ Top 50 builders based on number of housing starts in Union's franchise area in prior calendar year.

⁽²⁾ Percentage of participating builders based on the total number of builders who have ever enrolled in the program

New Participating Builders Metric

- A residential home builder that participates in the Union Gas New Home Efficiency Program by signing a Participation Contract in the program year.
- New builders to the program are measured on an incremental basis each year (a builder enrolled in the program in a prior year will not be counted toward the annual achievement of this metric).

Prototype Homes Built Metric

- A prototype home is a single home built to a 20% higher energy efficiency standard than the Ontario Building Code (OBC 2012) by participating builders.
- The home must have an activated gas service in order to be included in the metric

Homes Built (>20% above OBC 2012) By Participating Builders Metric

- Calculated as the percentage of homes built to a 20% higher energy efficiency standard than the Ontario Building Code (OBC 2012) in relation to the total number of homes built in a program year by actual participating builders who remain enrolled in the program

- The home must have an activated gas service in order to be included in the metric
 - In 2014 at Target, this is defined as 6% of the housing starts of the builders who remain enrolled in the program (for example 6 out of 100 homes will be built to the higher efficiency level)

10/ OTHER ISSUES

10.1 LOST REVENUE ADJUSTMENT MECHANISM VARIANCE ACCOUNT

(Complete Settlement)

Evidence Reference: A/p.38-39

The Participating Parties agree that, per the Guidelines, Union will continue the practice of truing up the actual impact of DSM activities using the lost revenue adjustment mechanism variance account (“LRAMVA”). For each measure implemented in any given month, the volumetric reductions for that month and the remaining months of the year will be calculated on a rate class basis. Those volumetric reductions will be multiplied by the volumetric distribution rate per m³ for the rate class for that year, to determine the amount of revenue lost.

The volumetric reductions for any year will be calculated using the best available information up to and including the time the audit for that year is finalized.

10.2 DEMAND SIDE MANAGEMENT VARIANCE ACCOUNT (DSMVA)

(Partial Settlement)

Evidence Reference: A/p.39-40; B9.6; B11.5; B11.19; B11.20

The Participating Parties, except Pollution Probe, agree that Union will track the variance between actual DSM spending by rate class relative to the DSM budget included in rates by rate class in the DSMVA. As outlined in section 6.4 of the Agreement, the DSMVA is restricted on a rate class basis to limit shifts in the Resource Acquisition budget to an increase of 100% of the amount allocated to rate classes. The 2012 allocation of Union's total DSM budget to rate classes is provided in Appendix C.

Union is eligible to recover up to an additional 15% above its annual Board-approved DSM budget through the DSMVA, subject to the following restrictions:

1. Union has achieved its overall weighted scorecard target on a pre-audited basis for one or more of its scorecards. The DSMVA will be used to produce results against any Program scorecard(s) which have achieved the overall weighted scorecard target.
2. Any incremental funding can only be used on Program expenses (i.e. promotion and incentive costs, not additional utility overheads).
3. The maximum allowable 2012 overspend for the Large Industrial Rate T1/Rate 100 program is \$0.764 million, not including inflation (15% of the pre-inflation \$5.095 million budget allocated to Rate T1 and Rate 100 customers). It may be allocated to programming for Rate T1, Rate 100, or any combination, at Union's discretion.

With the exception of the Low-income budget, the actual DSM spending will be calculated as follows. The DSM program costs will be calculated by rate class based on the total actual DSM spend by rate class. Customer incentives received are the only element tracked at a rate class level and they will be allocated based on the amount spent within each rate class. All other program costs not tracked at the rate class level, such as promotion and administrative costs, will be allocated by program (e.g. Residential, Commercial/Industrial), and assigned by rate class based on the percentage allocation of the customer incentive costs. All portfolio-level costs that cannot be attributed to an individual program, such as the support staff engaged in DSM evaluation and program tracking, will be allocated to a rate class based on the percentage allocation of the program costs by rate class.

The variance between the Low-income DSM budget included in rates and the actual amount spent on Low-income DSM Programming will be recovered in proportion to the most recent Board-approved distribution revenue by rate class.

10.3 DSM PROGRAM SCREENING

(Complete Settlement)

Evidence Reference: A/p.42

The Participating Parties agree that Union will use the TRC program screening rules set forth in the Guidelines, described in the Application at Exhibit A, p. 42.

10.4 AVOIDED COSTS

(Complete Settlement)

Evidence Reference: A/p.43

The Participating Parties agree that Union will continue to use the same methodology used by both Union and Enbridge since 2007 to calculate avoided costs for TRC screening purposes. The Weighted Average Cost of Capital (“WACC”) being used for 2012 is 7.9%. For each of 2013 and 2014, the WACC used will be the Board-approved WACC for the respective year.

1/ **IMPLEMENTATION OF IMPACTS TO RATE CLASSES AS A RESULT OF THE SETTLEMENT AGREEMENT**

Disposition of the difference between the DSM budgets included in 2012 rates through the EB-2011-0025 Settlement Agreement approved by the Board and the revised settled DSM budgets included in this Settlement Agreement (the “DSM Settlement Rate Impacts”) will be determined in conjunction with Union’s upcoming application to clear 2011 DSM related and other variances. Parties will be free to argue in that upcoming application the appropriate mechanism for disposition of the DSM Settlement Rate Impacts.

Filed: 2012-01-31
EB-2011-0327
Settlement Agreement
Appendix A

UNION RESPONSES TO INTERVENOR INFORMATION REQUESTS AND PRESENTATIONS
PROVIDED DURING THE EB-2011-0327 SETTLEMENT CONFERENCE

Rate T1 / Rate 100

- Historical Power Generator Projects -

Program Year	Power Gen Customer	Program Offering	Program Sub-Type	Type of Project	Cumulative m3's	Incentives Provided
1	2008 Customer A	Custom Incentives	O&M	Insulation	901,610	\$ 3,571
2	2009 Customer B	Custom Incentives	Process Improvements	Process Improvements	3,123,640	3,575
3	2009 Customer B	Custom Incentives	O&M	Insulation	49,520	195
4	2009 Customer C	Custom Incentives	Equipment	Heat Recovery	106,074,080	30,000
5	2009 Customer C	Custom Incentives	Equipment	Burner	1,514,120	21,014
6	2009 Customer D	Custom Incentives	O&M	Steam Trap	2,546,292	428
7	2010 Customer E	Custom Incentives	O&M	Steam Trap	6,533,933	46,671
8	2010 Customer E	Custom Incentives	Education	Education	27,045,403	1,688
9	2010 Customer D	Custom Incentives	O&M	Steam Trap	86,439	193,181
10	2010 Customer D	Custom Incentives	O&M	Gas Turbine	4,322	4,322
11	2010 Customer D	Custom Incentives	O&M	Insulation	263,600	659
12	2010 Customer D	Custom Incentives	Equipment	HVAC	90,750	454
13	2010 Customer F	Custom Incentives	O&M	Steam Trap	20,022,093	143,015
14	2010 Customer F	Custom Incentives	O&M	Steam Leak	12,860,470	91,861
15	2010 Customer F	Custom Incentives	Process Improvements	Process Improvements	818,484	13,641
16	2010 Customer F	Custom Incentives	Education	Education		729
17	2010 Customer F	Custom Incentives	Study	Study		1,913
18	2010 Customer F	Custom Incentives	Study	Study		6,000
19	2010 Customer F	Custom Incentives	Study	Study		4,927
20	2010 Customer G	Custom Incentives	O&M	Steam Leak	1,880,641	13,433
21	2010 Customer H	Custom Incentives	Process Improvements	Process Improvements	7,306,720	91,334
22	2010 Customer H	Custom Incentives	Process Improvements	Process Improvements	1,526,620	3,817
23	2010 Customer I	Custom Incentives	Study	Steam Trap	2,160,270	15,431
24	2010 Customer I	Custom Incentives	Study	Study		454
25	2010 Customer J	Custom Incentives	Study	Study		4,980
26	2010 Customer B	Custom Incentives	Process Improvements	Process Improvements	29,782,700	297,827
27	2010 Customer B	Custom Incentives	O&M	Steam Trap	5,620,293	40,145
28	2010 Customer A	Custom Incentives	Study	Study		3,750
29	2010 Customer C	Custom Incentives	Equipment	Gas Turbine	15,417,040	38,543
30	2010 Customer C	Custom Incentives	Equipment	Gas Turbine	15,417,040	38,543
31	2011 Customer C	Custom Incentives	Equipment	Heat Recovery	6,993,000	14,665
32	2011 Customer C	Custom Incentives	Equipment	Heat Recovery	10,348,600	40,000
33	2011 Customer K	Custom Incentives	Equipment	Heat Recovery	1,704,840	3,251
34	2011 Customer K	Custom Incentives	Equipment	Heat Recovery	1,045,520	9,472
35	2011 Customer K	Custom Incentives	Process Improvements	Process Improvements	15,378,600	6,771
36	2011 Customer J	Custom Incentives	Study	Study		10,000
37	2011 Customer J	Custom Incentives	Process Improvements	Process Improvements	54,972,340	23,552
38	2011 Customer F	Custom Incentives	O&M	Gas Turbine	20	1,868
39	2011 Customer K	Custom Incentives	Equipment	Heat Recovery	876,280	4,925
40	2011 Customer C	Custom Incentives	Equipment	Steam Efficiency	6,364,000	40,000
41	2011 Customer C	Custom Incentives	Equipment	Steam Trap addition	810,960	5,580
42	2011 Customer C	Custom Incentives	Equipment	Insulation	5,166,200	36,000
43	2011 Customer G	Custom Incentives	Study	Study		10,000
44	2011 Customer F	Custom Incentives	O&M	Steam Valve replacement	1,769,500	1,000
45	2011 Customer L	Custom Incentives	Process Improvements	Process Improvements	14,550,620	40,000
46	2011 Customer L	Custom Incentives	Process Improvements	Process Improvements	14,550,620	40,000
47	2011 Customer G	Custom Incentives	O&M	Steam Trap	2,191,007	1,616
48	2011 Customer G	Custom Incentives	O&M	Steam Leak	6,568,160	3,829
				Total	404,332,025	1,407,629

Question by Chris Neme provided through email on December 19, 2011

5. Regarding B6.16a: Regarding the participants from 2009 through 2011, how many were “repeat participants” (e.g. how many of the 22 participants in 2009 also had projects in 2008, participants how many of the 37 in 2010 also had projects in either 2008 or 2009 and how many of the 42 participants in 2011 also had projects in 2008, 2009 or 2010?), and how many were first timers in that four year period?
-

Union Response

This response is for all T1/R100's.

Regarding B6.16a: “Repeat participants” from 2009 through 2011 are:

- How many of the 22 participants in 2009 also had projects in 2008? 14
- How many of the 37 participants in 2010 also had projects in either 2008 or 2009? 27
- How many of the 42 participants in 2011 also had projects in 2008, 2009 or 2010? 38
- How many were first timers in that four year period?
 - 2009 – 8 were new
 - 2010 – 10 were new
 - 2011 – 4 were new

DSM Cost Allocation Methodology to Distribution Contract Rates

Rate Classes	Market	2011 Customer Incentives	2011 Program Costs	2011 Overhead (Salaries, Expenses, Research, Evaluation & Administration)	2011 Total
General Service - R01, M1	Residential Low-Income ⁽¹⁾	\$ 1,738,425	\$ 913,171	\$ 1,789,604	\$ 7,824,027
	Market Transformation	\$ 1,501,224	\$ 334,815		
		\$ 1,364,609	\$ 182,179		
General Service - R01, R10 M1, M2	Commercial	\$ 3,812,796	\$ 496,885	\$ 2,401,677	\$ 6,711,358
Distribution Contract - R20, R100, M4, M5, M7, T1	Industrial	\$ 7,807,300	\$ 687,588	\$ 2,806,311	\$ 11,301,199
Total		\$ 16,224,354	\$ 2,614,638	\$ 6,997,592	\$ 25,836,584

⁽¹⁾ Excludes 2011 Low-income Incremental DSM Plan

DSM Budget Allocated to Distribution Contract Rate Classes \$ 11,301,199

Distribution Contract Allocation	Net Volume Savings as of Dec 8th, 2011		Budget Allocated to DC Rate Classes
	10 ³ m ³	%	
R 20	4,189	3.33%	\$ 376,101
M4	7,190	5.71%	\$ 645,487
M5	13,387	10.63%	\$ 1,201,825
M7	11,658	9.26%	\$ 1,046,609
R100	11,008	8.74%	\$ 988,234
T1	78,451	62.32%	\$ 7,042,943
Total	125,883	100.00%	\$ 11,301,199
Total Rate T1 & Rate 100	89,458	71.06%	\$ 8,031,177

Program Level Comparison

2011 Comparison (Customer Incentive + Program Costs)	Rates Allocation	2011 Outlook
Residential	\$ 2,651,596	\$ 2,659,406
Low-Income	\$ 1,836,039	\$ 1,836,039
Market Transformation	\$ 1,546,788	\$ 1,546,788
Commercial	\$ 4,309,681	\$ 4,369,267
Industrial (incl. T1/R100)	\$ 8,494,888	\$ 8,435,202
Total	\$ 18,838,992	\$ 18,846,702

DSM Cost Allocation Methodology to Distribution Contract Rates

Rate Classes	Market	2011 Customer Incentives	2011 Program Costs	2011 Overhead (Salaries, Expenses, Research, Evaluation & Administration)	2011 Total
General Service	Residential Low-income ⁽¹⁾	\$ 1,738,425	\$ 913,171	\$ 1,789,604	\$ 7,824,027
	Market Transformation	\$ 1,501,224	\$ 334,815		
		\$ 1,364,609	\$ 182,179		
General Service - R01, R10 M1, M2	Commercial	\$ 3,812,796	\$ 496,885	\$ 2,401,677	\$ 6,711,358
Distribution Contract - R20, R100, M4, M5, M7, T1	Industrial	\$ 7,807,300	\$ 687,588	\$ 2,806,311	\$ 11,301,199
Total		\$ 16,224,354	\$ 2,614,638	\$ 6,997,592	\$ 25,836,584

⁽¹⁾ Excludes 2011 Low-income Incremental DSM Plan

DSM Budget Allocated to Distribution Contract Rate Classes \$ 11,301,199

Distribution Contract Allocation	Net Volume Savings as		Rate Classes	
	10 ³ m ³	%		
R 20	4,189	3.33%	\$	376,101
M4	7,190	5.71%	\$	645,487
M5	13,387	10.63%	\$	1,201,825
M7	11,658	9.26%	\$	1,046,609
R100	11,008	8.74%	\$	988,234
T1	78,451	62.32%	\$	7,042,943
Total				
	125,883	100.00%	\$	11,301,199
Total Rate T1 & Rate 100	89,458	71.06%	\$	8,031,177

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast and 2012 Plan

Line No.	Particulars	2009						Total 2009 (l) = (g+h+i+j+k)	Variance 2009 vs. 2008 (l - f)
		Direct DSM in Rates (g)	Indirect DSM (h)	DSMVA in Deferrals (3) (i)	SSM in Deferrals (4) (j)	LRAM in Deferrals (3) (k)			
<u>Delivery North</u>									
1	Rate 100								
2	Revenue (\$000's)	1,699	264	254	1,714	46	3,977	(547)	
3	Volumes (10 ³ m ³)	2,281,152	2,281,152	2,281,152	2,281,152	2,281,152	2,281,152	(25)	
4	Average rate (cents / m ³)	0.0745	0.0116	0.0111	0.0751	0.0020	0.1743	(0.0240)	
	Average rate (\$ / GJ)	0.020	0.003	0.003	0.020	0.001	0.046	(0.006)	
<u>Delivery South</u>									
5	Rate T1								
6	Revenue (\$000's)	1,194	187	1,963	2,241	29	5,615	1,626	
7	Volumes (10 ³ m ³)	4,871,937	4,871,937	4,871,937	4,871,937	4,871,937	4,871,937	(11,110)	
8	Average rate (cents / m ³)	0.0245	0.0038	0.0403	0.0460	0.0006	0.1152	0.0336	
	Average rate (\$ / GJ)	0.006	0.001	0.011	0.012	0.000	0.031	0.009	

(3) Reflects the deferral account balance disposed of in EB-2010-0039, effective October 1, 2010.

(4) Reflects the audited 2009 SSM amount.

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast and 2012 Plan

Line No.	Particulars	2010						Variance 2010 vs. 2009 (r - l)
		Direct DSM in Rates (m)	Indirect DSM (n)	DSMVA in Deferrals (5) (o)	SSM in Deferrals (5) (p)	LRAM in Deferrals (5) (q)	Total 2010 (r) = (m+n+o+p+q)	
<u>Delivery North</u>								
1	Rate 100							
2	Revenue (\$000's)	1,896	264	541	1,589	66	4,356	379
3	Volumes (10 ³ m ³)	2,271,427	2,271,427	2,271,427	2,271,427	2,271,427	2,271,427	(9,725)
4	Average rate (cents / m ³)	0.0835	0.0116	0.0238	0.0699	0.0029	0.1918	0.0174
	Average rate (\$ / GJ)	0.022	0.003	0.006	0.019	0.001	0.051	0.005
<u>Delivery South</u>								
5	Rate T1							
6	Revenue (\$000's)	1,332	187	1,012	1,264	35	3,831	(1,784)
7	Volumes (10 ³ m ³)	4,853,733	4,853,733	4,853,733	4,853,733	4,853,733	4,853,733	(18,204)
8	Average rate (cents / m ³)	0.0274	0.0039	0.0208	0.0260	0.0007	0.0789	(0.0363)
	Average rate (\$ / GJ)	0.007	0.001	0.006	0.007	0.000	0.021	(0.010)

(5) Reflects the deferral account balance as filed in EB-2011-0038.

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast and 2012 Plan

Line No.	Particulars	2011						Variance 2011 vs. 2010 (x - r)
		Direct DSM in Rates (s)	Indirect DSM (t)	DSMVA in Deferrals (u)	SSM in Deferrals (v)	LRAM in Deferrals (w)	Total 2011 (x) = (s+t+u+v+w)	
<u>Delivery North</u>								
1	Rate 100							
2	Revenue (\$000's)	2,112	264	(1,387)	747	84	1,820	(2,536)
3	Volumes (10 ³ m ³)	2,254,074	2,254,074	2,254,074	2,254,074	2,254,074	2,254,074	(17,353)
4	Average rate (cents / m ³)	0.0937	0.0117	(0.0615)	0.0332	0.0037	0.0807	(0.1110)
	Average rate (\$ / GJ)	0.025	0.003	(0.016)	0.009	0.001	0.021	(0.029)
<u>Delivery South</u>								
5	Rate T1							
6	Revenue (\$000's)	1,484	187	5,372	3,862	66	10,971	7,140
7	Volumes (10 ³ m ³)	4,827,587	4,827,587	4,827,587	4,827,587	4,827,587	4,827,587	(26,146)
8	Average rate (cents / m ³)	0.0307	0.0039	0.1113	0.0800	0.0014	0.2273	0.1483
	Average rate (\$ / GJ)	0.008	0.001	0.029	0.021	0.000	0.060	0.039

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast and 2012 Plan

Line No.	Particulars	2012					Variance 2012 vs. 2011 (ac - x)
		Budget DSM	Budget Low-Income	Subtotal	Budget DSM Incentive at 100%	Total 2012	
		(y)	(z)	(aa) = (y+z)	(ab)	(ac) = (aa+ab)	
<u>Delivery North</u>							
1	Rate 100						
2	Revenue (\$000's)	1,234	222	1,456	167	1,623	(197)
3	Volumes (10 ³ m ³)	2,219,052	2,219,052	2,219,052	2,219,052	2,219,052	(35,022)
4	Average rate (cents / m ³)	0.0556	0.0100	0.0656	0.0075	0.0731	(0.0076)
	Average rate (\$ / GJ)	0.015	0.003	0.017	0.002	0.019	(0.002)
<u>Delivery South</u>							
5	Rate T1						
6	Revenue (\$000's)	2,478	505	2,984	335	3,318	(7,653)
7	Volumes (10 ³ m ³)	4,794,769	4,794,769	4,794,769	4,794,769	4,794,769	(32,818)
8	Average rate (cents / m ³)	0.0517	0.0105	0.0622	0.0070	0.0692	(0.1581)
	Average rate (\$ / GJ)	0.014	0.003	0.016	0.002	0.018	(0.042)

UNION GAS LIMITED
Rate Class impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast

Line No.	Particulars	2008					Total 2008 (f) = (a+b+c+d+e)
		Direct DSM in Rates (1) (a)	Indirect DSM (b)	DSMVA in Deferrals (2) (c)	SSM in Deferrals (3) (d)	LRAM in Deferrals (4) (e)	
<u>Delivery North</u>							
1	R01 Revenue (\$000's)	1,877	111	(209)	453	(54)	1,979
2	Volumes (10 ³ m ³)	883,524	883,524	883,524	883,524	883,524	883,524
3	Average rate (cents / m ³)	0.1898	0.0126	(0.0236)	0.0513	(0.0061)	0.2240
4	Average rate (\$ / GJ) (17)	0.050	0.003	(0.006)	0.014	(0.002)	0.059
5	R10 Revenue (\$000's)	1,441	101	(580)	330	194	1,466
6	Volumes (10 ³ m ³)	377,532	377,532	377,532	377,532	377,532	377,532
7	Average rate (cents / m ³)	0.3817	0.0267	(0.1537)	0.0874	0.0514	0.3935
8	Average rate (\$ / GJ) (17)	0.101	0.007	(0.041)	0.023	0.014	0.104
9	R20 Revenue (\$000's)	941	169	(739)	123	(22)	472
10	Volumes (10 ³ m ³)	529,033	529,033	529,033	529,033	529,033	529,033
11	Average rate (cents / m ³)	0.1779	0.0319	(0.1396)	0.0232	(0.0042)	0.0892
12	Average rate (\$ / GJ) (17)	0.047	0.008	(0.037)	0.006	(0.001)	0.024
13	R100 Revenue (\$000's)	1,521	264	(241)	2,988	(8)	4,523
14	Volumes (10 ³ m ³)	2,281,177	2,281,177	2,281,177	2,281,177	2,281,177	2,281,177
15	Average rate (cents / m ³)	0.0667	0.0116	(0.0106)	0.1310	(0.0004)	0.1983
16	Average rate (\$ / GJ) (17)	0.018	0.003	(0.003)	0.035	(0.000)	0.053
<u>Delivery South</u>							
17	M1 Revenue (\$000's)	5,840	318	3,774	2,030	176	11,938
18	Volumes (10 ³ m ³)	2,811,868	2,811,868	2,811,868	2,811,868	2,811,868	2,811,868
19	Average rate (cents / m ³)	0.2006	0.0113	0.1342	0.0722	0.0062	0.4246
20	Average rate (\$ / GJ) (17)	0.053	0.003	0.036	0.019	0.002	0.112
21	M2 Revenue (\$000's)	2,337	132	(727)	668	(618)	1,792
22	Volumes (10 ³ m ³)	1,089,154	1,089,154	1,089,154	1,089,154	1,089,154	1,089,154
23	Average rate (cents / m ³)	0.2146	0.0121	(0.0667)	0.0613	(0.0568)	0.1646
24	Average rate (\$ / GJ) (17)	0.057	0.003	(0.018)	0.016	(0.015)	0.044
25	M4 Revenue (\$000's)	1,721	303	(882)	286	(125)	1,202
26	Volumes (10 ³ m ³)	474,128	474,128	474,128	474,128	474,128	474,128
27	Average rate (cents / m ³)	0.3630	0.0638	(0.2072)	0.0603	(0.0264)	0.2535
28	Average rate (\$ / GJ) (17)	0.096	0.017	(0.055)	0.016	(0.007)	0.067
29	M5A Revenue (\$000's)	-	-	588	420	43	1,051
30	Volumes (10 ³ m ³)	388,914	388,914	388,914	388,914	388,914	388,914
31	Average rate (cents / m ³)	-	-	0.1512	0.1080	0.0109	0.2701
32	Average rate (\$ / GJ) (17)	-	-	0.040	0.029	0.003	0.072
33	M7 Revenue (\$000's)	654	115	(654)	1	(14)	102
34	Volumes (10 ³ m ³)	282,777	282,777	282,777	282,777	282,777	282,777
35	Average rate (cents / m ³)	0.2313	0.0407	(0.2313)	0.0004	(0.0049)	0.0361
36	Average rate (\$ / GJ) (17)	0.061	0.011	(0.061)	0.000	(0.001)	0.010
37	T1 Revenue (\$000's)	1,068	187	1,328	1,397	8	3,988
38	Volumes (10 ³ m ³)	4,883,047	4,883,047	4,883,047	4,883,047	4,883,047	4,883,047
39	Average rate (cents / m ³)	0.0219	0.0038	0.0272	0.0286	0.0002	0.0817
40	Average rate (\$ / GJ) (17)	0.006	0.001	0.007	0.008	0.000	0.022
41	TOTAL REVENUE	17,000	1,700	1,559	8,696	(421)	28,534

Notes:

- (1) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (a).
- (2) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (c).
- (3) EB-2010-0039, Exhibit A, Tab 1, Schedule 4, Column (a).
- (4) EB-2009-0052, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (5) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (a).
- (6) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (c).
- (7) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (a).
- (8) EB-2010-0039, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (9) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (a).
- (10) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (c).
- (11) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (f).
- (12) EB-2011-0038, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (13) DSM Costs in 2011 Rates.
- (14) Outlook DSMVA as of Dec. 13, 2011
- (15) Outlook SSM as of Dec. 13, 2011
- (16) LRAM revenue forecast as of Dec. 13, 2011
- (17) Conversion to GJ's based on Heat Value of 37.75 GJ / 10³m³

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast

Line No.	Particulars	2009					Total 2009 (f) = (g+h+i+j+k)
		Direct DSM in Rates (5)	Indirect DSM	DSMVA in Deferrals (6)	SSM in Deferrals (7)	LRAM in Deferrals (8)	
		(g)	(h)	(i)	(j)	(k)	
Delivery North							
1	R01 Revenue (\$000's)						
2	Volumes (10 ³ m ³)	1,856	111	(344)	341	393	2,357
3	Average rate (cents / m ³)	875.695	875.695	875.695	875.695	875.695	875.695
4	Average rate (\$ / GJ) (17)	0.2119	0.0127	(0.0393)	0.0390	0.0449	0.2692
		0.056	0.003	(0.010)	0.010	0.012	0.071
5	R10 Revenue (\$000's)						
6	Volumes (10 ³ m ³)	1,595	101	(140)	538	358	2,451
7	Average rate (cents / m ³)	378.239	378.239	378.239	378.239	378.239	378.239
8	Average rate (\$ / GJ) (17)	0.4217	0.0267	(0.0370)	0.1422	0.0945	0.6481
		0.112	0.007	(0.010)	0.038	0.025	0.172
9	R20 Revenue (\$000's)						
10	Volumes (10 ³ m ³)	1,052	169	(780)	322	12	778
11	Average rate (cents / m ³)	532.305	532.305	532.305	532.305	532.305	532.305
12	Average rate (\$ / GJ) (17)	0.1976	0.0317	(0.1465)	0.0606	0.0023	0.1457
		0.052	0.008	(0.039)	0.016	0.001	0.039
13	R100 Revenue (\$000's)						
14	Volumes (10 ³ m ³)	1,699	264	254	1,714	46	3,977
15	Average rate (cents / m ³)	2,281.152	2,281.152	2,281.152	2,281.152	2,281.152	2,281.152
16	Average rate (\$ / GJ) (17)	0.0745	0.0116	0.0111	0.0751	0.0020	0.1743
		0.020	0.003	0.003	0.020	0.001	0.046
Delivery South							
17	M1 Revenue (\$000's)						
18	Volumes (10 ³ m ³)	6,236	318	4,239	1,635	955	13,383
19	Average rate (cents / m ³)	2,795.763	2,795.763	2,795.763	2,795.763	2,795.763	2,795.763
20	Average rate (\$ / GJ) (17)	0.2231	0.0114	0.1516	0.0585	0.0341	0.4787
		0.059	0.003	0.040	0.015	0.009	0.127
21	M2 Revenue (\$000's)						
22	Volumes (10 ³ m ³)	2,584	132	(1,997)	1,066	390	2,176
23	Average rate (cents / m ³)	1,083.376	1,083.376	1,083.376	1,083.376	1,083.376	1,083.376
24	Average rate (\$ / GJ) (17)	0.2385	0.0122	(0.1843)	0.0984	0.0360	0.2008
		0.063	0.003	(0.049)	0.026	0.010	0.053
25	M4 Revenue (\$000's)						
26	Volumes (10 ³ m ³)	1,923	303	(1,756)	340	77	887
27	Average rate (cents / m ³)	479.238	479.238	479.238	479.238	479.238	479.238
28	Average rate (\$ / GJ) (17)	0.4013	0.0631	(0.3664)	0.0710	0.0160	0.1850
		0.106	0.017	(0.097)	0.019	0.004	0.049
29	M5A Revenue (\$000's)						
30	Volumes (10 ³ m ³)	-	-	747	427	132	1,306
31	Average rate (cents / m ³)	388.276	388.276	388.276	388.276	388.276	388.276
32	Average rate (\$ / GJ) (17)	-	-	0.1924	0.1099	0.0340	0.3363
		-	-	0.051	0.029	0.009	0.089
33	M7 Revenue (\$000's)						
34	Volumes (10 ³ m ³)	731	115	(718)	126	2	257
35	Average rate (cents / m ³)	281.915	281.915	281.915	281.915	281.915	281.915
36	Average rate (\$ / GJ) (17)	0.2593	0.0408	(0.2547)	0.0448	0.0008	0.0910
		0.069	0.011	(0.067)	0.012	0.000	0.024
37	T1 Revenue (\$000's)						
38	Volumes (10 ³ m ³)	1,194	187	1,963	2,241	29	5,615
39	Average rate (cents / m ³)	4,871.937	4,871.937	4,871.937	4,871.937	4,871.937	4,871.937
40	Average rate (\$ / GJ) (17)	0.0245	0.0038	0.0403	0.0460	0.0006	0.1152
		0.006	0.001	0.011	0.012	0.000	0.031
41	TOTAL REVENUE	18,870	1,700	1,466	8,751	2,394	33,184

Notes:

- (1) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (a)
- (2) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (c)
- (3) EB-2010-0039, Exhibit A, Tab 1, Schedule 4, Column (a)
- (4) EB-2009-0052, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (5) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (a)
- (6) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (c)
- (7) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (a)
- (8) EB-2010-0039, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (9) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (a)
- (10) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (c)
- (11) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (f)
- (12) EB-2011-0038, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (13) DSM Costs in 2011 Rates
- (14) Outlook DSMVA as of Dec. 13, 2011.
- (15) Outlook SSM as of Dec. 13, 2011.
- (16) LRAM revenue forecast as of Dec. 13, 2011
- (17) Conversion to GJ's based on Heat Value of 37.75 GJ / 10³m³

UNION GAS LIMITED
Rate Class impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast

Line No.	Particulars	2010					Total 2010 (r) = (m+n+o+p+q)
		Direct DSM in Rates (9) (m)	Indirect DSM (n)	DSMVA in Deferrals (10) (o)	SSM in Deferrals (11) (p)	LRAM in Deferrals (12) (q)	
Delivery North							
1	R01 Revenue (\$000's)						
2	Volumes (10 ³ m ³)	2,053	111	(528)	174	302	2,112
3	Average rate (cents / m ³)	873,086	873,086	873,086	873,086	873,086	873,086
4	Average rate (\$ / GJ) (17)	0.2351	0.0127	(0.0605)	0.0199	0.0346	0.2419
		0.062	0.003	(0.016)	0.005	0.009	0.064
5	R10 Revenue (\$000's)						
6	Volumes (10 ³ m ³)	1,765	101	(1,448)	60	402	862
7	Average rate (cents / m ³)	400,382	400,382	400,382	400,382	400,382	400,382
8	Average rate (\$ / GJ) (17)	0.4408	0.0252	(0.3612)	0.0151	0.1005	0.2204
		0.117	0.007	(0.096)	0.004	0.027	0.058
9	R20 Revenue (\$000's)						
10	Volumes (10 ³ m ³)	1,174	189	(822)	319	28	668
11	Average rate (cents / m ³)	530,788	530,788	530,788	530,788	530,788	530,788
12	Average rate (\$ / GJ) (17)	0.2212	0.0318	(0.1549)	0.0600	0.0053	0.1635
		0.059	0.008	(0.041)	0.018	0.001	0.043
13	R100 Revenue (\$000's)						
14	Volumes (10 ³ m ³)	1,896	284	541	1,589	86	4,356
15	Average rate (cents / m ³)	2,271,427	2,271,427	2,271,427	2,271,427	2,271,427	2,271,427
16	Average rate (\$ / GJ) (17)	0.0835	0.0116	0.0238	0.0699	0.0029	0.1918
		0.022	0.003	0.006	0.019	0.001	0.051
Delivery South							
17	M1 Revenue (\$000's)						
18	Volumes (10 ³ m ³)	6,891	318	3,108	860	733	11,910
19	Average rate (cents / m ³)	2,765,410	2,765,410	2,765,410	2,765,410	2,765,410	2,765,410
20	Average rate (\$ / GJ) (17)	0.2492	0.0115	0.1124	0.0311	0.0265	0.4307
		0.066	0.003	0.030	0.008	0.007	0.114
21	M2 Revenue (\$000's)						
22	Volumes (10 ³ m ³)	2,856	132	(1,585)	544	593	2,540
23	Average rate (cents / m ³)	1,073,198	1,073,198	1,073,198	1,073,198	1,073,198	1,073,198
24	Average rate (\$ / GJ) (17)	0.2661	0.0123	(0.1477)	0.0507	0.0553	0.2367
		0.070	0.003	(0.039)	0.013	0.015	0.063
25	M4 Revenue (\$000's)						
26	Volumes (10 ³ m ³)	2,146	303	(1,886)	467	56	1,088
27	Average rate (cents / m ³)	473,628	473,628	473,628	473,628	473,628	473,628
28	Average rate (\$ / GJ) (17)	0.4531	0.0639	(0.3982)	0.0986	0.0123	0.2297
		0.120	0.017	(0.105)	0.026	0.003	0.061
29	M5A Revenue (\$000's)						
30	Volumes (10 ³ m ³)	-	-	632	382	149	1,144
31	Average rate (cents / m ³)	383,809	383,809	383,809	383,809	383,809	383,809
32	Average rate (\$ / GJ) (17)	-	-	0.1647	0.0944	0.0389	0.2980
		-	-	0.044	0.025	0.010	0.079
33	M7 Revenue (\$000's)						
34	Volumes (10 ³ m ³)	816	115	(46)	516	17	1,418
35	Average rate (cents / m ³)	281,914	281,914	281,914	281,914	281,914	281,914
36	Average rate (\$ / GJ) (17)	0.2895	0.0408	(0.0163)	0.1831	0.0060	0.5030
		0.077	0.011	(0.004)	0.048	0.002	0.133
37	T1 Revenue (\$000's)						
38	Volumes (10 ³ m ³)	1,332	187	1,012	1,264	35	3,831
39	Average rate (cents / m ³)	4,853,733	4,853,733	4,853,733	4,853,733	4,853,733	4,853,733
40	Average rate (\$ / GJ) (17)	0.0274	0.0039	0.0208	0.0260	0.0007	0.0789
		0.007	0.001	0.006	0.007	0.000	0.021
41	TOTAL REVENUE	20,929	1,700	(1,020)	6,156	2,384	30,149

Notes:

- (1) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (a)
- (2) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (c)
- (3) EB-2010-0039, Exhibit A, Tab 1, Schedule 4, Column (a)
- (4) EB-2009-0052, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (5) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (a)
- (6) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (c)
- (7) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (a)
- (8) EB-2010-0039, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (9) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (a)
- (10) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (c)
- (11) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (f)
- (12) EB-2011-0038, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c)
- (13) DSM Costs in 2011 Rates
- (14) Outlook DSMVA as of Dec 13, 2011
- (15) Outlook SSM as of Dec 13, 2011
- (16) LRAM revenue forecast as of Dec 13, 2011
- (17) Conversion to GJ's based on Heat Value of 37.75 GJ / 10³m³

UNION GAS LIMITED
Rate Class Impacts of DSM
2008, 2009, 2010 Actual versus 2011 Forecast

Line No	Particulars	2011					Total 2011 (x) = (s+t+u+v+w)
		Direct DSM in Rates (13) (s)	Indirect DSM (t)	DSMVA in Deferrals (14) (u)	SSM in Deferrals (15) (v)	LRAM in Deferrals (16) (w)	
Delivery North							
1	R01 Revenue (\$000's)						
2	Volumes (10 ³ m ³)	2,269	111	(387)	185	228	2,406
3	Average rate (cents / m ³)	870,427	870,427	870,427	870,427	870,427	870,427
4	Average rate (\$ / GJ) (17)	0.2607	0.0128	(0.0445)	0.0213	0.0262	0.2765
		0.069	0.003	(0.012)	0.006	0.007	0.073
5	R10 Revenue (\$000's)						
6	Volumes (10 ³ m ³)	1,951	101	(1,284)	107	124	999
7	Average rate (cents / m ³)	422,932	422,932	422,932	422,932	422,932	422,932
8	Average rate (\$ / GJ) (17)	0.4613	0.0238	(0.3036)	0.0254	0.0294	0.2363
		0.122	0.006	(0.080)	0.007	0.008	0.063
9	R20 Revenue (\$000's)						
10	Volumes (10 ³ m ³)	1,308	169	(1,101)	279	33	688
11	Average rate (cents / m ³)	526,116	526,116	526,116	526,116	526,116	526,116
12	Average rate (\$ / GJ) (17)	0.2486	0.0321	(0.2093)	0.0531	0.0062	0.1307
		0.066	0.009	(0.055)	0.014	0.002	0.035
13	R100 Revenue (\$000's)						
14	Volumes (10 ³ m ³)	2,112	264	(1,387)	747	84	1,820
15	Average rate (cents / m ³)	2,254,074	2,254,074	2,254,074	2,254,074	2,254,074	2,254,074
16	Average rate (\$ / GJ) (17)	0.0937	0.0117	(0.0615)	0.0332	0.0037	0.0807
		0.025	0.003	(0.016)	0.009	0.001	0.021
Delivery South							
17	M1 Revenue (\$000's)						
18	Volumes (10 ³ m ³)	7,612	318	381	790	553	9,655
19	Average rate (cents / m ³)	2,713,735	2,713,735	2,713,735	2,713,735	2,713,735	2,713,735
20	Average rate (\$ / GJ) (17)	0.2805	0.0117	0.0140	0.0291	0.0204	0.3558
		0.074	0.003	0.004	0.008	0.005	0.094
21	M2 Revenue (\$000's)						
22	Volumes (10 ³ m ³)	3,154	132	176	525	519	4,506
23	Average rate (cents / m ³)	1,046,876	1,046,876	1,046,876	1,046,876	1,046,876	1,046,876
24	Average rate (\$ / GJ) (17)	0.3013	0.0126	0.0168	0.0502	0.0495	0.4304
		0.080	0.003	0.004	0.013	0.013	0.114
25	M4 Revenue (\$000's)						
26	Volumes (10 ³ m ³)	2,391	303	(2,048)	473	95	1,213
27	Average rate (cents / m ³)	469,997	469,997	469,997	469,997	469,997	469,997
28	Average rate (\$ / GJ) (17)	0.5087	0.0644	(0.4357)	0.1006	0.0202	0.2582
		0.135	0.017	(0.115)	0.027	0.005	0.068
29	M5A Revenue (\$000's)						
30	Volumes (10 ³ m ³)	-	-	1,202	880	216	2,298
31	Average rate (cents / m ³)	377,398	377,398	377,398	377,398	377,398	377,398
32	Average rate (\$ / GJ) (17)	-	-	0.3185	0.2331	0.0574	0.6089
		-	-	0.084	0.062	0.015	0.161
33	M7 Revenue (\$000's)						
34	Volumes (10 ³ m ³)	909	115	23	572	42	1,661
35	Average rate (cents / m ³)	280,696	280,696	280,696	280,696	280,696	280,696
36	Average rate (\$ / GJ) (17)	0.3238	0.0410	0.0082	0.2037	0.0149	0.5916
		0.086	0.011	0.002	0.054	0.004	0.157
37	T1 Revenue (\$000's)						
38	Volumes (10 ³ m ³)	1,484	187	5,372	3,862	66	10,971
39	Average rate (cents / m ³)	4,827,587	4,827,587	4,827,587	4,827,587	4,827,587	4,827,587
40	Average rate (\$ / GJ) (17)	0.0307	0.0039	0.1113	0.0800	0.0014	0.2273
		0.008	0.001	0.029	0.021	0.000	0.060
41	TOTAL REVENUE	23,190	1,700	947	8,421	1,959	36,217

Notes:

- (1) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (a).
- (2) EB-2009-0052, Exhibit A, Tab 1, Schedule 3, Column (c).
- (3) EB-2010-0039, Exhibit A, Tab 1, Schedule 4, Column (a).
- (4) EB-2009-0052, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (5) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (a).
- (6) EB-2010-0039, Exhibit A, Tab 1, Schedule 3, Column (c).
- (7) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (a).
- (8) EB-2010-0039, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (9) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (a).
- (10) EB-2011-0038, Exhibit A, Tab 1, Schedule 3, Column (c).
- (11) EB-2011-0038, Exhibit A, Tab 1, Schedule 4, Column (f).
- (12) EB-2011-0038, Exhibit A, Tab 1, Schedule 2, Page 1 of 3, Column (c).
- (13) DSM Costs in 2011 Rates.
- (14) Outlook DSMVA as of Dec. 13, 2011.
- (15) Outlook SSM as of Dec. 13, 2011.
- (16) LRAM revenue forecast as of Dec. 13, 2011.
- (17) Conversion to GJ's based on Heat Value of 37.75 GJ / 10³m³.

Question #1 from Chris Neme's December 19 email:

Regarding B6.13: you have shown the build up of T1/R100 savings using an assumed forecast number of projects and an assumed average savings per project by project type. Can you provide the actual number of projects by project type and average savings by project type separately for each year from 2008 through 2011?

Response:

Rate T1 / Rate 100 - Historical Project Listing

#	Year	Project Title	Class	Annual m3	Cumulative m3
1	2008	Repair Gas Turbine #2 Economizer Leak Breeching	OM	23,140	462,795
2	2008	Repair Gas Turbine No 3 Economizer Leak	OM	23,140	462,795
3	2008	Insulation Repairs	OM	103,901	2,078,011
4	2008	Recausticizing Modernization (Lime Mud Filters)	OM	1,769,575	35,391,501
5	2008	Paper Mill Steam Reduction	OM	2,594,152	51,883,034
6	2008	Increase Line Speed Of Coating Line #4	OM	855,716	17,114,328
7	2008	Pulp Mill Steam Reduction	OM	3,744,490	74,889,793
8	2008	Lime Kiln Refractory Repairs	OM	70,745	1,414,893
9	2008	Steam Trap Replacement	OM	102,220	1,022,203
10	2008	Kiln #2 Rebuild & Upgrade	OM	769,531	7,695,308
11	2008	Insulation Repairs	OM	41,654	416,544
12	2008	Steam Trap Replacements/Repairs	OM	386,390	3,863,895
13	2008	Insulation For T50 Distillation Tower	OM	19,421	291,309
14	2008	Crude Oil Preheat Exchanger - No. 1	OM	522,017	10,440,341
15	2008	Crude Oil Preheat Exchanger - No. 2	OM	522,017	10,440,341
16	2008	Crude Oil Preheat Exchanger - No. 3	OM	522,017	10,440,341
17	2008	Crude Oil Preheat Exchanger - No. 4	OM	522,017	10,440,341
18	2008	Crude Oil Preheat Exchanger - No. 5	OM	522,017	10,440,341
19	2008	Crude Oil Preheat Exchanger - No. 6	OM	522,017	10,440,341
20	2008	Crude Oil Preheat Exchanger - No. 7	OM	522,017	10,440,341
21	2008	Crude Oil Preheat Exchanger - No. 8	OM	522,017	10,440,341
22	2008	Steam Trap Replacements/Repairs - Phase Ii	OM	301,253	2,108,772
23	2008	Steam Trap Repairs - Phase Iii	OM	294,704	2,062,927
24	2008	Repair Boiler # 2 Refractory	OM	418,488	6,277,319
25	2008	Repair Boiler # 3 Refractory	OM	418,488	6,277,319
26	2008	Air Cooled Condenser Optimization	OM	382,627	7,652,550
27	2008	Air Cooled Condenser Wash	OM	36,576	36,576
28	2008	Insulation Repairs	OM	219,542	2,195,419
29	2008	Refractometer On Weak Liquor Discharge	OM	185,441	1,854,408
30	2008	Cogeneration Generator Repair	OM	136,973	1,369,728
31	2008	Steam Regulator On Msu1	OM	32,090	320,901
1	2009	Pm7 1st Section Dryer Modifications	OM	716,539	14,330,779
2	2009	Gas Leak Repair	OM	13,785	275,695
3	2009	Initiative 14: Mm111 & Mm112 Y-Stack Replacement:	OM	9,149	182,975
4	2009	Railway Door Improvements	OM	2,066	41,317
5	2009	Insulation Repairs	OM	227,158	3,407,367
6	2009	Steam System Improvement At Steam Germ Dryer	OM	154,990	3,099,799
7	2009	Csm Oven Improvements	OM	15,688	313,762
8	2009	Replace Impact Mill #6 Transition Duct	OM	27,004	540,087
9	2009	#9 And #10 Mill Hot Air Ducts Replacement	OM	28,572	571,445
10	2009	Dryer Heat Recovery Heat Exchanger Cleaning_ Repair	OM	287,485	5,749,708
11	2009	Steam Trap Repairs	OM	761,691	5,331,839
12	2009	Overhaul Gas Generator & Power Turbine	OM	1,023,187	10,231,872
13	2009	Steelmaking Eaf Natural Gas Idle Mode Reduction	OM	262,618	5,252,361
14	2009	Steelmaking Kobm Preheater Ladle Cover Insulation	OM	34,793	695,855
15	2009	Initiative 9: Continuous Ash Analyzer Installation	OM	57,878	868,167
16	2009	Steam Trap Replacement	OM	177,234	1,240,635
17	2009	Initiative #1: Heat Exchanger Refurbish	OM	260,711	260,711
18	2009	Initiative #3: Burner Upgrade & Tune-Up For Dryers	OM	153,230	1,532,296
19	2009	Csm Oven Combustion Tune-Up - M3 Saved	OM	12,209	12,209
20	2009	Steam Trap And Leak Program	OM	3,112,605	21,788,237
21	2009	Insulation Improvements - Kiln, Tanks & Piping	OM	17,483	349,667
22	2009	Insulation Improvements - Kiln, Tanks & Piping	OM	114,938	2,298,761

#	Year	Project Title	Class	Annual m3	Cumulative m3
23	2009	Insulation Improvements - Kiln, Tanks & Piping	OM	25,288	505,766
24	2009	New Last Stage Steam Turbine Blades	OM	115,668	1,156,679
25	2009	Condenser Vacuum Sensor	OM	76,097	1,521,937
26	2009	Hp Steam Line Insulation Repair	OM	1,206	24,128
27	2009	Replacement Of Gas Turbine Blanket Insulation	OM	111,953	1,119,532
28	2009	Lime Kiln Insulation Repairs	OM	224,454	4,489,083
29	2009	Initiative #10: Boiler Plant Improvements	OM	109,530	2,190,595
30	2009	Boiler #5 Tubes Replacement	OM	43,292	865,831
31	2009	M3 Saved	OM	15,779	15,779
32	2009	Initiative #5: Process Improv - Entrained Air Redt	OM	23,095	461,896
33	2009	"D" Heat Treat Furnace Refractory Upgrade	OM	76,349	1,526,975
34	2009	Steam Trap Repairs - Refinery	OM	162,823	1,139,762
35	2009	Steam Trap Repairs 2009	OM	55,926	1,118,519
36	2009	Twinning Of Coke Oven Gas Lines To #2 Reheat	OM	1,022,486	10,224,861
37	2009	Twinning Of Coke Oven Gas Lines To #1 Reheat	OM	340,535	2,383,747
38	2009	Steam Trap Repairs	OM	1,991,891	13,943,235
39	2009	Steam Trap Replacement/Repairs	OM	577,107	11,542,146
40	2009	Steam Trap Replacements In 4 Areas	OM	55,902	559,021
41	2009	#1 By-Products Plant Barometric Condenser Upgrade	OM	916,598	18,331,958
42	2009	Steam Trap Repairs	OM	20,422	142,956
43	2009	Linkageless Valves On Dryers And To	OM	726,759	14,535,173
44	2009	Replace Leaking 4In Steam Valve	OM	556,481	11,129,626
45	2009	Steam Trap Repairs	OM	24,616	172,315
46	2009	Steam Condensate Piping Insulation	OM	7,620	152,396
47	2009	Steam Leak Repairs	OM	6,201	62,005
1	2010	Thermal Oxidizer Insulation Repairs	OM	10,118	111,301
2	2010	Steam Trap Replacements Claim 1	OM	134,654	1,077,233
3	2010	Scale Pit Area - Heating Improvement	OM	7,288	160,331
4	2010	Piping And Equipment Insulation	OM	1,870	41,143
5	2010	Steam Trap Repairs - Refinery	OM	2,232,600	17,860,798
6	2010	Fuels Refinery S Trap Repair	OM	2,901,075	23,208,602
7	2010	Chem Plant S Trap Repairs	OM	485,427	3,883,414
8	2010	Fuels Refinery Steam Leaks	OM	3,459,760	27,678,078
9	2010	Chemicals Plant Steam Leaks	OM	922,277	7,378,215
10	2010	Air Handling System Improvements	OM	1,099,143	30,776,003
11	2010	Hvac System Improvements - Cancer Centre	OM	40,621	1,137,383
12	2010	Hrsg Headers Insulation	OM	6,722	147,877
13	2010	Gas Turbine Air Inlet Prefilter Replacement	OM	44,083	44,083
14	2010	Make-Up Air Units Repairs	OM	4,628	50,910
15	2010	Steam Trap Replacements And Repairs	OM	175,846	1,406,766
16	2010	Gh Double Poly Replacement With Ir Poly	OM	286,352	1,145,406
17	2010	Burner Tune-Up - M3 Savings	OM	15,978	47,934
18	2010	Burner Tune-Up - M3 Savings	OM	12,893	38,679
19	2010	Greenhouse Double Poly Replacement With Ir Poly	OM	31,516	126,066
20	2010	Greenhouse Double Poly Replacement With Ir Poly	OM	12,408	49,630
21	2010	Insulation Project	OM	196,327	4,319,202
22	2010	Steam Trap Repairs/Replacements	OM	628,552	5,028,419
23	2010	Insulation	OM	240,347	5,287,629
24	2010	Boiler Performance Testing & Tune-Up M3 Savings	OM	37,229	37,229
25	2010	M3 Savings From Trial	OM	2,285,254	2,285,254
26	2010	Dryer Improvements	OM	93,933	2,066,533
27	2010	Steam Traps Repairs Kemira	OM	62,847	502,778
28	2010	Power Turbine 185-120 Repair	OM	931,591	3,726,365
29	2010	Gas Prv Station Replacement	OM	38,928	856,420
30	2010	Gt610 Overhaul	OM	3,037,785	18,226,711
31	2010	Steam Trap Repairs	OM	1,458,728	11,669,827
32	2010	Refinery Steam Trap Repairs	OM	1,466,500	11,731,997
33	2010	Steam Trap Repairs	OM	409,472	3,275,774
34	2010	Condensate Return Tank	OM	610,918	13,440,204
35	2010	Ccis Expansion Joint Air Sealing	OM	123,093	2,708,044
36	2010	F-701 Air Leakage Sealing	OM	40,483	890,621
37	2010	Heat Exchanger Anti-Foulant	OM	2,255,253	24,807,778
38	2010	Steam Leaks Repairs	OM	137,016	1,096,127

#	Year	Project Title	Class	Annual m3	Cumulative m3
39	2010	Steam Leaks Repairs	OM	936,962	7,495,693
40	2010	Steam Traps Repairs	OM	157,388	1,259,108
41	2010	Steam Repairs	OM	170,888	1,367,104
42	2010	Hot Mill Supervisory Temp Control Model Implem'N	OM	2,663,995	29,303,950
43	2010	Steam Trap Replacement/Repairs	OM	694,713	5,557,704
44	2010	Gas Turbine Air Inlet Filters Replacement	OM	139,140	417,420
45	2010	Steam Trap Repairs - Chemical Plant	OM	192,132	1,537,053
46	2010	Greenhouse Double Poly Replacement With Ir Poly	OM	220,316	881,265
47	2010	2009 Steam Trap Replacement	OM	476,036	3,808,286
48	2010	Steam Trap Repairs	OM	367,425	2,939,404
49	2010	Distillation Steam Savings	OM	289,369	6,366,111
50	2010	2009 Steam Trap Repairs Ineos Nova	OM	345,490	2,763,922
51	2010	Salt Concentration Project Phase 1	OM	230,607	5,073,364
52	2010	Steam Turbine Grid Valve Repair	OM	7,695,427	61,563,418
53	2010	Steam Traps Repairs	OM	1,970,418	15,763,345
1	2011	#1 By-Products Cog Flare Pilot Upgrade	OM	396,980	7,939,600
2	2011	Heat Exchanger Cleaning	OM	2,597,449	12,987,244
3	2011	Insulation	OM	43,650	873,006
4	2011	Hrsg - Condensing Economizer Upgrade	OM	160,839	3,216,780
5	2011	Condensate Return System Upgrade	OM	238,018	4,760,356
6	2011	Compressed Air Savings From Energy Audit	OM	9,656	193,126
7	2011	Insulation Improvements	OM	40,676	813,519
8	2011	Condensate Return Improvement	OM	95,132	1,902,634
9	2011	Steam Trap Repairs	OM	307,646	2,153,520
10	2011	Otsg Mp Increase	OM	1,264,364	25,287,276
11	2011	Gt Compressor Off-Line Wash	OM	208,958	208,958
12	2011	Gt Compressor And Hrsg Wash	OM	-	-
13	2011	Lime Kiln Refractory Repair	OM	148,020	2,960,394
14	2011	2009 Insulation Repairs And Upgrades	OM	624,156	12,483,121
15	2011	Dsg Burner Efficiency Improvements	OM	120,517	2,410,350
16	2011	Gh Double Poly Replacement With Ir Poly	OM	-	-
17	2011	Gh Double Poly Replacement With Ir Poly	OM	-	-
18	2011	Steam Trap Repairs/Replacements	OM	23,922	167,456
19	2011	Implementation Of New Annealing Furnace Set-Points	OM	176,308	3,526,158
20	2011	Paint Line #4 Burner Control Upgrade	OM	270,994	5,419,876
21	2011	Off-Gas Process Control Instal'N	OM	783,840	15,676,800
22	2011	Gh Double Poly Replacement With Ir Poly	OM	280,078	5,601,558
23	2011	Steam Trap Replacements And Repairs	OM	361,919	2,533,432
24	2011	Mechanical Insulation Additions	OM	4,468	89,369
25	2011	Stripper Packing Replacement	OM	292,037	2,920,370
26	2011	Gas Turbine Air Inlet Prefilter Replacement	OM	99,405	99,405
27	2011	Steam Traps Repairs	OM	5,010	35,072
28	2011	Steam Leaks Repairs	OM	75,542	1,510,833
29	2011	Greenhouse Double Poly Replacement With Ir Poly	OM	29,585	118,341
30	2011	Steam Traps Repairs	OM	21,128	147,895
31	2011	Boiler #2 & Cogen Plenum Refurbishment	OM	4,520	90,408
32	2011	Hvac Optimization - Process Ventilation Upgrade	OM	23,998	119,991
33	2011	Upgraded Controls For #3 Pht Furnace	OM	59,886	1,197,730
34	2011	Condensate Pipe Insulation	OM	5,795	115,892
35	2011	Control Valve - Steam Trap Replacments	OM	297,650	2,083,553
36	2011	Plant Ventilation - Mua Control Improvements	OM	313,251	1,566,254
37	2011	Combustion Improvements - Boiler #2	OM	17,981	17,981
38	2011	Steam Trap Repair & Replacements	OM	187,688	1,313,818
39	2011	Ro Membrane Upgrade	OM	148	148
40	2011	Steam Trap Repairs	OM	2,010,058	14,070,405
41	2011	Steam Trap Repairs	OM	801,940	5,613,581
42	2011	Steam Leak Repairs	OM	549,194	10,983,871
43	2011	Steam Trap Repairs	OM	287,694	2,013,856
44	2011	Insulation Upgrade To So4 Lp Duct	OM	16,711	334,227
45	2011	Steam Trap Replacements	OM	890,581	6,234,068
46	2011	Steam Leak - Repairs	OM	204,631	4,092,611
47	2011	Steam Trap - Repairs	OM	622,591	4,358,138
48	2011	Distillation Steam Savings - Part 2	OM	1,405,761	28,115,228

#	Year	Project Title	Class	Annual m3	Cumulative m3
49	2011	Void Management	OM	180,464	3,609,289
50	2011	Steam Trap Replacement	OM	207,014	1,449,099
51	2011	Steam Valve Replacement	OM	22,826	228,261
52	2011	Steam Trap Repairs	OM	12,236	85,652
53	2011	Trapping Of Steam Line	OM	18,652	130,565
54	2011	Insulation Upgrade On Steam Distribution Line	OM	118,823	2,376,452
55	2011	Performance - Leaking Steam Valves	OM	151,705	1,517,052
56	2011	Ventilation Air Reduction - Ahu Decommissioning	OM	149,958	749,789
57	2011	Greenhouse Double Poly Replacement With Ir Poly	OM	21,666	86,664
58	2011	Heat Exchanger Cleaning - Clean Side	OM	286,797	1,433,986
59	2011	Heat Exchanger Cleaning - Dirty Side	OM	3,100,591	9,301,773
60	2011	H2 Reduction In Hydrogen Synthesis Plant Recycle	OM	62,641	1,252,810
61	2011	Steam To Carbon Reduction (Hydrocracker)	OM	1,255,185	25,103,700
62	2011	Uti Leaking Vent Valve	OM	335,817	6,716,350
63	2011	Minimize Aps Overflash Rate	OM	521,586	10,431,724
64	2011	Vacuum Tower Pressure Reduction	OM	301,244	6,024,887
65	2011	Furnaces Avf101-2-3 O2 Trim Savings	OM	79,700	1,593,992
66	2011	Reduce O2 On Hcf700/1/2	OM	229,094	4,581,885
67	2011	Reduce O2 On Dh2F801	OM	213,496	4,269,922
68	2011	Reduce O2 On Hsf400	OM	247,614	4,952,277
69	2011	Coke Heater Ccf401-402 Expansion Seals	OM	330,913	6,618,250
70	2011	Steam Ratio Reduction At T-204	OM	85,445	1,708,909
71	2011	Sour Stripper Steam To Feed Ratio Part 01	OM	184,737	3,694,748
72	2011	Mechanical Insulation Upgrades	OM	37,192	743,838
73	2011	Steam Trap Repairs	OM	5,108,629	35,760,402
74	2011	Steam Leak Repairs	OM	4,127,821	82,556,421
75	2011	Steam Leak Repairs	OM	400,389	8,007,781
76	2011	Steam Trap Repairs	OM	1,434,688	10,042,819
77	2011	Steam Leaks	OM	57,850	1,156,992
78	2011	Steam Leak Repairs	OM	693,266	13,865,311
79	2011	Steam Trap Repairs	OM	2,320,401	16,242,807
80	2011	Steam Leak Repairs	OM	1,903,780	38,075,598
81	2011	Steam Trap Repairs	OM	1,330,548	9,313,837
82	2011	Insulation Repairs	OM	134,970	2,699,400
83	2011	Hrsg Mud Drum Repair	OM	13,190	131,900
84	2011	Steam Leak Repair	OM	53,501	1,070,015
85	2011	Insulation Repairs	OM	551,082	11,021,646
86	2011	Steam Trap Repairs	OM	471,373	3,299,611
87	2011	Lime Mud Filter Replacement	OM	295,616	295,616
88	2011	Reduce Cog Sweetening For Coke Batteries	OM	1,039,600	20,792,000
89	2011	Repair Steam Leak At Pwt	OM	114,632	2,292,640
90	2011	Steam Trap Repairs	OM	55,934	391,539
91	2011	On-Line Cleaning - Waste Heat Boiler	OM	478,979	478,979
92	2011	Hp Steam Valve Replacement	OM	40,699	406,985
93	2011	Imp Mill Repairs 2011	OM	11,818	236,366
94	2011	Steam Turbine Insulation	OM	94,130	1,882,605
95	2011	Dryer Airflow Improvement	OM	30,843	616,860
96	2011	Tune Rhf F/A Ratio & Furn Press Controls	OM	376,530	376,530
97	2011	Charge Temperature Improvement	OM	1,345,270	26,905,400
98	2011	Texas Tower Repair	OM	829,735	4,148,673
99	2011	Condex Repair	OM	815,672	8,156,720
100	2011	Mhis Refractionator Packing Upgrade	OM	1,939,831	38,796,621
101	2011	Meter The Vents On The Dearators	OM	1,452,442	29,048,834
102	2011	Eliminate Unnecessary Cold Blast Venting	OM	931,077	18,621,536
103	2011	Increase Baywater Supply Temp To Reactivators	OM	244,500	4,890,002
104	2011	Heat Exchanger Cleaning	OM	392,205	1,961,024
105	2011	Steam Vent Elimination	OM	549,220	10,984,404
106	2011	Mill Hot Water Hx	OM	102,827	2,056,550
107	2011	Use Ambient Water Instead Of Heated For Rinse	OM	15,275	305,504
108	2011	Insulation	OM	855	17,103
109	2011	Boiler Steam Drum Safety Valve	OM	105,976	1,059,757
110	2011	Continuous Oxygen Analysis	OM	342,371	6,847,422
111	2011	Steam Trap Repairs	OM	962,657	6,738,600

#	Year	Project Title	Class	Annual m3	Cumulative m3
112	2011	Coil Line Cycle Time Improvements	OM	158,746	3,174,929
113	2011	Stabar/Torsion Bar Cycle Time Improvements	OM	33,666	673,311
114	2011	Steam Trap Replacement/Repairs	OM	627,387	4,391,706
115	2011	Isomax Temporary Fuel Gas Line	OM	1,865,246	1,865,246
116	2011	Ir Poly Replacement - (10 Acres)	OM	72,220	288,880
117	2011	Ir Poly Replacement - (18 Acres)	OM	129,996	519,984
118	2011	Hx Cleaning	OM	534,560	2,138,240
119	2011	Local Ventilation - Homogenizing Oven Interlock	OM	69,561	1,391,224
120	2011	Steam Traps Repairs	OM	143,980	1,007,863
121	2011	Distillation Weekend Steam Shutdown	OM	67,785	1,355,703
122	2011	Steam Traps Repairs	OM	250,855	1,755,985
123	2011	Hx Cleaning	OM	592,206	2,368,823
124	2011	Steam Trap Repairs	OM	656,993	4,598,952
125	2011	Steam Trap Repairs	OM	714,439	5,001,075
126	2011	Steam Leak Repairs	OM	600,389	12,007,785
127	2011	Steam Trap Repairs	OM	113,182	792,275
128	2011	Steam Leak Repairs	OM	260,443	5,208,856
129	2011	Ght Filters	OM	654,058	654,058
130	2011	Flash Steam Recovery	OM	63,785	1,275,709
131	2011	Steam System Pressure Reduction	OM	50,220	1,004,392
132	2011	Steam Trap Repairs/Replacement - Phase II	OM	99,704	697,929
133	2011	Steam Leaks Repairs	OM	151,068	3,021,354
134	2011	Hx Cleaning	OM	211,581	846,325
135	2011	Steam Trap Repairs	OM	1,388,262	9,717,831
136	2011	Steam Leak Repairs	OM	968,122	19,362,430
137	2011	Crude 2 - Heater Improvements	OM	787,523	3,150,093
138	2011	Gas Turbine Air Inlet Prefilter Replacement	OM	119,286	119,286
139	2011	Steam Trap Repairs	OM	795,973	5,571,808
140	2011	Steam Leak Repairs	OM	1,117,432	22,348,640
141	2011	Steam Leak Repairs	OM	10,824	216,485
142	2011	Gt Performance Enhancement	OM	217,697	217,697
143	2011	Steam Traps Repairs	OM	57,723	404,058
144	2011	Insulation Repairs	OM	81,129	1,622,586
145	2011	Steam Coils Repairs	OM	234,177	4,683,545
146	2011	Insulation Repairs	OM	311,983	6,239,652
147	2011	Steam Leaks Repairs	OM	1,096,106	21,922,128
148	2011	Insulation Repairs	OM	92,621	1,852,420
149	2011	P9 - Flash Steam Recovery To Hx-10	OM	163,032	3,260,646
150	2011	Project 17 - Hx Swap	OM	46,751	935,014
151	2011	Steam Trap Repairs	OM	1,296,643	9,076,504
152	2011	Steam Trap Repairs	OM	708,207	4,957,448
153	2011	Steam Leaks Repairs	OM	31,039	620,779
154	2011	Pm2 Dryer Drainage Energy Saving	OM	331,316	6,626,328
155	2011	Dirty Side Heat Exchanger Cleaning	OM	1,148,499	3,445,497
156	2011	Clean Side Heat Exchanger Cleaning	OM	1,043,412	5,217,062
157	2011	Steam Trap Repairs	OM	29,736	594,716
158	2011	Line 4 Hvac Heat Recovery System	OM	17,641	352,811
159	2011	Reactor Stripper Sheds	OM	306,017	6,120,346
160	2011	Fractionator Distributor Redesign	OM	286,891	5,737,828

Question #6 from Chris Neme's email dated January 6, 2012:

Regarding response to B6.13a: how many of each type of project did the Company have in 2008, 2009, 2010 and 2011? What was the average rebate for each type of project in 2008, 2009, 2010 and 2011?

Response:

Large Industrial Rate T1/Rate 100 Breakdown 2008 - 2011

Project Type	2008		2009		2010		2011	
	Projects	Average Customer Rebate Incentive (\$000) ⁽¹⁾	Projects	Average Customer Rebate Incentive (\$000) ⁽²⁾	Projects	Average Customer Rebate Incentive (\$000) ⁽²⁾	Projects	Average Customer Rebate Incentive (\$000) ⁽²⁾
Combustion Optimization	-	\$ -	6	\$ 1,674	4	\$ -	9	\$ 6,225
Condensate Return	-	\$ -	-	\$ -	1	\$ 7,235	2	\$ 21,000
Economizer Repair	2	\$ 1,412	-	\$ -	-	\$ -	2	\$ 19,983
Heat Exchanger	8	\$ 30,000	3	\$ 7,499	1	\$ 40,000	11	\$ 24,851
Insulation	8	\$ 16,206	13	\$ 9,476	7	\$ 13,550	17	\$ 12,253
Steam Leak Repairs	2	\$ 13,966	3	\$ 670	7	\$ 19,517	25	\$ 15,722
Steam Reduction	1	\$ 50,586	-	\$ -	3	\$ 2,485	13	\$ 6,965
Steam Trap Repairs	4	\$ 23,220	9	\$ 11,216	18	\$ 12,333	35	\$ 12,883
Other	11	\$ 3,261	13	\$ 14,523	12	\$ 14,091	46	\$ 11,633
Total	36	\$ 16,104	47	\$ 9,521	53	\$ 12,778	160	\$ 13,058

⁽¹⁾ 2008 : The incentive structure was 10% of the incremental cost, up to \$30K max

⁽²⁾ 2009-2011 : The incentive structure was 15% of the incremental cost, up to \$40K max

Response to request for rationale for the residential resource acquisition attic & basement insulation offering targets and Union's consideration of wall insulation:

Target Rationale – Residential RA Attic and Basement Insulation Offering

To determine the maximum potential for the attic and basement wall insulation offering, Union assessed the following two data sources:

1) EcoEnergy participation data for the 2007-2010 period

The best available Eco-Energy information available to Union is 2007-2010 participation data at the national level; therefore, Union used this information and made some assumptions:

- Total National Attic & Basement Insulation installs over the 3 years:
 - Attic Insulation - 40,000
 - Basement Insulation - 22,000
- Union assumed that of the above, 10% of the installations took place within the Union Gas franchise area. This assumption was based on the number of residential customers served by Union Gas versus the total number of dwellings in Canada.
 - Attic Insulation - 4,000
 - Basement Insulation - 2,200
- Based on the above we, therefore, assume that the following was installed:
 - Attic Insulation:
 - 4,000 over 3 years of the program
 - approximately 1,300 per year
 - Basement Insulation
 - 2,200 over 3 years of the program
 - approximately 700 per year

2) Results from the 2008 Efficiency Potential Study compiled by ICF Marbek (see Exhibit A, Appendix K)

Union Gas reviewed the 2012 and 2017 static achievable potential forecast for the "Air Leakage Sealing and Insulation (Old Homes) Attic measure" for comparison to the EcoEnergy participation estimates and found the forecast to be fairly consistent. The participation forecast for this "Air Leakage Sealing and Insulation (Old Homes) Attic measure" would build to approximately:

- 1,000 homes in 2012 (year 5 of the program)
- 1,500 homes in 2017 (year 10 of the program)

Note – the Study did not contain a forecast for basement insulation.

2012 Targets were then formed by:

1. Union assumed that the above Markbek participation level of around 1,000 participants per year would be an aggressive, maximum, level that we could achieve per year if our program offering, eligibility criteria etc. was the same as this program.
2. Union then considered the differences between the above programs and Union's proposed program to determine if the maximum participant values noted were realistic.

A number of differences between the Eco-Energy program and Union's program were identified, such as:

- Qualification requirements: Compared to EcoEnergy, the Union offering has much more complicated and stringent qualification requirements - For example the home must be built prior to 1980, existing R-values must be R10 or below for the attic and R1 or below for the basement wall, and the entire space must be insulated. Therefore, the number of homes that qualify for Union's offering compared to the same measures offered by EcoEnergy is drastically lower.
- Scale and Support: The EcoEnergy was a national program with the support of major federal and provincial agencies and government organization, whereas the Union Gas offering is regional and lacks such support and profile.
- Scope of Measures: The EcoEnergy program offered grants for a large range of measures. The Union program, however, will only attract homeowners that are aware of a possible insulation deficiency, the EcoEnergy program was able to capture homeowners who were initially completely unaware that they could benefit from increased insulation.

The key difference between Union's offering and the "Air Leakage Sealing and Insulation (Old Homes) Attic Measure" developed by ICF Marbek for the 2008 Efficiency Potential Study is:

- Date of program launch: In its forecasts for 2012 and 2017, Marbek assumed Union would launch the offering in 2007 and see increases in participation each year following the "Curve B" adoption pattern. (Curve B assumes that an offering starts with low participation before eventually reaching "critical mass" and ramping up from there). Therefore, the Marbek forecast for 2012 was not meant to apply to the offering in its first program year – but rather an offering that had experienced escalating participation over the course of the previous 5 years.

3. Union then considered additional factors that might decrease the market potential for our proposed offering, such as:

- Success of EcoEnergy: As a result of EcoEnergy, the “low-hanging fruit” for attic and basement wall insulation is now gone. Remaining customers that qualify for the offering are likely not aware of the insulation deficiency and will require aggressive marketing and education to convert. In addition, Union expects that most of the remaining customers who are eligible for the insulation offerings and willing to insulate their homes will have attempted to participate in EcoEnergy in 2011/2012, before the incentives expire in March 2012 (and before the UG measure launches). In addition, channel partners such as insulation contractors and manufacturers will put forward a large marketing push to attract customers while grants are available. These factors will lead to a large reduction in opportunity—particularly in 2012.
- Delayed Launch: The 2012 target takes into account a delay in launching the offering, as the EcoEnergy Retrofit – Homes program is not expected to conclude until March, 2012.

Wall Insulation Measure

The reason for not including it in our offering, is that we believe running a program for the Wall Insulation measure that we have information for (from the April 2009 Navigant document) would drive few incremental installations/savings. This is because, the Wall Insulation measure included in the April 2009 Navigant document assumes that the wall must be removed, and that the customer had already planned on removing the wall prior to learning about our program (incremental costs do not account for wall removal or reconstruction). As discussed during our January 9th meeting; Union believes that any customer who already planned on removing the walls also, very likely, planned on installing adequate insulation. The free rider rate would, therefore, be extremely high, if not 100%.

The type of Wall Insulation measure discussed in our January 9th meeting (blowing wall insulation through holes in the inside or outside wall) was not investigated as part of our plan. Union does not have sufficient information on this type of measure to estimate costs or market opportunity and is, therefore, unable at this time to set a realistic goal for 2012. We are not opposed, however, to further investigating this measure for inclusion in our Insulation offering at a later date.

Question #2 from Chris Neme's December 19 Email:

Regarding B6.1: can you expand the two tables provided to include 2011 actuals (as best as you can forecast them for the full year)?

Union Response

Deep Measure Summary

Program	Actual Results					Outlook			Plan 100% Target		
	2007	2008	2009	2010	2011	2012	2013	2014	2012	2013	2014
Low-income Program	0	0	75	134	450	740	875	920			
Residential Program	15,210	8,407	14,246	0	0	175	310	310			
Commercial/Industrial Program	2,790 ⁽²⁾	2,788	4,025	2,580	5,323	3,315	3,315	3,315			

(1) As outlined in Exhibit A, Tables 4 and 6, and identified in the "Union Deep Measure" column set out in Exhibit A, Tab 1, Appendix H, Table 1.

(2) Distribution Contract custom projects have been excluded from the participant summary for 2007 as the split between the Non-Rate T1/Rate 100 and Rate T1/Rate 100 rate classes is not available. In total 176 Custom projects were delivered to Distribution Contract customers in 2007.

Basic Measure Summary

Program	Measure	Actual Results					Outlook			DSM Plan 100% Target		
		2007	2008	2009	2010	2011	2012	2013	2014	2012	2013	2014
Low-income Program	HHC - Bath Aerator	6,519	7,694	18,478	14,443	26,000	10,000	3,000	1,500			
	HHC - Kitchen Aerator	6,363	7,694	18,478	14,508	26,000	10,000	3,000	1,500			
	HHC - Pipe wrap	6,442	7,291	18,667	14,542	26,000	10,000	3,000	1,500			
	HHC - Showerhead	7,338	7,888	20,061	14,384	26,260	10,000	3,000	1,500			
	HHC - Programmable Thermostat	1,590	5,132	11,790	6,395	5,900	6,000	1,800	9,000			
	HWC - Bath Aerator	0	0	0	0	0	5,000	2,500	1,000			
	HWC - Kitchen Aerator	0	0	0	0	0	5,000	2,500	1,000			
Residential Program	HWC - Showerhead	0	0	0	0	0	10,000	5,000	2,000			
	Bath Aerator	67,919	96,752	83,054	71,991	85,900	56,000	54,000	50,000			
	Kitchen Aerator	67,919	96,752	83,054	71,989	85,900	56,000	54,000	50,000			
	Pipe Wrap	67,919	96,752	83,054	71,934	85,900	55,720	53,730	49,750			
	Low Flow Showerhead	67,919	96,690	83,054	72,000	85,900	56,000	54,000	50,000			
	Draft Proofing Kit	0	0	0	0	0	56,000	54,000	50,000			
	Programmable Thermostat	22,762	9,296	17,460	8,878	10,670	6,000	5,500	5,000			
Commercial/Industrial Program	HWC - Bath Aerator	40,906	30,655	49,271	28,337	27,340	2,300	2,300	2,300			
	HWC - Kitchen Aerator	34,376	22,118	40,471	21,317	19,120	1,000	1,000	1,000			
	HWC - Showerhead	40,499	22,927	44,736	28,609	29,360	5,633	5,633	5,633			
	Programmable Thermostat	830	3,307	9,320	3,911	3,550	0	0	0			
	Pre-Rinse Spray Nozzle	906	3,349	1,987	333	990	0	0	0			

Response to January 9 request for ESK cost comparison between 2011 and 2012:

NEW ESK COST BREAKDOWN:

	2011 (pre-audit forecast)	2012
Units (Kits)	85,000	56,000
Units (P-stats)	10,000	6,000
Total Promotion Costs (\$000)	\$913	\$1,648
Marketing & Promotion Costs	\$913	\$660
ESK Box, Storage, Shipping & Kitting	\$0	\$448
Incentives ESK (HVAC) - Incentive	\$0	\$390
Incentives Pstat - \$25 coupon	\$0	\$150
Total Incentive Costs (\$000)	\$1,746	\$1,570
ESK Components	\$593	\$450
ESK Box, Storage, Shipping & Kitting	\$651	\$0
Incentives ESK (HVAC) - Incentive	\$266	\$0
Incentives Pstat - \$25 coupon	\$237	\$0
Draft Proofing Components	\$0	\$1,120
Budget Total	\$2,659	\$3,219
Cumulative Gas Savings (000 m³)	33,677	24,315
Cost/m³ (\$)	\$0.08	\$0.13

Please note that the numbers in red above have been corrected from the January 9 presentation.

Question Number 4 from Chris Neme's December 19 Email:

Regarding B6.15: can you expand the table provided to include 2011 actuals (as best as you can forecast them) for the full year?

Union Response:

Market	Measure	2008 Units	2009 Units	2010 Units	2011 Outlook Units
Residential	Furnace - High Efficiency	8,407	14,246	0	0
Low-income	Weatherization	0	75	134	450
Commercial New Buildings	Condensing Boiler	40	113	105	225
Commercial New Buildings	CEE Tier 2 Front-Loading Clothes Washer	0	0	3	27
Commercial New Buildings	Condensing Gas Water Heater - 1000 gal/day	0	0	11	44
Commercial New Buildings	Dishwasher	0	0	0	24
Commercial New Buildings	Energy Star Front Load Clothes Washer	0	0	0	1
Commercial New Buildings	Energy Star Fryer	0	0	0	15
Commercial New Buildings	Energy Star Steam Cooker	0	0	0	1
Commercial New Buildings	ERV	43	315	111	179
Commercial New Buildings	HRV	10	80	108	180
Commercial New Buildings	Infrared Heating	342	311	231	275
Commercial New Buildings	Destratification Fan	0	2	0	0
Commercial New Buildings	Rooftop Unit	199	517	91	0
Commercial New Buildings	DCKV - Fast Casual (<5000 CFM)	5	8	2	2
Commercial New Buildings	DCKV - Full Menu (5000 - 9999 CFM)	3	1	4	4
Commercial New Buildings	DCKV - Dinner House (10000 - 15000 CFM)	1	0	0	0
Commercial New Buildings	Make-up Air Unit	0	0	0	1
Commercial New Buildings	Custom - Agriculture	4	1	2	8
Commercial New Buildings	Custom - New Construction	68	11	2	3
Commercial Existing Buildings	Condensing Boiler	278	395	493	420
Commercial Existing Buildings	CEE Tier 2 Front-Loading Clothes Washer	0	0	100	1,398
Commercial Existing Buildings	Condensing Gas Water Heater - 1000 gal/day	0	0	30	73
Commercial Existing Buildings	Dishwasher	0	0	0	199
Commercial Existing Buildings	Energy Star Front Load Clothes Washer	0	0	0	565
Commercial Existing Buildings	Energy Star Convection Oven	0	0	0	7
Commercial Existing Buildings	Energy Star Fryer	0	0	0	131
Commercial Existing Buildings	Energy Star Steam Cooker	0	0	0	4
Commercial Existing Buildings	ERV	148	151	151	189
Commercial Existing Buildings	HRV	40	133	75	138
Commercial Existing Buildings	Infrared Heating	589	615	425	620
Commercial Existing Buildings	Destratification Fan	0	11	30	17
Commercial Existing Buildings	Rooftop Unit	631	707	118	0
Commercial Existing Buildings	High Efficiency Furnace	117	347	0	0
Commercial Existing Buildings	High Efficiency Under-Fired Broiler	0	0	0	1
Commercial Existing Buildings	Enhanced Furnace (Up to 299 Mbtu/h) - NG	23	9	0	0
Commercial Existing Buildings	DCKV - Fast Casual (<5000 CFM)	1	17	10	1
Commercial Existing Buildings	DCKV - Full Menu (5000 - 9999 CFM)	8	14	2	8
Commercial Existing Buildings	DCKV - Dinner House (10000 - 15000 CFM)	2	2	0	0
Commercial Existing Buildings	Make-up Air Unit	0	0	0	11
Commercial Existing Buildings	Ozone Laundry	0	0	0	63
Commercial Existing Buildings	Custom - Agriculture	0	5	10	3
Commercial Existing Buildings	Custom - Multifamily	63	11	16	0
Commercial Existing Buildings	Custom - Retrofit	93	116	220	165
Distribution Contract	Custom Non-Rate T1/Rate 100	80	133	230	321
Distribution Contract	Custom Rate T1/Rate 100	47	78	81	197
Total		11,242	18,424	2,795	5,970

Question #1 and #2 from Chris Neme's January 6 Email:

1. Please provide a breakdown of overheads into (1) salaries; (2) EM&V; and (3) research for 2009 through 2014 (actual for 2009-2011 and forecast for 2012-2014).
 2. What were budgeted salaries/admin, EM&V and research for 2009, 2010 and 2011?
-

Response:

	2009		2010		2011		2012	2013	2014
	Actual (\$000)	Plan (\$000)	Actual (\$000)	Plan (\$000)	Actual (\$000)	Plan (\$000)	Plan (\$000)	Plan (\$000)	Plan (\$000)
Administration	5,237	4,119	5,464	5,698	5,713	6,032	6,468	6,468	6,468
Research	760	910	807	1,112	798	962	1,066	1,066	1,066
Evaluation	382	531	482	523	487	816	1,129	1,129	1,129

Administration includes all salaries plus any employee expenses not attributed to a specific program
Evaluation does not include salaries.

The 2011 Evaluation budget was under-spent due to evaluation resources being dedicated to the development of the 2012 - 2014 DSM Plan, OEB filings and the extensive 2010 audit process.

Question #4 from Chris Neme's January 6th email:

Update response to B6.16 (number of large industrial customers participating in DSM programs) to cover full 2011 year.

Response:

Participation Rate					
Deep Measure Participants	2008	2009	2010	2011 ⁽¹⁾	2012
Total Number of Participants (Education, Studies, & O&M Incentives)	23	22	37	46	39
Total Number of T1/R100 Customers ⁽²⁾	71	71	71	71	71
Participation Rate	32%	31%	52%	65%	55%

⁽¹⁾ Year end 2011 outlook

⁽²⁾ Every contract (or specific Service Agreement Number) counts as one customer

⁽²⁾ Excludes those who are DSM ineligible because they are transmission customers

⁽²⁾ Excludes those customers who do not have gas

⁽²⁾ Includes R100/25

Question #7 from Chris Neme's January 6 Email:

What is basis for \$1.3 million for low income "promotions". \$1.1 million of it is for single family, but there are only 550 weatherization participants. It cannot cost \$2000 in promotion costs per participant, can it?

Response:

The \$1.1 million in promotion costs for low income include costs for both Helping Homes Conserve and Home Retrofit. These costs include the following items for each offering:

Helping Homes Conserve Program Costs	
HHC - Pipe Insulation - 2m	\$50,000.00
HHC - Showerhead - 1.25gpm exist 2.0-2.5	\$60,000.00
HHC - Showerhead - 1.25gpm exist 2.6+	\$140,000.00
Sponsorships	\$13,500.00
Marketing	\$80,000.00
Education	\$46,000.00
Total	\$389,500.00
Home Retrofit Program Costs	
Delivery Agent Administration	\$403,605.00
Sponsorships	\$13,500.00
Marketing	\$33,145.00
Education	\$46,000.00
Private Market Incentives	\$25,000.00
B Audit Fees	\$82,500.00
No Show Fees	\$2,750.00
Basic Audit Allocation	\$10,000.00
Health and Safety Allocation	\$110,000.00
Total	\$726,500.00
Total Program Costs	\$1,116,000

Question #3 from Chris Neme's January 9, 2012 email:

For the 12 custom multi-family projects, what would you assume to be the average number of apartments per building (even if only ballpark)? Same question for the building optimization projects.

Response:

Union does not have this data and is not in a position to provide an estimate.

Response to request for TRC calculation for tankless water heaters and the required price point to make the measure TRC positive:

The measure TRC for tankless water heaters is -\$304, based on the input assumptions filed in Appendix H of the Plan. For TRC to become positive, the incremental cost must fall from \$750 to \$440. If the high efficiency water heating program were to be screened as filed, it would result in a total TRC of -\$1.4 million at the 100% participation level.

Question from Kai Millyard's January 6 Email:

Can you provide what fraction of the avoided costs for each avoided cost load type are commodity costs, transportation costs, distribution capital costs or any other categories used?

Response:

Transportation costs (pipeline toll charges) to get the gas to Union's franchise area	18%
Transportation fuel costs on other pipelines (to get the gas to Union)	2%
Commodity costs (actual molecule costs the customer burns)	80%

Question #8 from Chris Neme's January 6, 2012 email:

Regarding B6.18b:

- What was the baseline annual m3 consumption from which the company achieved annual savings of 6909 m3?
- What was the Union cost incurred (per building) to achieve that average savings of 6909 m3?

Response:

Custom	2010 Consumption*	Natural Gas Savings (m3)	Equipment Life	Cumulative m3's	Incentive Cost	TRC Ratio	Cost per m3
Upgraded heat transfer loss via radiant heat system	39033	5,103	10	51,030	\$565	3.2	\$0.011
Installed Building Automation System	50788	11,705	10	117,050	\$2,508	1.9	\$0.021
Increase attic insulation to R40 (SH)	10404	1,812	20	36,240	\$648	5.4	\$0.017
Increase attic insulation to R40 (SH)	10076	2,628	20	52,560	\$825	6.2	\$0.015
Increase attic insulation to R40 (SH)	9165	2,104	20	42,800	\$734	5.6	\$0.017
Insulation added to garage pipe	64919	17,607	20	352,140	\$886	7.8	\$0.002
Installed Building Automation System	14583	2,564	10	25,640	\$1,320	1.0	\$0.051
Insulation upgrades	11409	5,289	20	105,780	\$2,205	1.3	\$0.020
Insulation upgrades	10187	1,811	20	36,220	\$731	4.8	\$0.020
Upgraded heat transfer loss via radiant heat system	43487	23,135	10	231,350	\$565	14.4	\$0.002
Upgraded heat transfer loss via radiant heat system	158507	15,200	10	152,000	\$2,431	2.2	\$0.150
Averages		8,087	15	109,346	\$1,220	4.89	\$0.03

*We have assumed 2010 Consumption data is post project annual consumption. Pre project consumption data is not available.

Question #9 from Chris Neme's January 6 Email:

In its filing of its supplemental 2011 low income program plan, Union committed to a budget of \$350,000 for data analysis (to profile the low income housing stock, do demographic segmentation, conduct focus groups, and establish a database for targeting low income households), \$175,000 for marketing and education (to develop an education module for future implementation and to develop marketing and outreach tools to support future implementation), and \$150,000 to add a basic audit component to the delivery of its Helping Homes Conserve initiative (to enable the identification of homes that would be good targets for full weatherization). With respect to each of these elements:

- What was actually spent in 2011?
- Was the work completed? If not, why not?
- Please provide any work products that resulted. To the extent that work was completed that did not result in a work product, please provide an explanation of what was done.
- Where was any money not spent on these items spent instead?

Response:

a.

Item	2011 Planned Budget (a)	2011 Budget Spend (b)	Variance (a-b)	Comments
Data Analysis	\$350,000	\$290,300	(\$59,700)	<ul style="list-style-type: none"> • MPAC data purchase for 200,000 customers – size of home, age of home • Overlay of MPAC data, LICO info and consumption • Energy efficiency index built to identify most probable customers • Upload to online dashboard to map out customer spread in franchise
Marketing and Education	\$175,000	\$41,702	(\$133,298)	<ul style="list-style-type: none"> • Style guides • Brochures • Video • Ambassador in Hamilton • Belleville lunch and learn
Basic Audit	\$150,000	\$0	(\$150,000)	<ul style="list-style-type: none"> • Consulted with delivery agents to discuss process • Developed draft basic audit form (costs captured in marketing budget) • Challenges with developing streamlined process and conflicting priorities required Union to put this work on hold until 2012
Total	\$675,000	\$332,002	(\$342,998)	

b.

- The data analysis project was completed.
- The marketing, education and basic audit were not completed due to conflicting priorities with the 2012 - 2014 filing. Work on these projects will continue in 2012.

c.

- The data analysis is in the final stages of completion and should be available for review at the end of January 2012
- Samples of marketing materials are attached
- Home Retrofit Program Videos – We are producing two short 5-7 minute videos. One will outline the benefits and process of participation for a social housing corporation. The second will clearly convey the advantages for private homeowners to take advantage of the program. Much of the scripting and shot planning was completed in 2011
- Education lunch and learn – The Union Gas “Lunch and Learn” targeted tenants of Hastings County Housing that had their home retrofitted through Union’s Weatherization program. Participants were educated on the retrofit work that was done in their home and shown low-cost and no-cost ways to further reduce energy costs in the home without sacrificing comfort.
- Ambassador in Hamilton – Union funded a program ambassador in Hamilton to help prescreen homes, set process expectations with customers and deliver notices of upcoming audits and contractor visits.

d. The budget allocated for the items listed above was not spent on other activities.



Helping Homes Weatherization

We want to help lower your heating costs!

Union Gas **FREE Helping Homes Weatherization Program**

How to get started

If you pay your own gas bill you can call our authorized contractor directly at our toll-free number.

EnviroCentre

1 877 580-2582 option 4

Or email us at

weatherization@uniongas.com

If you rent your home, please acquire permission from your landlord or property manager before calling EnviroCentre at the number above.

For more information or to register online go to
uniongas.com/weatherization

enersmart  **uniongas**

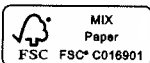
CONSERVE • SAVE • COMFORT

A Spectra Energy Company

* Eligible properties include detached and semi-detached homes, townhouses, duplexes, row houses and low-rise rental units. Tenants who live in private homes (not social housing) must pay their own utility bills.

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Our **FREE***
Weatherization Program could
SAVE YOU up to 30%



uniongas

A Spectra Energy Company

CELEBRATING
100 YEARS
Est. 1911

Union Gas can help you save energy and lower your gas bill!

Save up to **30%** on your heating costs.

Here's what you get for **FREE**

FREE Energy Audit

We'll find out what your house needs to stop heat from escaping. You'll be warmer in winter, cooler in summer and pay less for heating.

FREE Insulation Upgrades

Homes that qualify are typically more than 25 years old. These homes weren't built to today's standards for energy efficiency. We'll add insulation to your basement, walls and attic as needed, plus stop the drafts coming in through your windows and doors.

FREE Energy Savings

These upgrades will make your home more energy efficient, leading to lower gas bills.



Here's who **qualifies**

It's **FREE** for Union Gas customers who:

- Pay their own utility bill
- Have a natural gas furnace
- Meet the income qualifications
- Property must meet energy-efficiency requirements

What are the income qualifications?

The program is **FREE** for people whose income is below these limits:

Number of people in your house	Maximum annual income
1	\$30,009
2	\$37,360
3	\$45,930
4	\$55,764
More than 4	Add \$7,000 for every extra person

You may also qualify if your household receives one of the following benefits:

- Ontario Works
- Ontario Disability Support Program (ODSP)
- Guaranteed Income Supplement (GIS)
- Allowance for Seniors
- National Child Benefit Supplement (NCBS)

Proof of eligibility is necessary

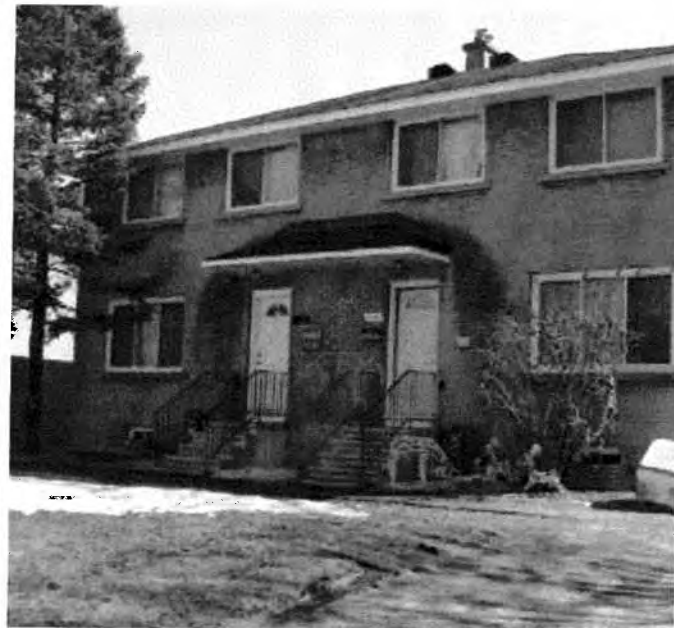


Helping Homes Weatherization

Union Gas **FREE*** Insulation and Weatherization Program



We'll **upgrade your properties** to keep the cold out and help you lower your heating costs.
For FREE!



uniongas

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CELEBRATING
100 YEARS
Est. 1911

uniongas.com/weatherization

FREE Helping Homes Weatherization Program

Here's what you get for FREE

Union Gas provides FREE energy-efficiency upgrades to affordable housing. These enhancements lower overall energy costs and make the housing more affordable.

Income eligible Union Gas customers can receive:

- * Free energy audit
- * Free professionally installed insulation upgrades including:
 - basement insulation
 - wall insulation
 - attic insulation
 - draft-proofing, weatherstripping and caulking

Who qualifies

It's **FREE** for Union Gas customers living in a range of housing types:

Eligible properties include detached and semi-detached homes, townhouse and row houses, duplexes and low-rise rental units typically more than 25 years old. The property must meet certain energy-efficiency requirements.

What are the income qualifications?

The program is FREE for tenants whose income is below these limits:

Number of people in the house:	Maximum tenant annual income:
1	\$30,009
2	\$37,360
3	\$45,930
4	\$55,764
More than 4	Add \$7,000 for every extra person



Households may also qualify if they receive one of the following benefits:

- * Ontario Works
- * Ontario Disability Support Program (ODSP)
- * Guaranteed Income Supplement (GIS)
- * Allowance for Seniors
- * National Child Benefit Supplement (NCBS)

Proof of eligibility is necessary.

Time Limited Offer – Register Today

For more info or to register contact our authorized contractor:

EnviroCentre 1 877 580-2582 option 4

Or email us at weatherization@uniongas.com

Or for more information visit: uniongas.com/weatherization



Benefits for Property Managers

Hassle-free:

Tenants need property manager or landlord permission. Just register and Union Gas energy experts will take care of the rest.

Improved tenant comfort:

Properties will have fewer drafts making them warmer in the winter and cooler in the summer. Property managers can expect to see savings of up to 30% on heating costs.

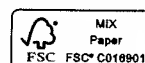
FREE: No cost for you or your tenants.



enersmart  **uniongas**
CONSERVE • SAVE • COMFORT A Spectra Energy Company

* Eligible properties include detached and semi-detached homes, townhouses, duplexes, row houses and low-rise rental units. Tenants who live in private homes (not social housing) must pay their own utility bills.

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YOU'RE INVITED

Union Gas *Fall* Lunch & Learn

To thank you for your participation in our
Helping Homes Weatherization Program!

Working together to bring
energy saving solutions to the community.



CELEBRATING
100 YEARS
E s t . 1 9 1 1



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Helping Homes Weatherization



To thank you for doing your part in energy conservation, please join us for a **FREE** lunch and learn about the benefits you will see in your home after having participated in our Helping Homes Weatherization Program.

We'll also show you no-cost and low-cost energy saving tips to help you save money on your energy bills, and each guest will receive a **FREE** home weatherization kit!

Union Gas is pleased to partner with
Hastings County Housing Programs Branch:



CELEBRATING
100 YEARS
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A Spectra Energy Company

Date: Wednesday, November 9th, 2011

Time: 11:00 am - Welcome from Union Gas
11:15 am - Education session on energy conservation
12:00 pm - Lunch compliments of Union Gas

Location: Christ Church Anglican
39 Everett Street, Belleville, ON

RSVP

Kindly RSVP no later than October 31st, 2011

Julia Hummel
jhummel@uniongas.com
or toll free at 1 888 303-2518 x 75366

Working together to bring energy saving solutions to the community

Questions 1 and 2 from Chris Neme's January 9, 2012 email:

1. The response to B6.13 on cost effectiveness screening provides measure costs per unit. The response to B6.18 provides incentive costs in aggregate which I can convert to "per unit" by dividing by the number of units. When I do that, the incentive costs for some measures appear much higher than the measure costs suggest – and not just for early retirement measures. For example, the cost per multi-family showerhead is shown as \$3.79 per unit but the incentive averages \$23.69. I had previously assumed that would be because the incentive cost included the cost of installation that you pay your program delivery contractors. However, this afternoon you said that the program delivery costs are now captured under program costs rather than under incentives. So...what am I missing? Why are the measure costs not equal to the incentive costs for some non-early retirement measures?
2. You indicated today that the HHC delivery costs and the single family retrofit delivery costs that were embedded in the Program costs were about 250k and 400k, respectively. Are there also multi-family water conservation (HWC) delivery costs embedded in the program costs? If so, what are they?

Response to 1 and 2:

For Helping Homes Conserve the \$20 installation fee was shifted from an incentive cost to a program cost. In error, this shift was not captured for Hot Water Conservation. The costs should have been presented as \$3.69 in incentives (cost of measure) and \$20 in program costs (installation cost).

Cumulative m³ from prescriptive measures from 2006-2012

EB-2011-0327
Settlement Conference

Commercial Measure	2006	2007	2008	2009	2010	2011 Outlook	2012 Planned
Air Curtains - Double Door	0	0	0	0	0	0	108,941
Air Curtains - Single Door	0	0	0	0	0	0	47,524
CEE Tier 2 Front-Loading Clothes Washer	0	0	0	0	119,305	1,651,736	1,158,300
Condensing Boiler	27,207,725	73,933,700	63,621,118	80,956,611	95,591,552	125,909,053	64,615,059
Condensing Gas Water Heaters	2,957,790	0	0	0	785,349	2,241,117	510,549
Condensing Rooftop Units - MUA	0	0	0	0	0	1,032,558	1,631,689
Condensing Unit Heater	0	0	0	0	0	0	103,926
DCKV	0	0	0	0	0	0	0
Destratification Fan	0	5,150,260	3,019,917	4,704,823	1,803,024	2,169,349	2,370,602
DWHR	0	0	0	1,714,230	5,085,558	7,686,900	4,495,163
Energy Star Convection Ovens	0	0	0	0	0	0	4,013,270
Energy Star Dishwasher	0	0	0	0	0	56,918	81,312
Energy Star Front Load Clothes Washer	0	0	0	0	0	2,592,863	1,939,526
Energy Star Fryer	0	0	0	0	0	245,617	0
Energy Star Steam Cookers	0	0	0	0	0	1,517,933	2,079,360
Enhanced Furnace	0	0	0	0	0	128,960	257,920
ERV	0	92,538	0	50,526	0	0	0
High Efficiency Furnace	20,076,225	20,040,510	18,923,183	47,503,561	24,205,073	23,382,789	16,955,093
High Efficiency Under-Fired Broilers	1,588,818	3,721,626	792,656	2,126,401	0	0	0
HRV	0	0	0	0	0	16,099	64,397
HWC - Faucet Aerators - Bath (1)	2,329,815	3,600,030	1,510,842	6,697,952	6,934,348	18,715,211	3,456,921
HWC - Faucet Aerator - Kitchen (1)	6,230,848	2,208,920	1,103,580	3,052,026	1,785,231	428,500	42,992
HWC - Showerhead	41,961,216	3,403,220	3,184,992	5,827,824	3,069,648	991,958	58,889
Infrared Heating	9,513,980	1,457,960	7,955,307	17,708,760	5,687,652	2,448,857	1,068,430
Laundry Washing Equipment with Ozone	0	9,960,720	21,029,014	7,948,480	17,928,573	25,664,375	16,163,914
Pre-Rinse Spray Nozzle	53,622,240	13,164,405	0	0	0	5,522,915	3,689,016
Prescriptive Schools - Elementary (hydronic boilers with 83%+)	0	0	8,072,743	6,913,804	1,189,720	2,391,590	0
Prescriptive Schools - Secondary (hydronic boilers with 83%+)	0	0	0	0	0	0	395,295
Power Combo Boiler	16,907,250	0	0	0	0	0	1,600,854
Rangehood	1,863,580	0	0	0	0	0	0
Rooftop Unit	3,215,880	5,862,460	3,016,012	4,447,710	759,454	0	0
Thermostat- Programmable	7,216,180	4,921,146	10,324,632	39,717,960	4,087,857	4,213,578	0
Water Heater Tank De-liming	158,049	0	0	0	0	0	0
*2012 New Measures	0	0	0	0	0	0	2,103,770

(1) Do not have the split between Bath and Kitchen Aerators in 2006

Number of prescriptive measures from 2006-2012

EB-2011-0327
Settlement Conference

Commercial Measure	2006	2007	2008	2009	2010	2011 Outlook	2012 Planned
Air Curtains - Double Door	0	0	0	0	0	0	5
Air Curtains - Single Door	0	0	0	0	0	0	5
CEE Tier 2 Front-Loading Clothes Washer	0	0	0	0	103	1,425	1,000
Condensing Boiler	270	352	318	508	598	645	450
Condensing Gas Water Heaters	147	0	0	0	41	117	45
Condensing Rooftop Units - MUA	0	0	0	0	0	12	11
Condensing Unit Heater	0	0	0	0	0	0	5
DCKV	0	28	20	42	18	15	15
Destratification Fan	0	0	0	13	30	17	30
DWHR	0	0	0	0	0	0	10
Energy Star Convection Oven	0	0	0	0	0	7	10
Energy Star Dishwasher	0	0	0	0	0	223	140
Energy Star Front Load Clothes Washer	0	0	0	0	0	566	0
Energy Star Fryer	0	0	0	0	0	146	200
Energy Star Steam Cooker	0	0	0	0	0	5	10
Enhanced Furnace	0	16	23	9	0	0	0
ERV	289	437	191	466	262	368	200
High Efficiency Furnace	368	546	117	347	0	0	0
High Efficiency Under-Fired Broiler	0	0	0	0	0	1	4
HRV	67	96	50	213	183	318	80
HWC - Faucet Aerators - Bath (1)	61,814	40,906	30,655	49,271	28,337	27,344	2,300
HWC - Faucet Aerator - Kitchen (1)	46,577	34,376	22,118	40,471	21,317	19,123	1,000
HWC - Showerhead	325	40,499	22,927	44,736	28,609	29,363	5,633
Infrared Heating	0	558	931	926	656	895	625
Laundry Washing Equipment with Ozone	0	0	0	0	0	63	26
Pre-Rinse Spray Nozzle	2,319	906	3,349	1,987	333	992	0
Prescriptive Schools - Elementary (hydronic boilers with 83%+)	0	0	0	0	0	0	2
Prescriptive Schools - Secondary (hydronic boilers with 83%+)	0	0	0	0	0	0	2
Power Combo Boiler	283	0	0	0	0	0	0
Rangehood	5	0	0	0	0	0	0
Rooftop Unit	177	242	830	1,224	209	0	0
Thermostat - Programmable	869	830	3,307	9,320	3,911	3,551	0
Water Heater Tank De-liming	60	0	0	0	0	0	0
*2012 New Measures	0	0	0	0	0	0	220

(1) Do not have the split between Bath and Kitchen Aerators in 2006

Question #1 from Chris Neme's January 12 Email:

1. You have budgeted for 70 building optimization projects, but only 12 custom projects. If you are working on building optimization with a customer, why wouldn't you be able to do more custom projects with them? Or are these different customers?
-

Response:

Union anticipates that it will be able to do more custom projects with customers that engage in building optimization however many of these custom projects will not be realized in 2012. Building optimization is typically a lower cost investment for housing providers while custom projects can become costly and take more time to implement.

By the time Union develops the market and assesses the buildings in 2012, it will likely be too late in the year for many housing providers to utilize any of their 2012 funding for unplanned projects. Based on this, Union anticipates seeing more adoption in 2013 and 2014 which is why there is an increase from 12 projects to 24 projects in those years.

Question #2 from Chris Neme's January 12 Email:

2. What is the basis for the 5 boiler replacement and 15 water heater replacements budgeted (both multi-family)?
-

Response:

It will take Union time to develop the market for this new offering. By the time Union begins this market offering, many housing providers will have their 2012 budgets approved and finalized. Union anticipates the majority of the market development to lead to participation in subsequent years. This is why the number of boilers increase from 5 in 2012 to 25 in 2013 and water heaters increase from 15 in 2012 to 20 in 2013.

Over the course of the three year plan, Union is targeting to achieve boiler replacements in 20% of the market (46 boilers/223 buildings).

Over the course of the three year plan, Union is targeting to achieve water heater replacements in 25% of the market (55/223).

Question #3 from Chris Neme's January 12 Email:

3. For the boilers and water heaters, how many of those measures have you done in the low income multi-family market in each of the last couple of years (2009-11)? What did you pay for them? What lifetime m3 savings did you get from them (on average and in aggregate)?
-

Response:

Union installed the following boilers and water heaters in the low income multi-family market from 2009 – 2011:

2009

Measure	Number of Projects	Lifetime Average	Lifetime Aggregate	Total Incentives (\$)
Condensing Boiler	1	170,501	170,501	1,500
Water Heater	None	None	None	None

2010

Measure	Number of Projects	Lifetime Average	Lifetime Aggregate	Total Incentives (\$)
Condensing Boiler	21	206,739	4,341,519	56,700
Water Heater	5	19,154	95,774	2,000

2011

Measure	Number of Projects	Lifetime Average	Lifetime Aggregate	Total Incentives (\$)
Condensing Boiler	18	150,284	1,202,272	20,250
Water Heater	4	19,155	76,619	600

Question #4 from Chris Neme's January 12 Email:

4. Why are clothes washers so expensive? \$800 seems like the full cost of a washer, not the incremental cost. Is that the case?

Response:

The incremental cost for the CEE Tier 2 Front-Loading Clothes Washer is \$600 as outlined in the Board Approved substantiation document on page 323 of Appendix H. The base case in the substantiation document for this measure is \$850 which results in a full cost of \$1450.

Union Gas Historical and Projected Budget and Savings by Sector

DSM Spending (2009-11) and Forecast Budgets (2012-2014) by Sector

	2009				2010				2011 Outlook [^]		
	Incentives	Promotion	Total		Incentives	Promotion	Total		Incentives	Promotion	Total
Residential	\$ 1,580,325	\$ 1,258,124	\$ 2,838,449		\$ 1,841,365	\$ 1,046,921	\$ 2,888,286		\$ 1,746,235	\$ 913,171	\$ 2,659,406
Commercial											
Prescriptive	\$ 3,392,040	\$ 531,761	\$ 3,923,801		\$ 2,136,985	\$ 302,695	\$ 2,439,680		\$ 2,641,364	\$ 496,885	\$ 3,138,249
Custom	\$ 617,250	\$ 96,765	\$ 714,015		\$ 1,307,398	\$ 185,188	\$ 1,492,586		\$ 1,171,432	\$ 59,586	\$ 1,231,018
Total	\$ 4,009,290	\$ 628,526	\$ 4,637,816		\$ 3,444,383	\$ 487,883	\$ 3,932,266		\$ 3,812,796	\$ 556,471	\$ 4,369,267
Industrial (excluding R100/T1)											
Prescriptive	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
Custom	\$ 2,327,357	\$ 434,730	\$ 2,762,087		\$ 2,782,862	\$ 217,767	\$ 3,000,629		\$ 4,013,976	\$ 271,902	\$ 4,285,878
Total	\$ 2,327,357	\$ 434,730	\$ 2,762,087		\$ 2,782,862	\$ 217,767	\$ 3,000,629		\$ 4,013,976	\$ 271,902	\$ 4,285,878
Industrial R100/T1											
O&M	\$ 445,898	\$ 131,982	\$ 577,880		\$ 641,262	\$ 59,644	\$ 700,906		\$ 2,089,254	\$ 210,040	\$ 2,299,294
Equipment	\$ 603,203	\$ 85,610	\$ 688,813		\$ 667,323	\$ 31,313	\$ 698,636		\$ 1,116,070	\$ 69,840	\$ 1,185,910
Engagement, Education, Studies, Assessments	\$ 855,211	\$ 139,117	\$ 994,328		\$ 596,921	\$ 58,153	\$ 655,074		\$ 588,000	\$ 96,120	\$ 684,120
Total	\$ 1,904,312	\$ 356,709	\$ 2,261,021		\$ 1,905,506	\$ 149,110	\$ 2,054,616		\$ 3,793,324	\$ 376,000	\$ 4,169,324
Low Income											
Single Family Deep											
Single Family Shallow	\$ 2,017,218	\$ 152,303	\$ 2,169,521		\$ 1,343,230	\$ 231,834	\$ 1,575,064		\$ 3,163,983	\$ 727,837	\$ 3,891,820
Multi-Family Deep											
Multi-Family Shallow	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
Total	\$ 2,017,218	\$ 152,303	\$ 2,169,521		\$ 1,343,230	\$ 231,834	\$ 1,575,064		\$ 3,163,983	\$ 727,837	\$ 3,891,820
Market Transformation	\$ 825,330	\$ 349,966	\$ 1,175,296		\$ 1,023,174	\$ 305,276	\$ 1,328,450		\$ 1,364,609	\$ 182,179	\$ 1,546,788
Administration*			\$ 5,235,880				\$ 5,464,402				\$ 5,713,463
Research & Evaluation**			\$ 1,142,387				\$ 1,288,649				\$ 1,284,289
Total			\$ 22,222,457				\$ 21,532,362				\$ 27,920,235

*Program Costs For comparison purposes with historicals, 2012-2014 program costs include employee expenses

**Administration Variance between 2011 actual and 2012 budgeted Administration costs (\$750,000) are a result of salary and wage inflationary increases, additional 2.35 FTEs, underspend in 2011, and inflationary costs on general expenses.

***R&E Variance between 2011 actual and 2012 budgeted for Research & Evaluation (\$900,000) is an increase of \$400,000 in Research and \$500,000 in Evaluation

[^] The 2011 numbers are Union's outlook updated as of December 19, 2011.

Union Gas Historical and Projected Budget ar

DSM Spending (2009-11) and Forecast Budgets (2012-201

	2012				2013				2014		
	Incentives	Promotion	Total		Incentives	Promotion	Total		Incentives	Promotion	Total
Residential	\$ 1,668,331	\$ 2,109,566	\$ 3,777,897		\$ 1,688,454	\$ 2,269,180	\$ 3,957,634		\$ 1,576,300	\$ 2,152,756	\$ 3,729,056
Commercial											
Prescriptive	\$ 2,783,240	\$ 970,707	\$ 3,753,947		\$ 2,783,240	\$ 970,707	\$ 3,753,947		\$ 2,783,240	\$ 895,707	\$ 3,678,947
Custom	\$ 930,880	\$ 255,708	\$ 1,186,588		\$ 930,880	\$ 255,708	\$ 1,186,588		\$ 930,880	\$ 255,708	\$ 1,186,588
Total	\$ 3,714,120	\$ 1,226,415	\$ 4,940,535		\$ 3,714,120	\$ 1,226,415	\$ 4,940,535		\$ 3,714,120	\$ 1,151,415	\$ 4,865,535
Industrial (excluding R100/T1)											
Prescriptive	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
Custom	\$ 1,849,719	\$ 62,199	\$ 1,911,918		\$ 1,849,719	\$ 62,199	\$ 1,911,918		\$ 1,849,719	\$ 62,199	\$ 1,911,918
Total	\$ 1,849,719	\$ 62,199	\$ 1,911,918		\$ 1,849,719	\$ 62,199	\$ 1,911,918		\$ 1,849,719	\$ 62,199	\$ 1,911,918
Industrial R100/T1											
O&M	\$ 1,054,000	\$ 89,621	\$ 1,143,621		\$ 1,054,000	\$ 89,621	\$ 1,143,621		\$ 1,054,000	\$ 89,621	\$ 1,143,621
Equipment	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
Engagement, Education, Studies, Assessments	\$ 786,000	\$ 371,289	\$ 1,157,289		\$ 786,000	\$ 371,289	\$ 1,157,289		\$ 786,000	\$ 371,289	\$ 1,157,289
Total	\$ 1,840,000	\$ 460,910	\$ 2,300,910		\$ 1,840,000	\$ 460,910	\$ 2,300,910		\$ 1,840,000	\$ 460,910	\$ 2,300,910
Low Income											
Single Family Deep	\$ 3,293,000	\$ 1,225,730	\$ 4,518,730		\$ 3,288,000	\$ 1,123,730	\$ 4,411,730		\$ 3,293,000	\$ 1,225,730	\$ 4,518,730
Single Family Shallow											
Multi-Family Deep	\$ 1,218,000	\$ 219,665	\$ 1,437,665		\$ 1,370,000	\$ 174,665	\$ 1,544,665		\$ 1,218,000	\$ 219,665	\$ 1,437,665
Multi-Family Shallow											
Total	\$ 4,511,000	\$ 1,445,395	\$ 5,956,395		\$ 4,658,000	\$ 1,298,395	\$ 5,956,395		\$ 4,511,000	\$ 1,445,395	\$ 5,956,395
Market Transformation	\$ 1,431,920	\$ 1,107,541	\$ 2,539,461		\$ 1,323,613	\$ 1,036,112	\$ 2,359,725		\$ 1,664,090	\$ 999,213	\$ 2,663,303
Administration*			\$ 6,467,891				\$ 6,467,891				\$ 6,467,891
Research & Evaluation**			\$ 2,195,292				\$ 2,195,292				\$ 2,195,292
Total			\$ 30,090,299				\$ 30,090,300				\$ 30,090,300

Union vs. Enbridge 2012 Cumulative m³ Comparison



Union Scorecard	Market	Union Cumulative Natural Gas Savings Target (000 m³) (a)	Enbridge Cumulative Natural Gas Savings Target (000 m³) (b)	Variance (000 m³) (c = a - b)
Resource Acquisition	Residential	24,819	43,243	(18,424)
	Commercial	533,222	502,710	256,012
	Industrial		274,500	
Large Industrial Rate 100/ Rate T1	Large Industrial	500,000		
Resource Acquisition / Large Industrial Total		1,058,041	820,453	237,588
Low-income	Residential	32,386	16,989	15,397
	Multi-Residential	4,023	45,474	(41,451)
Low-income Total		36,409	62,463	(26,054)
Total		1,094,450	882,916	211,534

Union vs. Enbridge 2012 Budget Comparison



Market	Union (\$000) (a)	Enbridge (\$000) (b)	Variance (\$000) (c = a - b)
Resource Acquisition			
Residential	4,103	2,920	1,183
Commercial	9,181	9,010	(1,645)
Industrial		4,963	
Large Industrial	3,147		
RA Sub-total	16,431	16,893	(462)
Low-income			
Residential	5,021	3,939	1,082
Multi-family	1,818	2,674	(856)
LI Sub-total	6,839	6,613	226
Market Transformation			
Drain Water Heat Recovery	550	1,950	(1,400)
Home Labelling	--	300	(300)
New Home Efficiency (EGD: Savings By Design Residential)	726	895	(169)
Savings By Design Commercial	--	775	(775)
High Efficiency Water Heating	1,002	--	1,002
Integrated Energy Management	690	--	690
MT Sub-total	2,968	3,920	(952)
Portfolio Overheads	3,854	3,484	370
Total Budget	30,091	30,910	(819)

The market and program offering variation between Union and Enbridge must be considered when comparing the budget values

Residential Market

Cara-Lynne Wade

Residential Program

- Program Strategy
- Energy Savings Kit Offering
- Attic and Basement Wall Insulation Offering

High Efficiency Water Heating Program

- Program Strategy
- Program Description

New Home Efficiency Program

- Program Strategy
- Program Description

Residential Program

Resource Acquisition

Program Strategy

- Target reduction of space & water heating natural gas consumption by delivering customer communication, education and financial incentives
- Consistent with Board's direction, over course of Plan, Union will decrease emphasis on basic measures and increase focus on deep measure offerings
- As focus on deep measure offerings grows, expand geographical areas targeted; thereby, increasing energy savings delivered through deep measure participants
- Reduce, but not eliminate, basic measure offerings to ensure Residential market as a whole continues to have access to energy efficient measures

Energy Savings Kit Offering

Residential Program

Target Market

- Residential customers in detached, semi-detached, townhouses and individually metered row townhouses who have a natural gas water heater or furnace – Rate classes M1 & R01
- Primary target is customers who have not received a kit before. Customers who have previously received Union's former energy efficient kit will be eligible to receive a new kit and savings will be measured based on replaced kit.
- Offering is not available to Union customers living in high-rise buildings and multifamily buildings with more than five units. These buildings are targeted by Union's commercial offerings.

2011 Offering

- In 2011 Union offered an Energy Saving Kit, consisting of:
 - Energy efficient showerhead, 1.25 gallons/min (GPM)
 - Teflon tape (1 roll) for ease of showerhead installation
 - Energy efficient aerators, 1.5 GPM kitchen & 1.0 GPM bathroom
 - Pipe wrap (two 1 meter lengths)
 - \$25 Programmable thermostat coupon

Changes for 2012 – 2014

- A 'Whole Home Energy Saving Kit' is now proposed, consisting of above elements, plus:
 - Foam Can - Seals air leakage through holes, gaps, cracks
 - Caulking - Air sealing around window sill frames or baseboards
 - Foam Tape - Fill gaps around doors and windows

Historical Comparison

	2010	2011 (pre-audit forecast)	2012	2013	2014
Units (Kits)	81,200	85,000	56,000	54,000	50,000
Units (P-stats)	8,878	10,000	6,000	5,500	5,000
Promotion Costs (\$000)	\$1,047	\$913	\$1,648	\$1,708	\$1,592
Incentive Costs (\$000)	\$1,841	\$1,746	\$1,571	\$1,514	\$1,402
Budget Total	\$2,888	\$2,659	\$3,219	\$3,222	\$2,994
Cumulative Gas Savings (000 m ³)	31,014	33,677	24,315	23,978	22,009
Cost/m ³ (\$)	0.093	0.079	0.132	0.134	0.136

ESK Offering Comparison with Enbridge



Union

Measures

- 1 Showerhead -1.25 gallons/min (GPM)
- 1 roll of Teflon tape
- 2 Aerators, 1.5 GPM kitchen & 1.0 GPM bathroom
- 2 Pieces of Pipe wrap (each 1 meter length)
- \$25 Programmable thermostat coupon
- Foam Can
- Caulking
- Foam Tape

Market Delivery

- Push - e.g. HVACs on calls & at events
- Pull - e.g. Direct Mail, Bill Insert etc.
- Install - e.g. HVAC install on calls

Enbridge

Measures –

- 2 Showerheads -1.25 gallons/min (GPM)
- 3 Aerators – 1 kitchen (1.5 GPM), 2 bathroom (1.0 GPM)

Market Delivery

- Push - Door-to-door delivery
- Pull - Direct mail etc.

Attic and Basement Wall Insulation Offering

Residential Program

Attic & Basement Wall Insulation Offering - Description



Introduction in 2012

- This deep measure offering provides prescriptive incentives for residential homeowners who install one or both of the following measures:
 - Attic insulation – improving insulation from R-10 or below to R-40 or above
 - Basement wall insulation – improving insulation from R-1 or below to R-12 or above
- Offering encourages homeowners to weatherize their homes, leading to deep energy savings and increased comfort due to:
 - Reduced cold air drafts, summer overheating and moisture/condensation problems
 - Reduced noise from outside the house
 - Improved indoor air quality and humidity levels
- Customer incentive will be 50% of incremental cost to a maximum value as outlined below
 - Attic Insulation 50% of incremental cost to a maximum of \$300
 - Basement Insulation 50% of incremental cost to a maximum of \$825

Attic & Basement Wall Insulation Offering - Description



- By launching this program, Union will help overcome:
 - Customers' lack of awareness regarding what insulation they currently have in place
 - Customers' lack of awareness regarding high efficiency insulation and how to differentiate between products
 - Contractors' / Installers' lack of expertise in selling long-term benefits of high efficiency
 - Lost opportunities that arise when homeowners do extensive renovations, but don't add high efficiency insulation - Due to high cost of large projects (finishing basement/attic) insulation is not always viewed as a top priority or worthy investment

Attic & Basement Wall Insulation Offering - Delivery



- Union will drive participation via two main channels:
 - End-use customer:
 - Using a mix of promotions/initiatives, educate about benefits of improving insulation and air sealing
 - Opportunities to target individual communities or neighbourhoods to be explored – Areas suitable for insulation offerings will be determined by analyzing billing data and other home characteristics
 - Working with mid-stream allies, including:
 - Contractors: Union will educate on benefits of improving insulation & air sealing, and provide material to 'sell' benefits and incentives when at a home quoting on or completing renovations/upgrades
 - Insulation Installers: Union will provide marketing material they can use beyond their own material. It will include incentives and will clearly explain benefits of installing attic and basement wall insulation.

Target Market

- Residential mass market – Rate classes M1 and R01
- Single-family residential homes built prior to 1980 and heated by natural gas.
- Homes with existing basement wall insulation of R-1 or below and/or attic insulation of R-10 or below
 - To improve cost effectiveness, offering will primarily target unfinished attics and basements where insulation can be added without removing walls or other structures
 - For attics, insulation must be installed only where cavities separate conditioned space from unconditioned areas of the residence

Attic & Basement Wall Insulation Offering



2012 – 2014 Forecast

	2012	2013	2014
Units (measures)	175	310	310
Promotion Costs (\$000)	\$400,000	\$500,000	\$500,000
Incentive Costs (\$000)	\$98,175	\$174,375	\$174,375
Budget Total	\$498,175	\$674,375	\$674,375
Cumulative Gas Savings (000 m ³)	504,158	895,706	895,706
Cost/m ³ (\$)	\$0.99	\$0.75	\$0.75

Attic & Basement Wall Insulation Comparison with Enbridge



Union

Measures

- Attic Insulation
- Basement Insulation

Market Delivery

- Mass-market, direct-to-homeowner and outreach through contractors that install insulation - entire franchise area is eligible
- UG will target particular "high opportunity" communities where possible

Enbridge

Measures/Offering

- Thermal envelope improvements, water savings devices, high efficiency gas furnaces & water heaters, and select electricity and water savings products

Market Delivery

- Offered in one specific community only, size is approximately 4,000 homes
- Direct to customer, with additional outreach through anticipated partners, including: Municipalities, LCDs, local Eco-Energy auditors, contractors, schools etc.

Total Residential RA Program Comparison with Enbridge



Union (2012)

Budget

- Promotion: \$2.049M
- Incentive: \$1.668M

Targets

- Participants: 175
- Cumulative m³: 24.819M m³

Enbridge (2012)

Budget

- Promotion*: \$375k
- Incentive: \$2.443M

Targets

- Participants: 160
- Cumulative m³: 43.243M m³

**Defined as Indirect Costs in EGD Plan*

Residential Program Budget



Residential Program Budget (\$000)			
Program Costs	2012	2013	2014
Promotion Costs	\$2,049	\$2,208	\$2,092
Incentive Costs	\$1,668	\$1,688	\$1,576
EM&V & Monitoring Costs	\$20	\$20	\$20
Administrative Costs	\$366	\$366	\$366
Total	\$4,103	\$4,282	\$4,054

Residential Program Targets



2012 Residential Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	12,409,000	24,819,000	31,023,000
Deep Measures	88	175	219

2013 Residential Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	11,989,000	23,978,000	29,973,000
Deep Measures	155	310	388

2014 Residential Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	11,005,000	22,009,000	27,512,000
Deep Measures	155	310	388

High Efficiency Water Heating Program

Market Transformation

Program Introduction in 2012

- In response to expected changes to minimum efficiency regulations for gas fired water heaters, Union has proposed to launch a new HEWH to remove existing barriers and promote creation of market conditions in the new home market that support these significantly increased standards.
 - NRCAN's Office of Energy Efficiency has proposed revising regulations for water heaters sold/leased in Canada from a minimum efficiency of EF 0.57 to EF 0.80 for a 151 litre storage tank water heater. Timing for changes is uncertain; but information suggests the change will take place between 2016 and 2020.
- In Canada, commercially available models meeting this efficiency standard are currently limited to tankless / condensing tankless - This program will support additional technologies as they become available in market

Program Goals

- Remove market barriers currently preventing adoption of high efficiency water heaters (0.80 EF and above) and build a competitive market for these measures
 - Increase market share of high efficiency water heaters in the new build market
- Support development of market conditions necessary to support future building code changes and/or federal regulations regarding water heater efficiency
 - Increase experience with and acceptance of high efficiency water heaters by residential home builders
- Support development of a market such that, sufficient volume of water heaters are produced/sold into ON market to reduce overall cost of product to home buyers
 - Decrease incremental costs to home buyers of purchasing/renting a high efficiency water heater

Market Transformation

Background:

- NRCAN's Office of Energy Efficiency proposed amending regulations for water heaters sold/leased in Canada. Union understands that revised regulations, as currently drafted, propose to increase min efficiency for gas fired water heaters from existing min efficiency of EF 0.57 to EF 0.80 for a 151 litre storage tank. Timing for changes is uncertain; available information suggests change will take place between 2016 and 2020.

Union's Market Transformation Goal:

- Launch a HEWH program that drives a market share of 25% within 5 years - This will help to both remove existing HEWH barriers and promote the creation of 'New Build' market conditions that support market acceptance for new, significantly increased, code changes
- Experience from other New Build programs, such as the *ENERGY STAR For New Homes*, suggests a measure will have the necessary momentum to be regulated federally or included in Building Code when the following exists - This happened for ENERGY Star for New Homes when they reached a penetration of 25%:
 - A significant pool of builders have experience with measure
 - Costs associated with measure can be accurately estimated
 - Long term quality/reliability of measure has been proven in field

Program Strategy

- Work cooperatively with residential home builders and their sales agents to:
 - Effectively promote benefits of high efficiency water heaters to home buyers
 - Enhance home buyer knowledge to increase uptake and reduce call-backs to home builders and potential dissatisfaction related to high efficiency water heaters
 - Facilitate training for installers of high efficiency water heaters with goal of increasing quality of installations, and increasing comfort with these products
- Offset incremental cost to home builders and home buyers using a financial incentive

Target Market

- Builders, Builder Sales Centers, Installers and Rental Companies
 - Union will facilitate training of these stakeholders to ensure they understand the key benefits of high efficiency water heaters and promote them to customers.
- Residential new build, single family detached homes and individually metered town-homes, (Rates M1 and 01) – Both new build rental and Purchase markets
- Union will seek opportunities to support the commercialization of new 0.80 EF (or higher) technologies, including storage tank models. These efforts will include collaboration with third parties such as: manufacturers, rental providers, other utilities, energy efficiency agencies and associations.

Market Delivery

- HEWH Program will utilize multiple distribution channels, including, but not limited to:
 - Residential home builders and their sales agents
 - Sub-contracted water heater installers (generally plumbers), to increase their comfort with measure, as well as ensure high quality installations.
 - Rental providers' builder managers, as a secondary method to reach builders and promote the measure.
 - Manufacturers , to develop promotional/educational materials for home builders and buyers.
 - Direct-to-consumer approach, by attending consumer and industry events targeted at prospective home buyers such as home shows.

Program Incentives

- HEWH Program will offer an incentive of \$250 for each new home with a water heater that has an EF of 0.80 or above. Incentive will be divided between builder and home buyer as required to mitigate incremental cost of installation and
- The incentive will be adjusted throughout the life of the Program based on market acceptance

High Efficiency Water Heating (HEWH) - Barriers to Overcome



- Reluctance from builders to install water heaters that have potential to increase call-backs and customer dissatisfaction - Union will address this by:
 - Providing marketing support/training to builders and sales agents on establishing customer expectations prior to move in, which will lead to greater comfort with measure
 - Developing information on ideal design location for optimal performance of tankless units.
- Higher costs for high efficiency units – Union will address this by:
 - Providing an incentive for new homes with a high efficiency water heater installed
- Lack of familiarity/interest from buyers who focus spend on aesthetic upgrades, as opposed to enhanced energy performance upgrades - Union will address this by:
 - Providing marketing support and training to builders and their sales agents to effectively promote the benefits of high efficiency water heaters
 - Offering financial incentive to help build initial interest in measure and provide opportunity for builders to promote value of high efficiency water heaters

High Efficiency Water Heating (HEWH) - Barriers to Overcome



- Increased maintenance required for tankless units, if maintenance isn't undertaken, problems can emerge from issues like scaling/liming - Union will address this by:
 - Educating home buyers through builders and rental providers.
- Builder experience with old high efficiency models was not positive, builders prefer to use proven, reliable options – Union will address this by:
 - With support of manufacturers, Union will hold education and training sessions
- Installers require special training to install tankless units. If not installed correctly, quality issues could emerge.
 - Union will work with installers employed or sub-contracted by builders to build capacity and competency in installing high efficiency water heaters.
 - Union will explore opportunities with trade associations to enhance awareness of high efficient water heaters and the installation requirements to its members.

High Efficiency Water Heating (HEWH) - Program Duration



- Union anticipates intervention will be required for six years, with 25% market penetration achieved in final year
- Program timeline is aggressive given the following market characteristics:
 - Significant change in efficiency:
 - Minimum efficiency water heaters currently dominate market - Moving market from 0.57 EF to 0.80 EF represents a significant shift
 - 2012 OBC Challenges:
 - 2012 OBC establishes new requirements for energy efficiency - It represents a significant challenge for builders in terms of understanding and complying with new Code requirements
 - Various OBC packages have been created to make it easier for builders to comply with OBC; however, none include 0.80 EF water heaters. Therefore, installing a HEWH represents going above code during a period in which builders will be stretched to meet new requirements.
 - Little Awareness/Knowledge:
 - Because many builders are unfamiliar with benefits and adjustments required to install a high efficiency water heater in their home design, momentum at the early stages of this Program will be slow.

High Efficiency Water Heating Program Budget (\$000)			
Program Costs	2012	2013	2014
DWHR Sunset costs	\$550	\$0	\$0
Promotion Costs	\$200	\$222	\$200
Incentive Costs	\$583	\$797	\$1,087
Administrative Costs	\$219	\$219	\$219
Total	\$1,552	\$1,238	\$1,506

HEWH Program Targets



2012 High Efficiency Water Heating Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Market Uptake	14%	15%	16%
Participating Builders	40	50	60
Education Sessions & Consumer/Industry Shows	8	15	22

2013 High Efficiency Water Heating Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Market Uptake	2012 actual result + 0%	2012 actual result + 2%	2012 actual result + 4%
Participating Builders	2012 actual result + 5%	2012 actual result + 10%	2012 actual result + 15%
Education Sessions & Consumer/Industry Shows	15	22	29

2014 High Efficiency Water Heating Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Market Uptake	2013 actual result + 0%	2013 actual result + 2%	2013 actual result + 4%
Participating Builders	2013 actual result + 5%	2013 actual result + 10%	2013 actual result + 15%
Education Sessions & Consumer/Industry Shows	15	22	29

New Home Efficiency Program

Market Transformation

Program Introduction in 2012

- NHE was proposed following input from the Consultative – Union also consulted with a number of builders and received favourable input on value Program will bring to market.
- Given significant change in OBC in 2012, introduction of this new Program will be extremely important in continuing to encourage new home builders to build above code.
- Over a 3-yr period, Union and a third-party consultant will review a builder's key business functions from start to finish, including analyzing and designing/re-designing management controls, operating procedures, purchasing, contracts, and construction practices in order to optimize operating efficiencies, improve customer satisfaction and increase product quality.
- In exchange, participating builders will re-invest the accrued savings to improve the energy efficiency of their homes.

Program Goals

- Review Builders' key business functions and building practices with the purpose of identifying areas where efficiencies can be gained.
 - Union will address underlying drivers of business performance in order for builders to successfully adopt energy efficiency
- Integrate identified new best practices into their daily business functions and new housing starts.
 - Builders incorporate more efficient processes in way they are running their business and operating their design practices
- Incorporate high efficiency measures into their new home designs to improve overall house efficiency by at least 15% above Ontario Building Code (OBC) 2012.
 - Each participating builder will increase the percentage of housing starts built to higher efficiency standard during Program and beyond, with ultimate goal of complete transformation.

Program Goals

- Utilize savings identified through NHE Program to reduce incremental costs associated with energy efficient upgrades.
 - By ensuring upgrades result in minimal incremental cost, this will result in more competitiveness for builder, creating a desire within organization to transform their business model to build to a higher efficiency.
- Educate builders on how to promote energy efficient homes to ensure there is customer demand for their product.
 - By educating and providing tools to builder sales teams, this will ensure their ability to sell these homes will be more effective.
- By 2016, builders that started Program in 2012 will have majority of their starts 15% above OBC 2012 and those started in 2013 will have half of their starts at 15% above.
 - Increase market share of higher efficiency homes such that market conditions are acceptable for increased minimum efficiency standards in future building codes.

Union's Market Transformation Goal

- With consulting support, participating builders will transform both their business and building practices over the course of three years, and will apply their savings to higher efficient homes (15% above OBC 2012). By participating in this program, these builders will transform the market by:
 - Using what they have learned to build an increasing percentage of their housing starts 15% above OBC 2012, even after they have completed their 3-year participation in the program
 - Together, increase the overall market share of high efficient homes, thereby creating market conditions that support new, increased, minimum efficiency standards to be more easily implemented in the expected next code version in 2017

Program Strategy

- Builder Strategy:
 - Educate and build awareness amongst residential builders about the benefits/savings of taking a 'whole home approach' to building more efficiently.
 - Through a consultative approach, identify cost savings that can be generated through refined business and building practices
 - Utilize cost savings to reduce incremental costs associated with building to a higher energy efficiency standard (15% above OBC), improving competitiveness and profitability
- Sales Agent Strategy:
 - Educate and provide sales/marketing tools to builder sales teams to improve their relative effectiveness in selling higher efficiency homes to new home buyers
- Consumer Strategy
 - Educate and build awareness in home buyers about benefits of high efficiency homes to heighten their understanding of energy savings they can experience and to increase their desire and demand for these new homes, which will drive builder commitment to this Program

Target Market

- There are two target audiences in the New Home Efficiency Program:
 - Primary target market:
 - Production builders in the Union franchise area (builders with 50 or more housing starts per year on average will be the target).
 - Secondary target market:
 - Residential new build home owners, of both single family detached homes as well as individually metered town-homes - Rates M1 and 01
 - Home builders not eligible for this Program - Training and education will be provided through regional workshops

Market Delivery

- This energy efficiency Program will be delivered through Union Residential Account Managers and will require collaboration with third party consultants and channel partners who will be required to:
 - Deliver required consulting services
 - Leverage manufacturing and channel partner relationships to provide product knowledge and education

Program Incentives

- The builder incentive is outlined below for each phase of participation. The incentive will come in the form of consulting services, education and training:
 - Phase 1 - \$29,000 per builder
 - Phase 2 – \$25,000 per builder
 - Phase 3 – \$21,000 per builder

New Home Efficiency (NHE) Program - Barriers to Overcome



- Primary barrier is builder's concerns over incremental costs associated with energy efficiency upgrades – Union will address this by:
 - Utilizing “whole home approach” to production to address all of the builders concerns through consultative process. Union will leverage experience of industry experts to provide solutions that builders will be comfortable with and profitable implementing.
- Secondary barrier is new technologies or processes that are more energy efficient, but builders are unfamiliar with and reluctant to use – Union will address this by:
 - Including in Program offering education, a “train the trades” component and sales team training.
- Third barrier is addressing difficulties builders have in selling energy efficiency upgrades to their home buyers – Union will address this by:
 - Assisting builder with sales training and marketing materials.

New Home Efficiency (NHE) Program - Program Duration



- Union will enrol builders over duration of 3-yr Plan and provide support and incentives. NHE Program will run for five years to recognize builders that enrol in years two and three require support through “sunset period”.
- The New Home Efficiency Program is a three-year 1 commitment for builder with a specified metric at the end of each phase:
 - Phase 1 – one prototype home built and certified
 - Phase 2 – 10% of housing starts that year will be 15% above code
 - Phase 3 – 25% of housing starts that year will be 15% above code
- Following the three phases of the Program Union will withdraw financial support. Builders will continue to use what they have learned to build homes which are 15% above OBC 2012.

New Home Efficiency Comparison with Enbridge



Union

Efficiency

- >15% above OBC

Market Delivery

- Union's Residential Account Managers, in collaboration with 3rd party consultants and channel partners will:
 - Deliver required consulting services
 - Leverage manufacturing and channel partner relationships to provide product knowledge and education

Enbridge

Measures

- >25% above OBC

Market Delivery

- Enbridge staff in collaboration with 3rd party consultants and channel partners will:
 - Deliver required consulting services

New Home Efficiency Program Comparison with Enbridge



Union (2012)

Budget

- Promotion: \$ 232,000
- Incentive: \$300,000

Targets

- 8 builders enrolled
- 30% of enrolled builders, build a prototype home (3 homes built in year one)

Enbridge (2012)

Budget

- Promotion*: \$730,000
- Incentive: \$165,000

Targets

- Of top 20 builders – 2 enrolled
- Of top 80 builders – 9 enrolled
- Over next 3-years, each enrolled builder commits to building 1 prototype home (11 homes built over 3 years)

**Defined as Indirect Costs in EGD Plan*

New Home Efficiency Program Budget



New Home Efficiency Program Budget (\$000)			
Program Cost	2012	2013	2014
Promotion Costs	\$300	\$350	\$300
Incentive Costs	\$232	\$316	\$326
Administrative Costs	\$194	\$194	\$194
Total	\$726	\$860	\$820

New Home Efficiency Targets

2012 New Home Efficiency Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
New Participating Builders	6	8	10
Prototype Homes Built	20% of Participating Builders	30% of Participating Builders	40% of Participating Builders

2013 New Home Efficiency Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
New Participating Builders	2	4	6
Prototype Homes Built	50% of Participating Builders	60% of Participating Builders	70% of Participating Builders
Homes Built (>15% above OBC 2012) by Participating Builders	2%	4%	6%

2014 New Home Efficiency Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
New Participating Builders	1	2	3
Prototype Homes Built	70% of Participating Builders	80% of Participating Builders	90% of Participating Builders
Homes Built (>15% above OBC 2012) by Participating Builders	2013 actual result + 4%	2013 actual result + 6%	2013 actual result + 8%

Additional Programs Considered in Planning Process

Market Transformation

History

- Union has delivered this program 2007 – 2011

Union Is Ending Program in 2012

- Recent insight into DWHR savings show a significant decline in annual/cumulative natural gas savings

Program was Considered

- Discussions were held with GEC and Enbridge
 - Enbridge launching Home Labelling program in 2012

Union Is Not Launching Program in 2012

- Union did not have enough information to include the program in the DSM Plan
- Union plans to assess the potential for this opportunity and determine next steps in 2012 based on the outcomes

Low Income Market

Tracey Brooks

- Program Strategy
- Helping Homes Conserve Offering
- Home Retrofit Offering
- Social and Assisted Housing Multi-Family Offering

Program Strategy

- Address all measures and natural gas savings opportunities in the dwellings that lead to an overall cost-effective Program
- Grow the offering's infrastructure across Union's franchise area
- Provide customers with the education required to continue conservation in their home after measure installation has been performed
- Address universality by expanding the Program to new low income markets (i.e. Social and Affordable Housing Multi-Family Offering)
- Foster relationships with key influencers in the low income community (i.e. social service agencies)

Helping Homes Conserve Offering

Low Income Program

Target Market

- Customers who reside at or below 135% of the most recent Statistics Canada pre-tax Low-income Cut-Offs ("LICO") for communities of 500,000 or more, as updated from time to time.
- Any household that pays their own natural gas bills and resides within a community in which greater than or equal to 40% of households qualify for the LICO threshold listed
- Any social or assisted housing tenant regardless of who pays the natural gas bill

2011 Offering

This offering provides low income customers with the free installation of:

- Up to two energy-efficient showerheads
- Two metres of pipe insulation
- Bathroom and kitchen aerator
- Programmable thermostat

Changes for 2012 – 2014

- No change in measure mix or in primary delivery channels

Historical Comparison

	2008	2009	2010	2011 Forecast	2012	2013	2014
Participants	7,694	18,478	14,508	26,000	10,000	3,000	1,500
Promotion Costs (\$000)	\$494	\$152	\$232	\$334	\$390	\$396	\$103
Incentive Costs (\$000)	\$951	\$1,896	\$1,108	\$1,502	\$688	\$206	\$130
Budget Total	\$1,445	\$2,048	\$1,340	\$1,836	\$1,078	\$396	\$234
Cumulative Gas Savings (000 m ³)	13,117	29,906	20,530	32,723	15,457	4,637	2,319
Cost/m ³ (\$)	0.11	0.07	0.07	0.06	0.07	0.09	0.10

HHC Offering Comparison with Enbridge



Union

Measures

- Showerheads
- Kitchen and Bathroom Aerators
- Pipe Insulation
- Programmable Thermostat

Market Delivery

- Door-to-door campaign
- Social and Assisted Housing
- Community Partners
- Home Retrofit Offering

Enbridge

Measures

- Showerheads
- Kitchen and Bathroom Aerators
- Heat Reflector Panels
- Programmable Thermostat

Market Delivery

- Housing Providers
- Low Income Networks
- Sector Representatives

HHC Offering Comparison with Enbridge



Union (2012)

Budget

- Promotion: \$390,000
- Incentive: \$688,000

Targets

- Participants: 10,000
- Cumulative m³: 15,457,557
- Cost/m³: \$0.07

Enbridge (2012)

Budget

- Promotion: \$ N/A
- Incentive: \$ N/A

Targets

- Participants: N/A
- Cumulative m³: N/A

Home Retrofit Offering

Low Income Program

Target Market

- Customers who reside at or below 135% of the most recent Statistics Canada pre-tax Low-income Cut-Offs ("LICO") for communities of 500,000 or more, as updated from time to time
- Private homeowners, or tenants who pay their utility bill, who were a recipient of one of the following social benefits within the last twelve months:
 - The National Child Benefit Supplement;
 - Allowance for the Survivor;
 - Guaranteed Income Supplement;
 - Allowance for Seniors;
 - Ontario Works;
 - Ontario Disability Support Programs; or
 - LEAP Emergency Financial Assistant Grant.
- Any social or assisted housing tenant regardless of who pays the natural gas bill

2011 Offering

This offering provides low income customers with the free installation of:

- Basement, attic and wall insulation
- Draft-Proofing

Customers receive a free energy audit to determine the upgrade needs in the home.

After completion of the upgrades, a free post energy audit is completed to verify the savings.

Changes for 2012 – 2014

- Early replacement of furnace and water heater replacements for certain models
- Health and Safety funding

Historical Comparison

	2009	2010	2011 Forecast	2012	2013	2014
Participants	75	134	450	550	650	750
Promotion Costs (\$000)	-	-	\$456	\$723	\$818	\$941
Incentive Costs (\$000)	\$121	\$235	\$1,599	\$2,605	\$3,082	\$3,553
Budget Total	\$121	\$235	\$2,055	\$3,329	\$3,900	\$4,494
Cumulative Gas Savings (000 m ³)	1,499	2,212	11,615	16,928	20,007	23,083
Cost/m ³ (\$)	0.08	0.11	0.18	0.19	0.19	0.19

Home Retrofit Comparison with Enbridge



Union

Measures

- Attic, basement, wall insulation
- Draft-proofing Measures
- Early replacement of furnace and water heaters
- A and B audits

Market Delivery

- Municipalities, Community Partners
Social Service Agencies
- Data Analysis
- LDC Collaboration

Enbridge

Measures

- Attic, basement, wall insulation
- Draft-proofing Measures
- Furnace replacements
- A and B audits (Full Eco Energy)

Market Delivery

- Municipalities, Community Partners
Social Service Agencies
- LDC Collaboration
- Delivery Agents

Home Retrofit Comparison with Enbridge



Union (2012)

Budget

- Promotion: \$726,000
- Incentive: \$2,605,000

Targets

- Participants: 550
- Cumulative m³: 16,928,450
- Cost/m³: \$0.19

Enbridge (2012)*

Budget

- Promotion^{**}: \$510,000
- Incentive: \$3,285,900

Targets

- Participants: N/A
- Cumulative m³: 16,989,000*
- Cost/m³: \$0.22

*Enhanced TAPS assumed in budget and targets

****Defined as Indirect Costs in EGD Plan**

Comparison with Enbridge on Single Family Offerings



Union (2012)

Budget

- Promotion: \$1,113,000
- Incentive: \$3,293,000

Targets

- Cumulative m³: 32,386,007
- Cost/m³: \$0.13

Enbridge (2012)

Budget

- Promotion^{**}: \$510,000
- Incentive: \$3,285,900

Targets

- Cumulative m³: 16,989,000*
- Cost/m³: \$0.22

***Defined as Indirect Costs in EGD Plan*

Social and Assisted Housing Multi-Family Offering

Low Income Program

Social and Assisted Housing Multi-Family Offering



Target Market

- Social Housing Providers that operate multi-family buildings with tenants who reside at or below 135% of the most recent Statistics Canada pre-tax Low-income Cut-Offs ("LICO") for communities of 500,000 or more, as updated from time to time
- Centrally-metered buildings*

** Assumed 223 social and assisted centrally metered multi-family buildings in our franchise*

Social and Assisted Housing Multi-Family Offering



Introduction in 2012

- Support Social and Assisted Housing Providers to address energy efficient upgrades in their buildings
- Eligible Upgrades may include:
 - Prescriptive measure upgrades, such as Condensing Boilers and Condensing Gas Water Heaters
 - Custom measure upgrades including building envelope upgrades and Building Optimization
- Provides social and affordable housing providers with “enhanced” incentives for any Commercial prescriptive or custom offering for multi-family buildings
- Comprehensive education will be offered to all influencers on the energy usage in the building including, housing providers, builder operators and tenants

Incentives

The enhanced incentives include the following:

- 50% of the eligible costs* of the project up to a maximum of 55% of the estimated eligible costs
 - 50% of the incentive can be provided in advance of the project if required by the social or assisted housing provider
- Free site assessment and eligible low-cost/no-cost upgrades for Building Optimization
- Comprehensive education and training for social housing providers, building operators and tenants

**Eligible Costs include; the cost of the measure, the cost of the installation of the measure and the cost of any assessment required determining the upgrade needs of the given measure.*

Barriers Addressed

Access to capital to fund measures

- To address this barrier Union offers enhanced incentives to reduce the financial burden that housing providers face trying to purchase measures by allowing providers to realize their return on investment earlier by reducing the payback on the measures.

Lack of decision making abilities around conservation upgrades by the low income tenants who reside in the building as property managers must agree to any Program uptake.

- To address this barrier, Union works directly with social and affordable housing providers who manage multi-family buildings to remove the barrier of access to conservation for low income tenants residing in these buildings

Social and Assisted Housing Multi-Family Offering



2012 – 2014 Forecast

	2012	2013	2014
Units (measures)	190	225	170
Promotion Costs (\$000)	\$200	\$155	\$155
Incentive Costs (\$000)	\$1,218	\$1,370	\$938
Budget Total	\$1,418	\$1,525	\$1,093
Cumulative Gas Savings (000 m ³)	4,022	7,203	5,737
Cost/m ³ (\$)	\$0.35	\$0.21	\$0.19

Social Housing Profile Comparison with Enbridge



Union

- Large proportion of small to mid-size buildings
- Geographically dispersed buildings across our franchise

Enbridge

- Three largest social housing providers in franchise; Toronto Community Housing, Region of Peel, Social Housing Ottawa
 - Toronto Community Housing alone has 259 apartment buildings that are >3 stories (representing 44,836 units)
- High-density of social housing buildings

Social and Assisted Housing Multi-Family Offering



Union

Measures

- Prescriptive
- Custom
- Building Optimization

Market Delivery

- Municipalities
- Organizations and Associations
- Direct Marketing

Enbridge

Measures

- Prescriptive
- Custom
- Run it Right and Energy Compass

Market Delivery

- Municipalities, Community Partners
Social Service Agencies
- Associations
- Social Housing Agencies

Social and Assisted Housing Multi-Family Offering



Union (2012)

Budget

- Promotion: \$200,000
- Incentive: \$1,218,000

Targets

- Participants: 190
- Cumulative m³: 4,022,693
- Cost/m³: \$0.35

Enbridge (2012)

Budget

- Promotion^{**}: \$ 1,172,500
- Incentive: \$ 1,152,250

Targets

- Participants: N/A
- Cumulative m³: 45,474,000
- Cost/m³: \$0.05

***Defined as Indirect Costs in EGD Plan*

Low Income Program Targets



2012 Low Income Program Targets

Metrics	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	18,204,000	36,409,000	45,511,000
Residential Deep Measure Participants	275	550	688
Multi-Family Deep Measures	95	190	238

2013 Low Income Program Targets

Metrics	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	15,924,000	31,848,000	39,809,000
Residential Deep Measure Participants	325	650	813
Multi-Family Deep Measures	113	225	281

Low Income Program Targets



2014 Low Income Program Targets

Metrics	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	15,570,000	31,141,000	38,926,000
Residential Deep Measure Participants	375	750	938
Multi-Family Deep Measures	85	170	213

Low Income Program Budget



2012 Low Income Program Budget (\$000)

Program Cost	Residential	C/I General Service
Promotion Costs	\$1,116	\$200
Market Incentive Costs	\$3,293	\$1,218
EM&V & Monitoring Costs	\$10	\$30
Administrative Costs	\$602	\$370
Total	\$5,021	\$1,818

2013 Low Income Program Budget (\$000)

Program Cost	Residential	C/I General Service
Promotion Costs	\$1,014	\$155
Market Incentive Costs	\$3,288	\$1,370
EM&V & Monitoring Costs	\$10	\$30
Administrative Costs	\$602	\$370
Total	\$4,914	\$1,925

Low Income Program Budget



2014 Low Income Program Budget (\$000)

Program Cost	Residential	C/I General Service
Promotion Costs	\$1,078	\$155
Market Incentive Costs	\$3,656	\$938
EM&V & Monitoring Costs	\$10	\$30
Administrative Costs	\$602	\$370
Total	\$5,346	\$1,493

Commercial / Industrial Program

Ryan Shaw,
Amanda McAlorum

Commercial Industrial Resource Acquisition Program

- Prescriptive Offering
- Custom Offering
 - Commercial Custom
 - Industrial Custom

Budget

- \$9.2 million

Rate Classes Targeted

- M1, M2, 01, 10, M4, M5, M7, 20

- Program strategies to achieve our goals include:
 - Deliver a comprehensive suite of cost effective initiatives across all sectors and customer types
 - Provide customers with incentives, education and training
 - Expand knowledge base and awareness of service providers
 - Maximize alliance opportunities through strategic relationships with key organizations

Commercial and Industrial Comparisons Prescriptive and Custom

- Union Gas & Enbridge -

Ryan Shaw

- Factors that should be considered when comparing Union Gas and Enbridge Gas Distribution include:
 - Program design is similar, but not the same for commercial markets
 - Program design is similar, but not the same for industrial markets
 - Differences in building and customer type
 - Differences in the number of facilities found in specific segments
 - Differences in the size of facilities found in specific segments

Union

Commercial (All)

- Incentive Budget: \$ 3.714 M
- Promotional Budget: \$ 0.924 M
- m3 savings: 211.7 M

Industrial (non Rate 100 / Rate T1)

- Incentive Budget: \$ 1.85 M
- Promotional Budget: \$ 0.05 M
- m3 savings: 321.5M

T1/R100

- Incentive Budget: \$ 1.84 M
- Promotional Budget: \$ 0.36 M
- m3 savings: 500 M

Enbridge

Commercial (All)

- Incentive Budget: \$ 4.581M
- Promotional Budget*: \$ 3.585 M |
- m3 savings: 502.7M

Industrial (All)

- Incentive Budget: \$ 3.054 M
- Promotional Budget*: \$ 1.097 M |
- m3 savings: 274.5 M

**Defined as Indirect Costs in EGD Plan* |

Union

CI Program Totals (excluding T1/R100's)*

- Budget: \$ 6.538 M
- m3 savings: 533.2M
- Cost Effectiveness: 82 m3/\$

CI Program Totals (with T1/R100's)*

- Budget: \$ 8.738 M
- m3 savings: 1,033.2 M
- Cost Effectiveness: 118 m3/\$

Enbridge

CI Program Totals (All CI Market)

- Budget: \$ 12.317 M
- m3 savings: 777.21 M
- Cost Effectiveness: 63 m3/\$

* Excludes market transformation programs

* Includes promotional & incentive costs only

Union

Deep Measures

- Metric – Based on units and number of applications
- Custom & prescriptive not comparable to Enbridge

Enbridge

Deep Measures

- Metric - % of custom commercial and industrial participants
- Custom & prescriptive not comparable to Union

Note: Differences in market and program design affect ability to compare

Commercial Industrial Program

- Prescriptive Offering -

Ryan Shaw

- Similar design and purpose as previous years
 - Majority of current measures will be offered in 2012
- Different Measure Mix
 - Phase out segments of HWC (Showerheads and Aerators)
 - No longer offer Pre-Rinse Spray Valves
 - No longer offer Programmable Thermostats
- Number of new measures will likely be offered
 - Linkageless Control
 - Boiler Economizers
 - Demand Control Ventilation
 - A number of new measures will be investigated

SPACE HEATING	Condensing Boilers
	Demand Control Kitchen Ventilation
	Condensing - Make Up Air Units
	Infrared Heaters
	Energy Recovery Ventilators
	Heat Recovery Ventilators
	Destratification Fans
	Programmable Thermostats

WATER HEATING	Showerheads & Aerators
	Pre-Rinse Spray Nozzles
	Condensing Gas Water Heater
	Front Load Clothes Washer
	ENERGY STAR® Dishwasher
	Ozone Laundry

COOKING	High Efficiency Under-Fired Broiler
	ENERGY STAR Convection Oven
	ENERGY STAR Steam Cooker
	ENERGY STAR Fryer

- Target Audience*

- Commercial and Industrial Segments
- Manufacturing, Industrial Processing and Refining, Greenhouse, etc.
- MUSH, Warehouse, Multi-residential, Retail, Office, etc.
- National Accounts

- Customer Focused Delivery

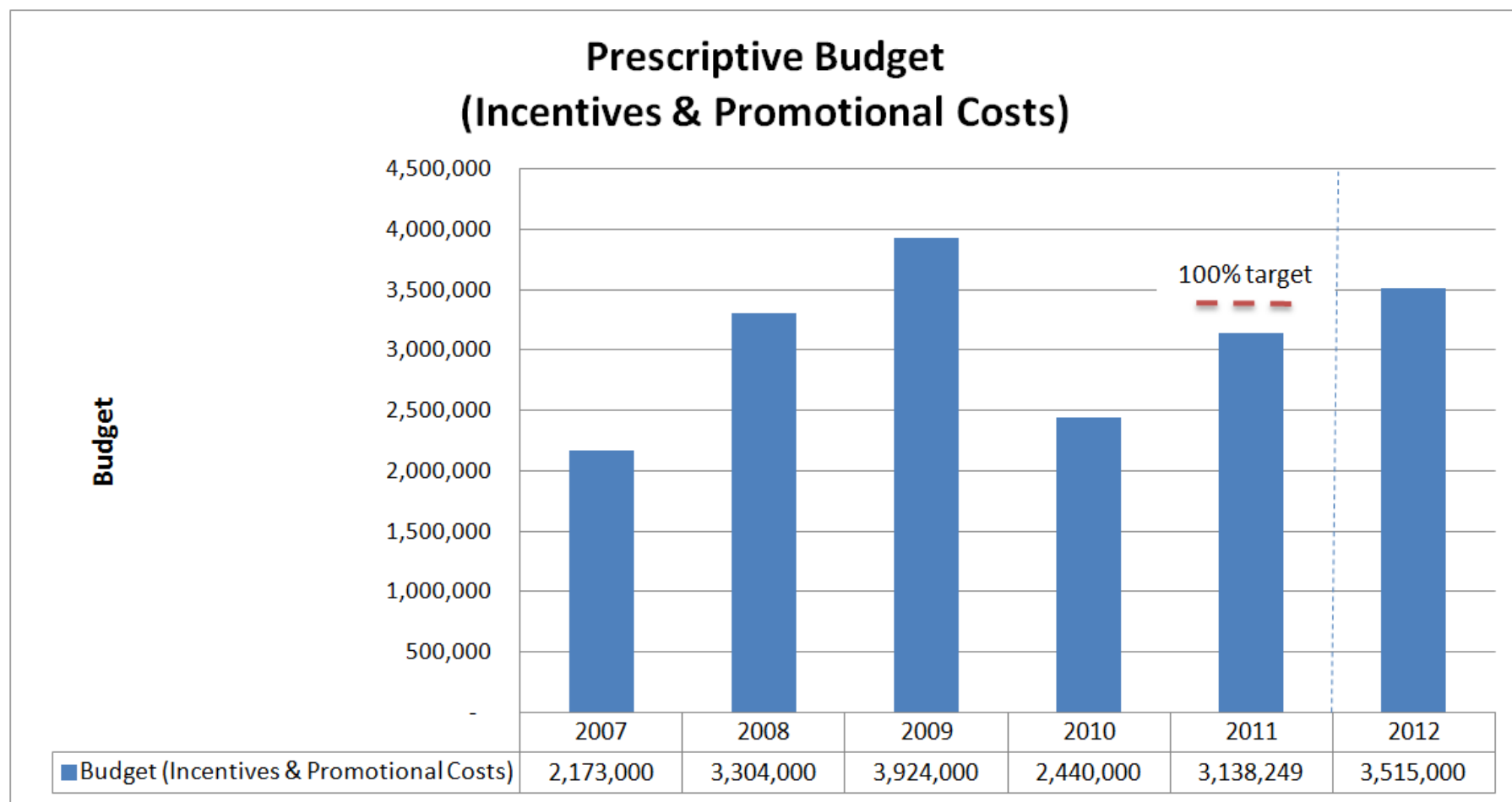
- Highly Focused on End User Funding
- Commercial Sales Personnel (Energy Advisors)
- Design Engineers, ESCO's, Architects, Contractors, Distributors, etc.

* Includes all commercial and industrial customers except Rate T1 & Rate 100

Prescriptive Offering

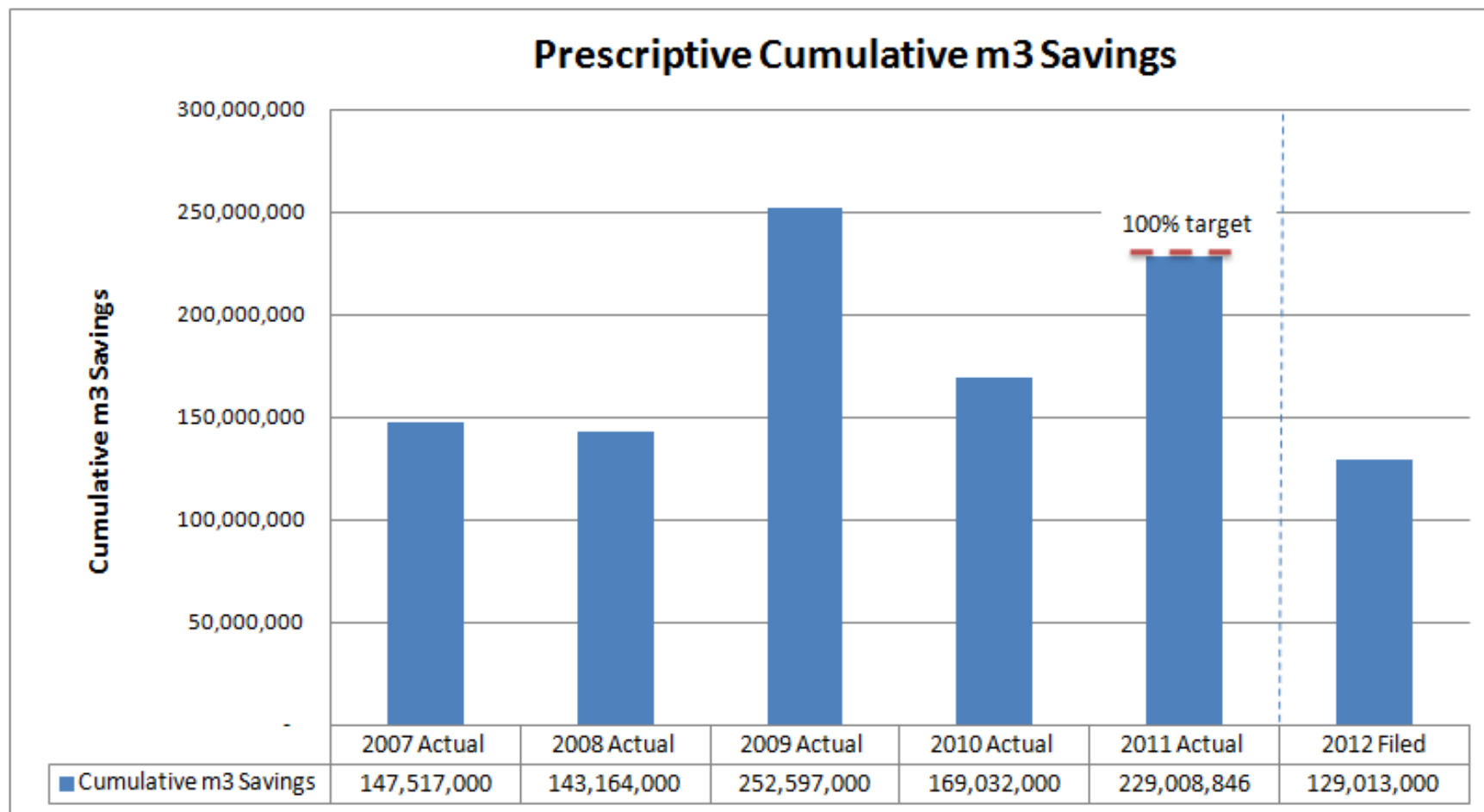
- Historical Comparison -

- Forecasted budget of \$3,515,000 for 2012, 2013, 2014



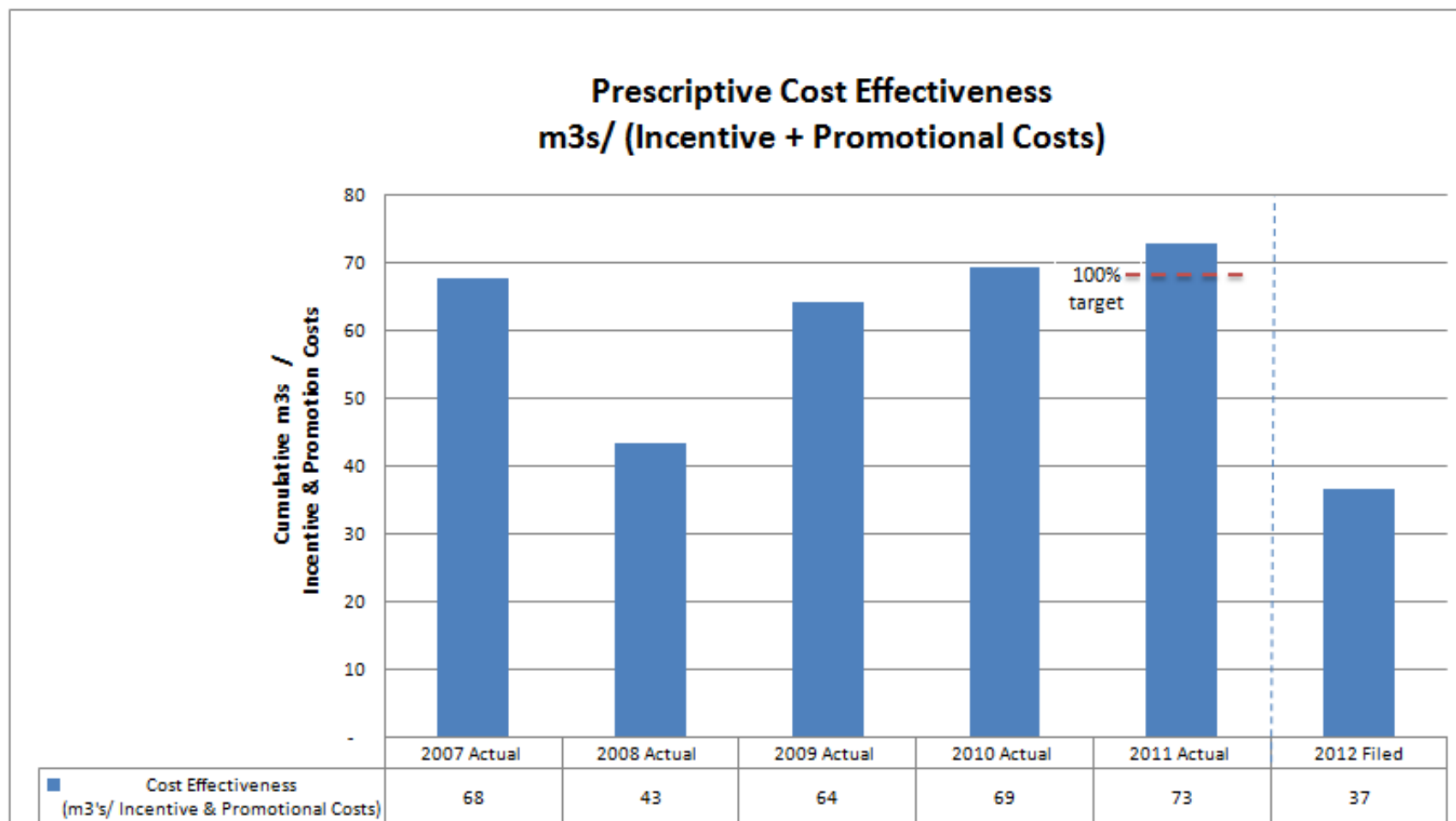
- Factors that have impacted the 2012 budget include:
 - The commercial/industrial prescriptive budget for 2012 is consistent with the forecasted 100% budget for 2011. The budgets for 2011 and 2012 are higher than 2010 for the following reasons:
 - Higher costs in targeting customers who have not participated in previous years and are more challenging to reach and influence
 - Increased incentive values
 - An increased focus on deeper measures, which are inherently more costly to deliver
 - The introduction of additional deep measures

- Forecasted cumulative m3 target of 129,013,000 for 2012, 2013, 2014



- Cumulative m3 targets for 2012 were established using bottom up analysis:
 - Units for all measures were forecasted using market fundamentals, historical data, current input assumptions and projected budgets
- Factors that impact the m3 target include:
 - Changes in input assumptions, which were more favourable in past years
 - A change in measure mix
 - A decrease in equipment unit size
 - Increased incentive values
 - Deeper savings which are inherently more expensive to reach

- Forecasted cost effectiveness is 37 m3/\$ for 2012, 2013, 2014



- Incentive increases have been applied to the 2012 prescriptive portfolio for the following reasons:
 - In response to customer feedback that higher incentive levels are required
 - Necessary to move customers whom have participated to the “next level of savings”
 - To drive deeper into the market and capture those customers whom have not yet participated
 - To drive existing measures into new segments that have different hurdle rates
 - To combat the effect of lower Natural Gas prices
 - To increase the “incentive to incremental cost ratio” to more sustainable levels

- Reduces short term cost effectiveness -

Union

- Similar measures to Enbridge
- Union's commercial market is significantly different than Enbridge

Enbridge

- Similar measures to Union
- Enbridge's prescriptive data/target is not separated from the custom data

Commercial Industrial Program

- Custom Offerings -

Amanda McAlorum

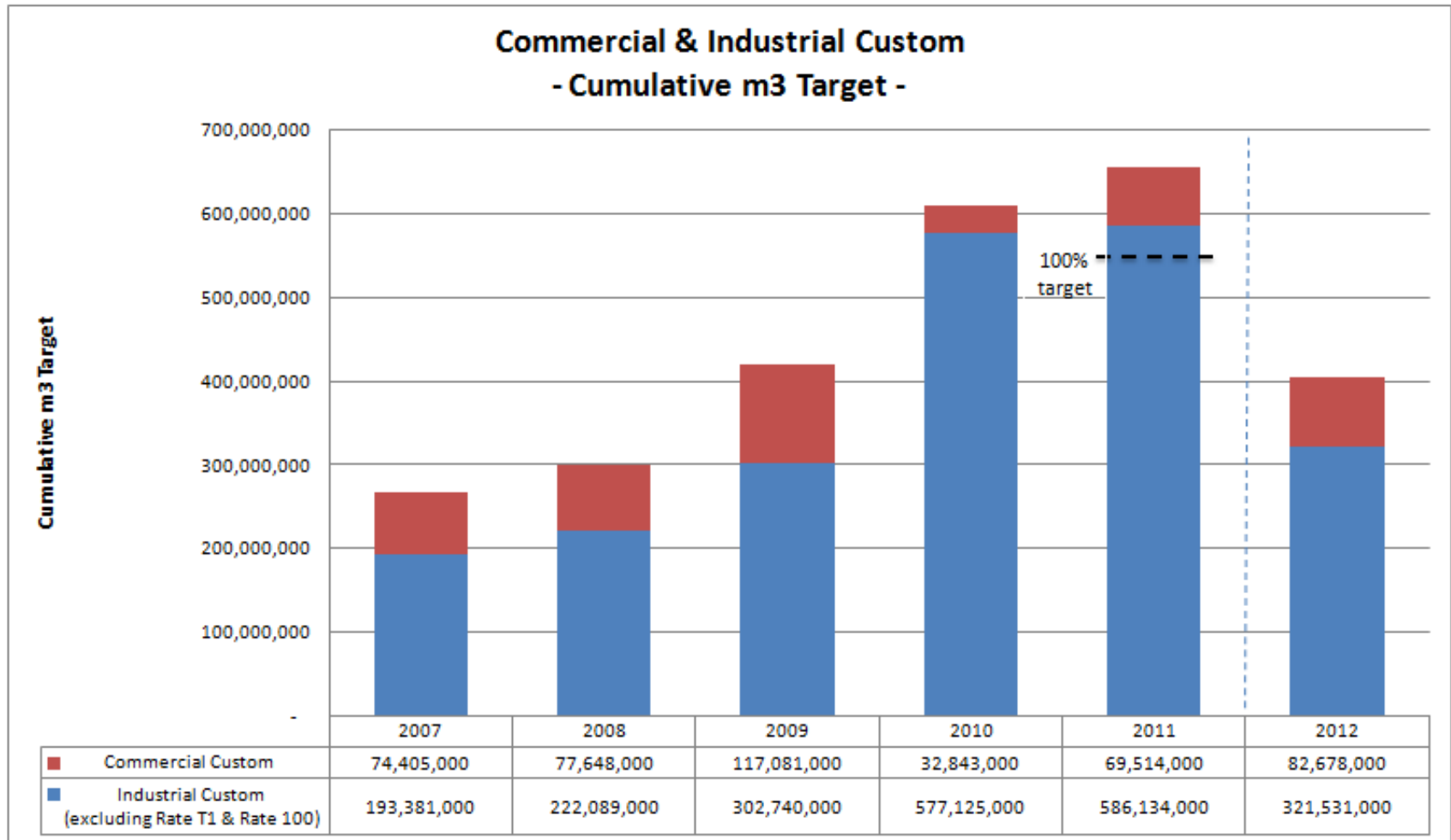
- Consistent program design elements (compared to 2010 & 2011)
 - Equipment incentives
 - Feasibility studies and audits
 - Steam trap surveys
 - Educational component
- Enhanced program design elements
 - Incentives will be based on m3 savings (was 15% of project incremental costs)
 - The design assistance program (DAP) will no longer be offered
 - Commercial and Industrial incentive levels differ

2012 – 2014 Forecast

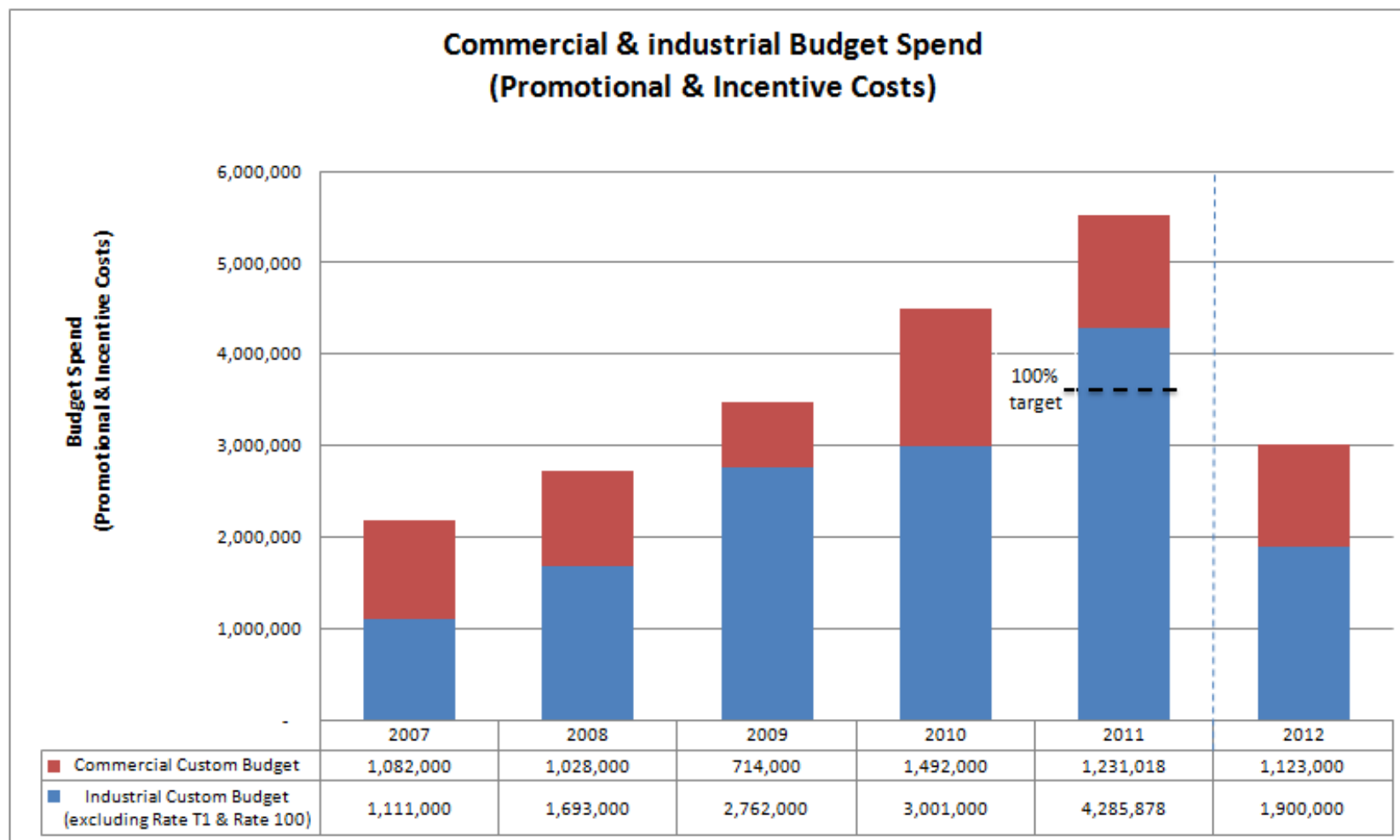
	2012	2013	2014
Promotion Costs (\$000)	242.7	242.7	242.7
Incentive Costs (\$000)	2,780.5	2,780.5	2,780.5
Budget Total (\$000)	3,023.3	3,023.3	3,023.3
Cumulative Gas Savings (000 m ³)	404,209	404,209	404,209
Deep Measures	210	210	210
Cost Effectiveness - m3/\$ (\$/m ³)	134 (\$0.00748)	134 (\$0.00748)	134 (\$0.00748)

Custom – m3 Target

- Forecasted cumulative m3 target of 404,209,000 for 2012, 2013, 2014



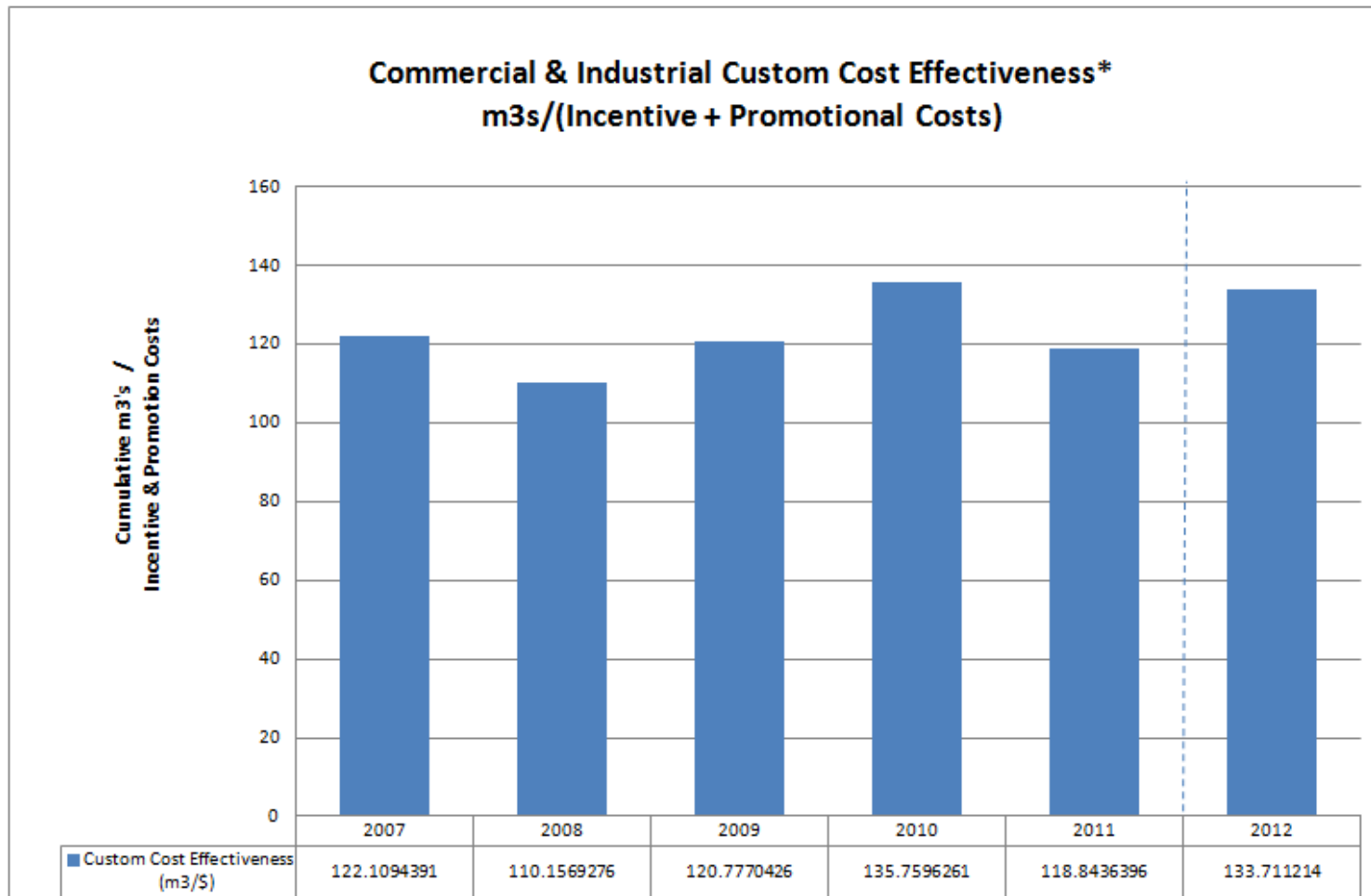
- Forecasted budget of \$ 3,023,000 for 2012, 2013, 2014



Custom – Cost Effectiveness



- Forecasted cost effectiveness is 134 m3/\$ for 2012, 2013, 2014



* excludes Rate T1 & Rate R100

Union

Offering / Incentives

- Custom Equipment incentives: \$0.10/m³ to a maximum of \$40,000
- Building Optimization Assistance
- Feasibility Studies: 30% up to \$4,000 *
- Steam Trap Surveys: 50% up to \$6,000
- Demonstration of New Technologies calculated at 10% up to \$50,000
- Education incentives

* Multiple site feasibility studies capped at \$10,000 per customer

Enbridge

Custom Offering / Incentives

- Retrofit Equipment incentives calculated at \$0.10/m³
- New Construction Equipment incentives calculated at \$0.20/m³

Energy Compass Offering / Incentives

Run it Right Offering

- Building Optimization Assistance, Meter Replacement Training, Monitoring Tools

Union

Offering / Incentives

- Custom Equipment incentives: \$0.05/m³ to a maximum of \$40,000
- Process Improvement Studies: 66% up to \$20,000
- Feasibility Studies: 50% up to \$10,000
- Steam Trap Surveys: 50% up to \$6,000
- Demonstration of New Technologies: 10% up to \$50,000
- Education incentives

Note: Total incentives capped at \$250,000 per site

Enbridge

Offering / Incentives

- Custom Equipment incentives: \$0.10/m³ to a maximum of \$100,000
- Measurement & Quantification: 50% up to \$10,000
- Opportunity Identification
 - 3rd party 50% up to \$10,000
 - Support for on-site energy engineers |
 - Consultation for ISO 50001
- Engineering Analysis: financial support
- Knowledge Development: Co-op student

Integrated Energy Management Systems (IEMS)

- Market Transformation -

Amanda McAlorum

Why Market Transformation

- Program focuses on fundamental behaviour change to monitor, measure and reduce energy usage

How IEMS Supports Transforming the Market

- Obtaining Senior Management commitment from participating customers
- Partnering with customers to develop and implement training programs
- Implementing sub-metering and monitoring systems
- Measure and monitor gas usage to define metrics and improvements
- Integrating energy monitoring conservation with existing management and production practices
- Measure and monitor gas efficiency improvements over time

Transformed Customer Goal

- Customer organizational culture where energy efficiency is a top corporate priority & goal

Industrial Market Transformation Program

- Integrated Energy Management Systems

Budget

- \$0.625 million

Rate Classes Targeted

- M2, 10, M4, M5, M7, 20 |

- IEMS Objective

- Goal is to transform customer behaviour to monitor energy use to drive increased operation performance and to support ISO 50001 behaviour

- Target Audience

- Industrial customers where energy use is production driven
- 1,000,000 m³ – 25,000,000 m³
- Excludes T1/R100 customers

- Summary of Offering

- Customer Needs / Capacity Assessments
- Implementation – Implementation Plan, Implementation, Commissioning
- Persistence

Customer Needs / Capacity Assessments Phase

- This stage moves the customer from identifying a need to engaging a service provider for a thorough assessment.
- Customer is asked to commit funding and personnel at this stage.

Union

- Identifies and recruits potential customer participants
- Provides assessment service provider training
- Support s75% of the cost (upon completion and approval of the assessment)

Customer

- Assessment contractor performs a site evaluation to identify high consumption loads, recommend improvements and design placement of the meters.

Implementation Phase

- Customer takes action and coordinates the purchase and installation of the metering system
- Design is based on the outcomes of the assessment reports
- Customer is asked to commit to long term funding and personnel.

Union

- Review and Approve Implementation Plan
- Monitor implementation and progress payments per the schedule

Customer

- Develop Implementation Plan
- Contractor(s) install sub-metering and monitoring system
- Integration of energy metrics into plant management system

Persistence Phase

- Customer takes action by developing baseline energy metrics, implementing energy monitoring into the management system, developing and tracking improvement plans.

Union

- Receives and reviews quarterly persistence reports
- Final funding payment made after 18 months (6 quarters) of demonstrated persistence

Customer

- Develop baseline energy usage
- Add energy performance indicators to management system
- Develop energy improvement plan
- Implement monitoring and tracking of improvement plan
- Produce quarterly persistence reports for IEMS

Union

Offering / Incentives

- 75% of Capacity Assessment Report costs up to a cap of \$20,000
- 50% of project expenditures up to a cap of \$100,000 paid as follows:
 - 20% upon approval of EM&T Plan
 - 20% after 50% of costs incurred
 - 20% after 75% of costs incurred
 - 10% upon complete implementation
 - 30% during EM&T Persistence phase

Enbridge

Offering / Incentives

- Measurement & Quantification 50% up to \$10,000
- Opportunity Identification
 - 3rd party 50% up to \$10,000
 - Support for on-site energy engineers
 - Consultation for ISO 50001 & energy management plans
- Engineering Analysis: financial support

IEMS Program Metrics



2012	Metric	50%	100%	150%	Weighting
	Assessments Completed	4	7	10	35%
	Implementation/Installation	1	2	3	15%

2013	Metric	50%	100%	150%	Weighting
	Assessments Completed	4	8	12	25%
	Implementation/Installation	1	2	4	15%
	Persistence Reports	1	2	3	10%

2014	Metric	50%	100%	150%	Weighting
	Assessments Completed	5	10	15	25%
	Implementation/Installation	1	3	5	15%
	Persistence Reports	1	2	3	10%

Rate T1 / Rate 100 Program

Todd Marentette

Resource Acquisition Program

- Custom offering

Budget

- \$3,147,000

Rate Classes Targeted

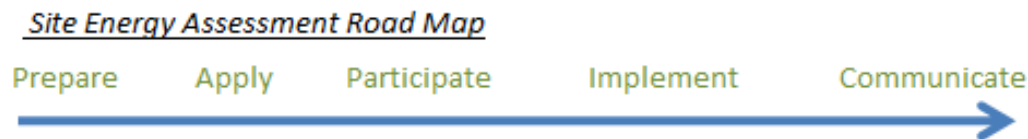
- T1, R100

- Designed as a targeted and connected set of offers, to continue to assist customers identify and implement energy efficiency measures by:
 - Focusing attention towards energy-use and its optimization
 - Helping prioritize O&M improvements
 - Providing financial incentives to support the implementation of O&M improvements
 - Provide technical resources for labour and time-constrained customers

- Context for developing specific program elements
 - Direct feedback/experience from Rate T1 / Rate 100 customers
 - DSM Program Survey
 - Direct interaction at customer sites
 - Knowledge of the market and workable technologies
 - To actively assist customers implement energy efficiency into their everyday operation on continuous basis
- The offer consists of (4) Elements:
 - Customer Engagement
 - Site Energy Assessments
 - Process Improvement Studies
 - Operations & Maintenance Improvement Incentives

- Educate, train and provide technical expertise
 - Increase energy efficiency awareness
 - Focus attention on energy-use
 - Improved knowledge sharing
- Comprised of three sub-categories
 - Capacity and Knowledge Building
 - Education, training and dedicated technical expertise available
 - Energy Team Support
 - Promote new energy team creation, support existing teams
 - Corporate Recognition
 - Highlight accomplishments and top performers

- On-site assessment of energy-use
 - Evaluation of a plant's energy use to identify the most cost-effective energy savings opportunities
- Offer Summary
 - Delivered by Union Gas technical personnel
 - No cost to customer, no incentive paid
 - Can include free installation of temporary wireless metering
 - Based from the US DOE Energy Assessment



- In-depth and specific quantification for reduced natural gas consumption or optimized natural gas usage
- Offer Summary
 - A focused effort to gather and analyze data
 - Can be completed by customer resources or 3rd parties
 - Supported with a financial incentive to the customer upon study completion
 - Results will indicate expected savings and implement costs
 - To support customers decision making process

- Drive natural gas savings by supporting the implementation of Operations & Maintenance related improvements
- Offer Summary
 - Direct attention towards low-cost energy saving opportunities
 - Share common performance improvements that can save natural gas
 - Provide a financial incentive \$/m³
 - Improvements that are eligible for incentives would include:
 - Steam system repairs, insulation, heat exchanger maintenance, combustion optimization, equipment repair, operational changes, steam utilization improvements



Union

Budget

- Incentive: \$1,840,000
- Promotion: \$360,000

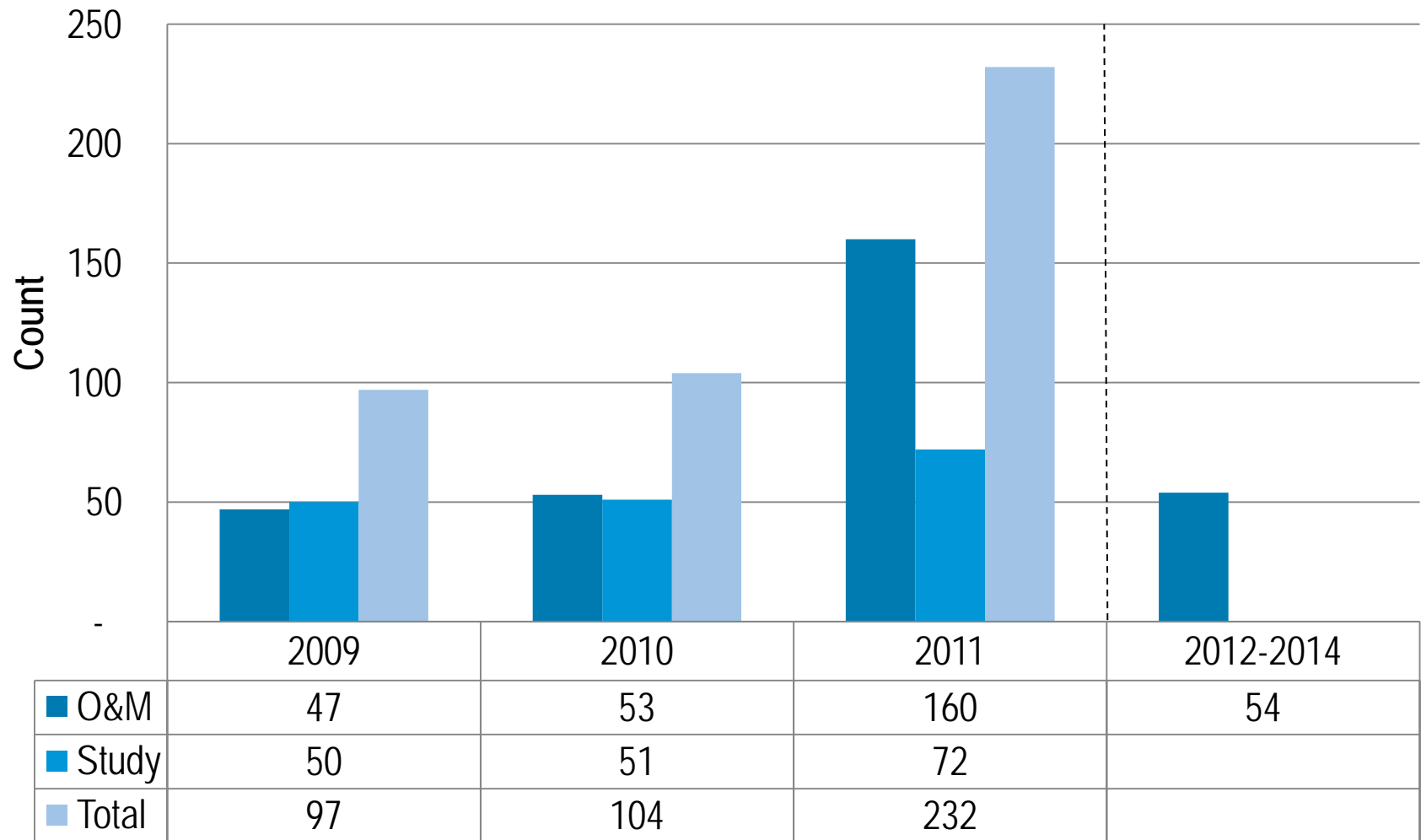
Targets

- Participation: 55%
- Cumulative m³: 500,000,000

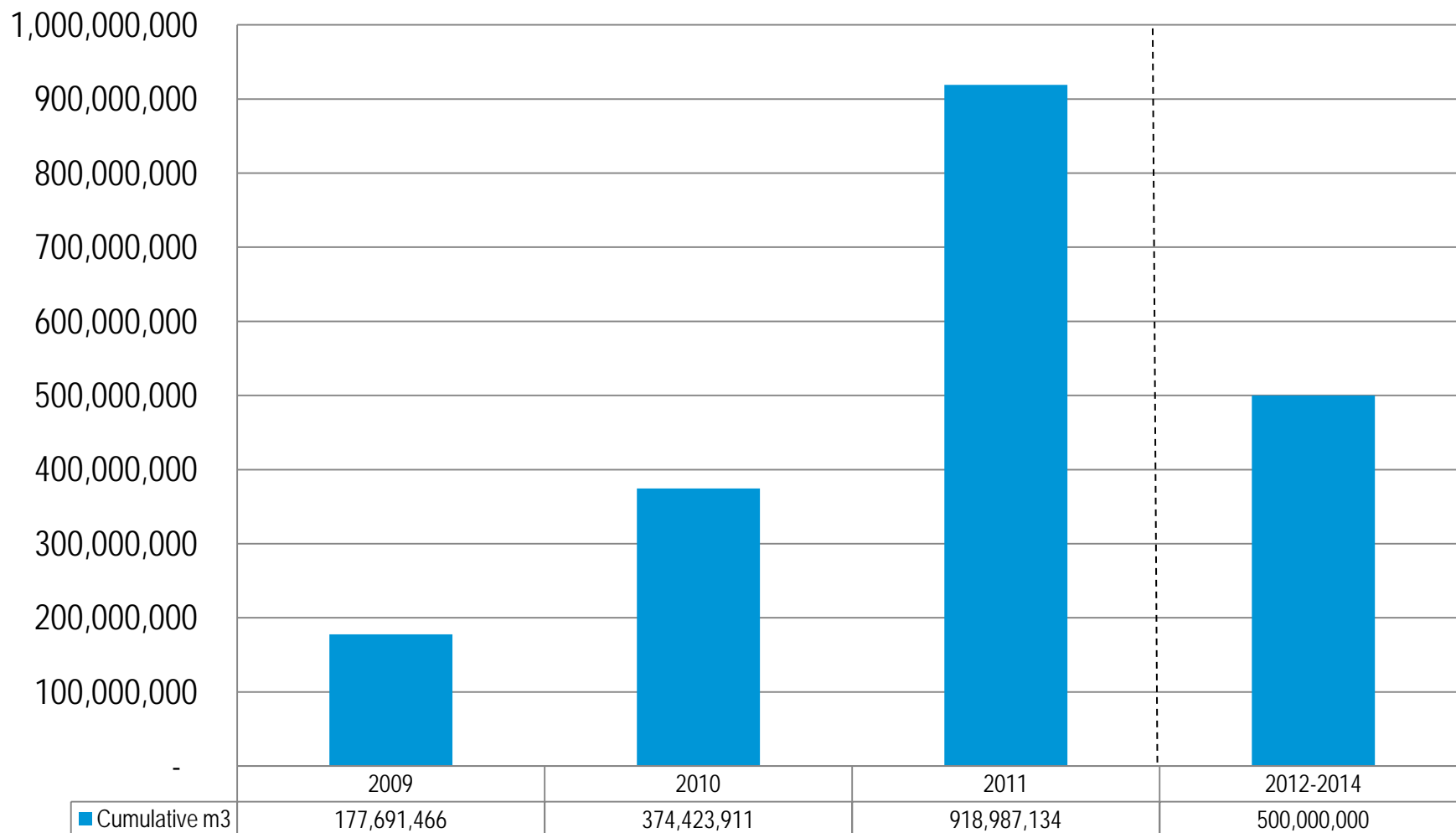
Enbridge

Enbridge does not have a group of large industrial customers, comparable to Union's Rate T1 / Rate 100

Historical – Number of Applications

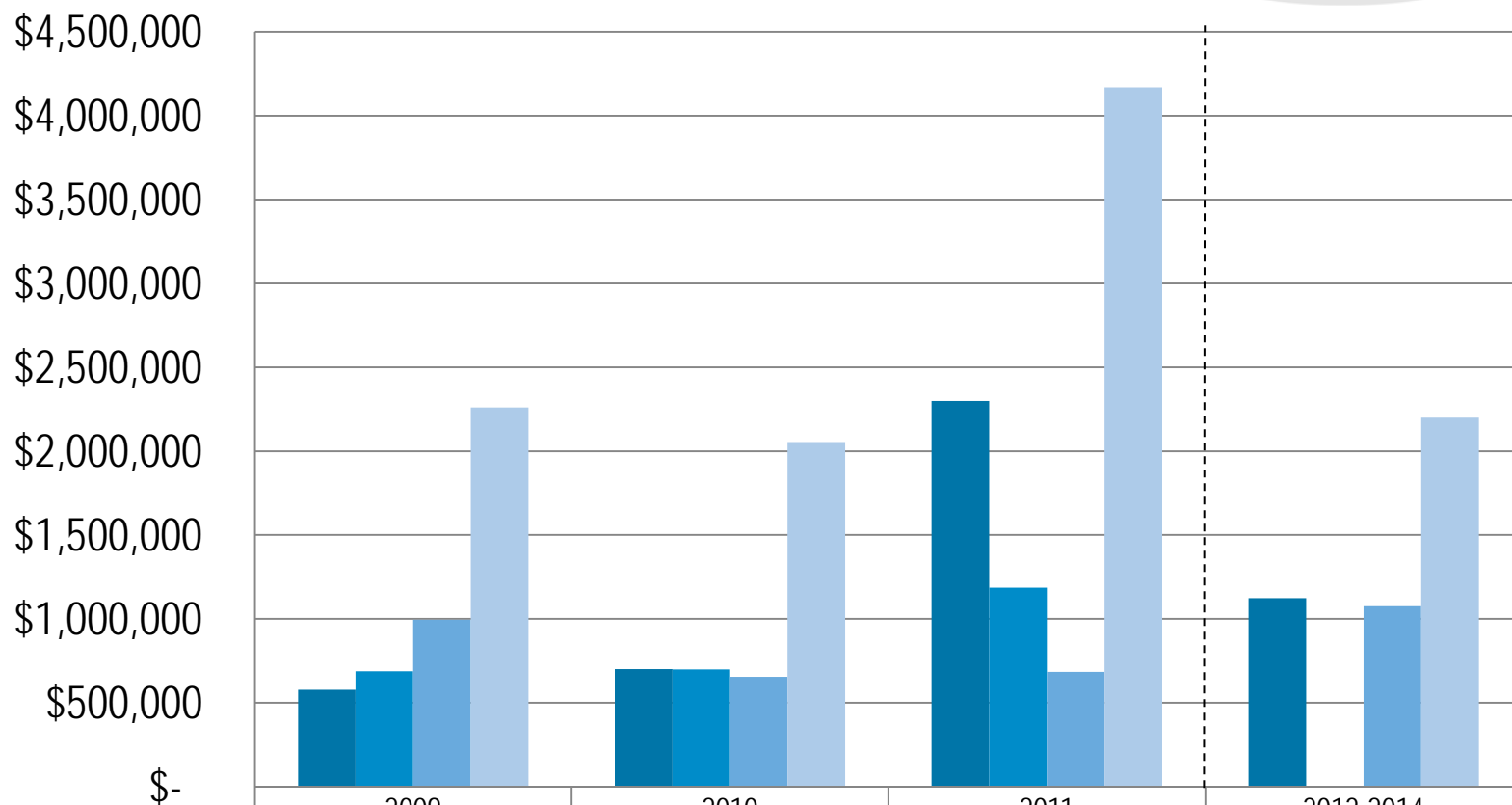


Historical – Cumulative m3 savings



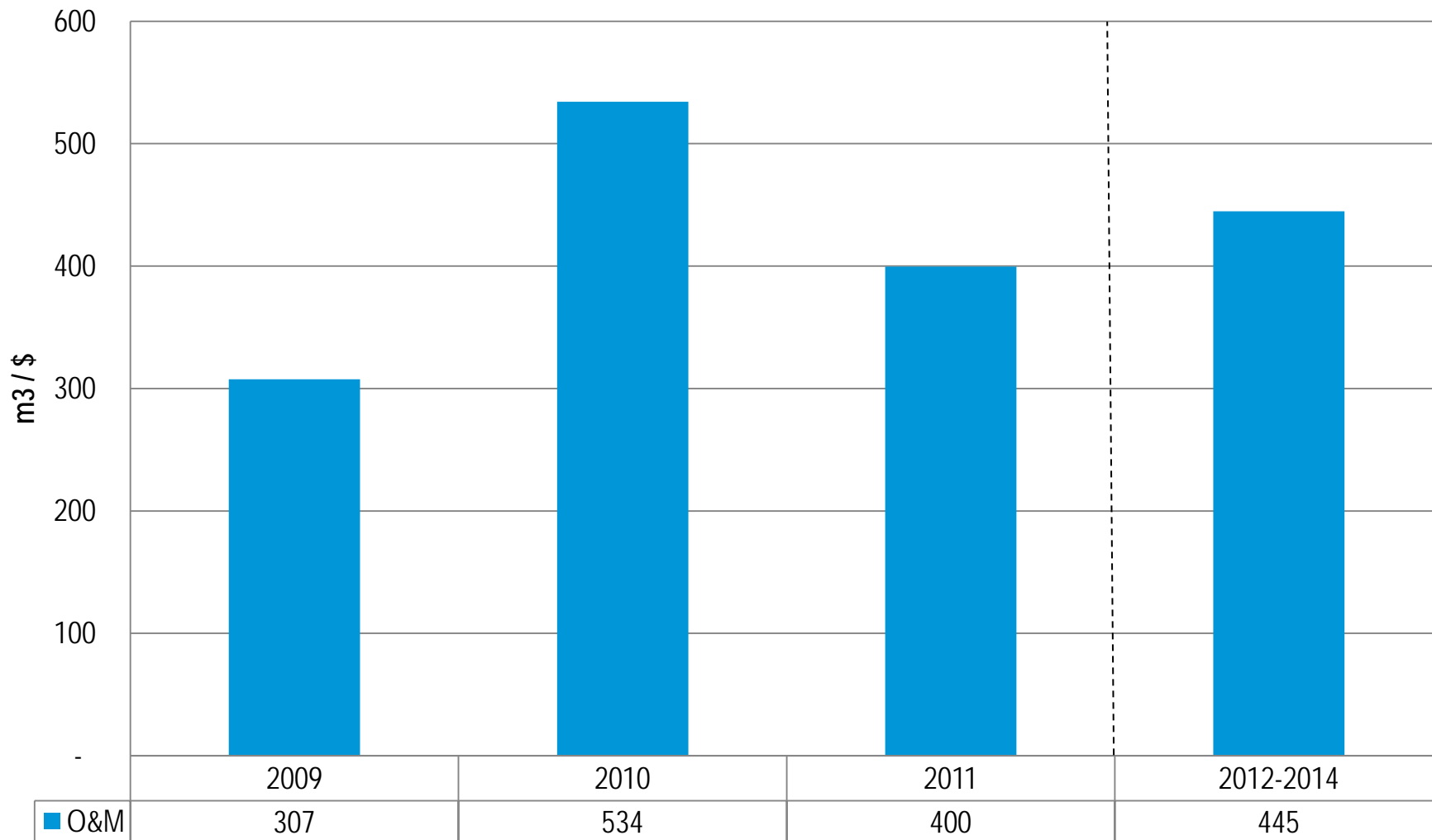
*Cumulative savings = Annual m3 saved x measure life

Historical – Budget



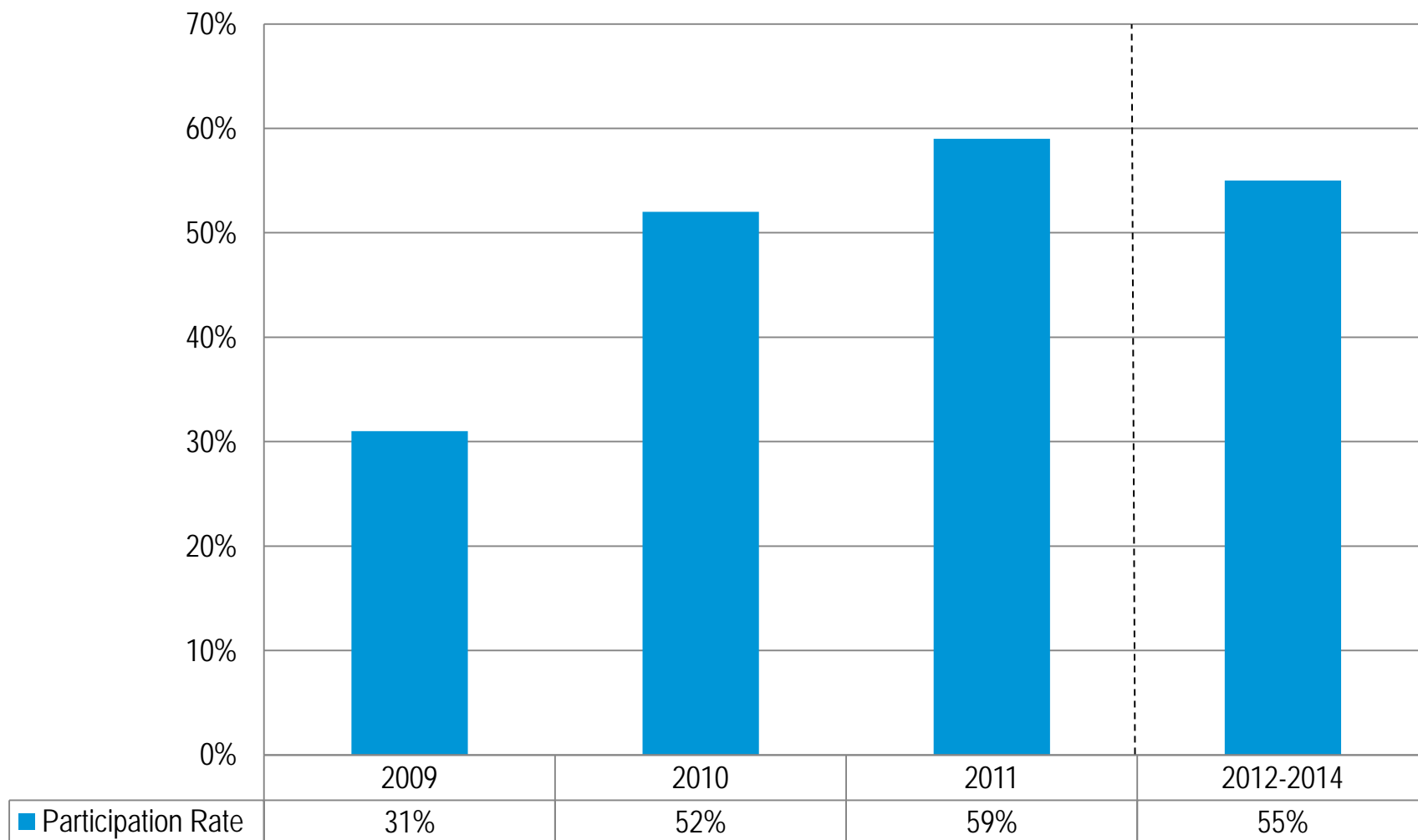
	2009	2010	2011	2012-2014
■ O&M Incentives + Promotion	\$577,880	\$700,906	\$2,299,294	\$1,124,000
■ Equipment Incentives + Promotion	\$688,813	\$698,636	\$1,185,910	\$-
■ Education/Studies/Assessments	\$994,328	\$655,074	\$684,120	\$1,076,000
■ Total	\$2,261,021	\$2,054,616	\$4,169,324	\$2,200,000

Historical – Cost Effectiveness



Cost Effectiveness = Cumulative m3 savings / (Incentive + Promotion Costs)

Historical – Participation Rate



*Considering only O&M, Customer Engagements & Study Activities

Historical Project Information



T1/R100 Information					
Project Type	2008-2011 Total Number of Projects	2008-2011 Average Number of Projects Per Year	Average Cumulative Savings Per Project	2012 Forecasted Number of Projects	2012 Forecasted Cumulative m3 Savings
Combustion Optimization	16	4.0	1,366,501	4	5,466,004
Condensate Return	4	1.0	4,261,023	1	4,261,023
Economizer Repair	4	1.0	1,336,337	1	1,336,337
Heat Exchanger	19	4.8	10,697,495	4	42,789,982
Insulation	35	8.8	2,551,060	8	20,408,479
Steam Leak Repairs	30	7.5	18,000,856	7	126,005,994
Steam Reduction	9	2.3	16,294,978	2	32,589,956
Steam Trap Repairs	53	13.3	5,122,814	13	66,596,579
Other	56	14.0	7,606,237	14	106,487,314
Stretch	-	-	-	-	94,058,332
Total	226	56.5	7,470,811	54	500,000,000

2008-2011 Average Incentive ~ \$13,500 per O&M project

	T1 / R100 Summary			
	2009	2010	2011	2012
# of O&M Projects	47	53	160	54
Cumulative m3	177,691,466	374,423,911	918,987,134	500,000,000
Incentive	\$ 577,880	\$ 700,906	\$ 2,299,294	\$ 1,124,000
m3/\$	307	534	400	445
Participation Rate	31%	52%	59%	55%
DSM Spend	\$ 2,261,021	\$ 2,054,616	\$ 4,169,324	\$ 2,200,000
Average Incentive	\$9,487	\$12,099	\$13,058	~\$12,500

2012 - 2014 Large Industrial T1/R100 Program Targets			
Metric	Metric Target Levels		
	50%	100%	150%
Cumulative Natural Gas Savings (m3)	250,000,000	500,000,000	625,000,000
Percentage of Customers Participating	30%	55%	65%

SETTLEMENT AGREEMENT
UNION GAS LIMITED
DEMAND SIDE MANAGEMENT

TERMS OF REFERENCE
ON STAKEHOLDER ENGAGEMENT

November 10, 2011

BACKGROUND AND GENERAL TERMS OF THIS AGREEMENT

On June 30, 2011, the Ontario Energy Board (“OEB” or the “Board”) issued a letter (the “Letter”) and the new Demand Side Management (“DSM”) Guidelines for Natural Gas Utilities (“Guidelines”) developed in the EB-2008-0346 proceeding. The Letter provided that the natural gas utilities were expected to develop their Multi-year DSM Plans in accordance with the Guidelines and to submit them to the Board for approval by September 15, 2011. Union Gas Limited (“Union”) filed its Application as EB-2011-0327 on September 23, 2011.

The Guidelines contemplate that gas distributors will consult with their stakeholders with respect to their DSM Plans. The DSM Guidelines request, “Terms of reference (“ToR”) for the stakeholder engagement process should be developed by the natural gas utilities in cooperation with their stakeholders and submitted to the Board as part of the natural gas utilities’ multi-year DSM plan application. The ToR should build upon experience to date and reflect, to the extent possible, consensus views of the natural gas utilities and their stakeholders. The ToR should set out any revision to the process for selecting the members of any subcommittee or confirm the continuation of the current approach.”

Enbridge Gas Distribution (“Enbridge”) and Union (collectively, the “Utilities”) carried out a joint consultation with stakeholders on the issues set forth in the ToR. This Agreement is the result of those discussions, and is intended to establish the guidelines for program review, evaluation, audit, and all other aspects in which stakeholder engagement is involved.

For Enbridge, the Agreement for the ToR is reflected within the Enbridge Settlement Agreement for the DSM Plan dated on November 4, 2011. For Union, the Agreement for the ToR is reflected in this Settlement Agreement. Read together, the Enbridge Settlement Agreement and this Settlement Agreement reflect the agreement by all of the Parties to the ToR attached hereto and to the Enbridge Settlement Agreement.

In addition to the Utilities, the following parties participated in the consultation sessions. The Utilities and the Intervenors listed below are herein referred to as the “Parties”:

Building Owners and Managers Association (BOMA)

Consumers Council of Canada (CCC)

Canadian Manufacturers & Exporters (CME)
Energy Probe Research Foundation (Energy Probe)
EnviroCentre
Federation of Rental Providers of Ontario (FRPO)
Green Energy Coalition (GEC)
Industrial Gas Users Association (IGUA)
Low Income Energy Network (LIEN)
Pollution Probe
School Energy Coalition (SEC)
Vulnerable Energy Consumers Coalition (VECC)

The Parties jointly present this Agreement to the Board for its consideration. The Parties request that the Board accept the Agreement as evidence of their consensus on the issues reflected herein, and, subject to any further discovery or other process the Board requires to deal with the DSM applications filed by Enbridge and Union, deem it to be a Settlement Agreement under the Board's Rules in the Union application. (Throughout the remainder of this document it is referred to as a "Settlement Agreement" for ease of understanding.)

The Parties further request that the Board adopt this Agreement as part of the Board's Decision and Order in this application. While the consultative process, under which this Settlement Agreement was reached, was not formally initiated by the Board under Rule 31 of the *Ontario Energy Board Rules of Practice and Procedure*, the Parties agree that it is appropriate that Rules 31.09, 31.10 and all of 32 apply to the consultation process and to this Settlement Agreement.

The parties agree that all positions, information, documents, negotiations and discussion of any kind whatsoever which took place or were exchanged during the Settlement Conference are strictly confidential and without prejudice, and inadmissible unless relevant to the resolution of any ambiguity that subsequently arises with respect to the interpretation of any provision of this Agreement.

The evidence which supports this Settlement Agreement is found in the Plan Submissions of the two Utilities. The Parties are of the view, not only that this record supports this Settlement

Agreement, but also the quality and detail of the record provide a basis for the Board to approve this Settlement Agreement.

The Parties all agree that this Settlement Agreement is a package: the individual aspects of this agreement are inextricably linked to one another and none of the parts of this settlement are severable. As such, there is no agreement among the Parties to settle any aspect of the issues addressed in this Settlement Agreement in isolation from the balance of the issues addressed herein. The Parties agree, therefore, that in the event that the Board does not accept this Settlement Agreement in its entirety, then there is no agreement. If the Board does not accept this Settlement Agreement, all Parties will be at liberty to take such positions as they see fit in respect of this DSM Plan Application filing and to file such additional and further materials in support of such revised position. In addition, in the event that this Settlement Agreement is rejected by the Board, the position of each of the Parties will not be prejudiced by reason of their participation in settlement discussions and entry into this Settlement Agreement.

According to the Board's *Settlement Conference Guidelines* (p. 3), the Parties must consider whether a settlement proposal should include an appropriate adjustment mechanism for any settled issue that may be affected by external factors. The Parties consider that no settled issue requires an adjustment mechanism other than those expressly set forth herein.

None of the Parties can withdraw from the Settlement Agreement except in accordance with Rule 32 of the *Ontario Energy Board Rules of Practice and Procedure*. Finally, unless stated otherwise, a settlement of any particular issue in this proceeding is without prejudice to the positions Parties might take with respect to the same issue in future proceedings. However, any such position cannot have the effect of changing the result of this Agreement.

This Agreement is applicable for each of the 2012 through 2014 years.

III. TERMS OF SETTLEMENT

The detailed terms of this settlement are set out in the attached Terms of Reference.

**Joint Terms of Reference
on
Stakeholder Engagement
for
DSM Activities
by
Enbridge Gas Distribution Inc.
and
Union Gas Limited**

November 4, 2011

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1. Introduction and Background

i. Purpose of the Stakeholder Engagement Process

Stakeholder engagement in Natural Gas Demand Side Management (“DSM”) addresses needs of the intervenors that represent ratepayer and environmental groups, the utilities, their customers, and the Ontario Energy Board (the Board). For ratepayer and environmental groups, stakeholder engagement provides insights into the activities of the natural gas utilities and an opportunity to provide input and participate in the direction of certain of those activities. This instills confidence in the audit and evaluation processes, including the accuracy of reporting and the calculation of the DSM Variance Account (DSMVA), Lost Revenue Adjustment Mechanism (LRAM), and utility incentives. It also provides confidence that program results are calculated using sound assumptions based on best available information. For the utilities and their customers, as well as stakeholders, the collateral benefits of stakeholder engagement include the development and enhancement of utility DSM programs. For the Board and utilities, stakeholder engagement results in reduced regulatory burden and reassurance that the utilities continue to deliver successful and cost effective DSM programs.

ii. Definitions

For the purposes of these Terms of Reference the following definitions apply:

Intervenors: Organizations and their representatives who were participants in the Board’s consultation on the June 20, 2011 DSM Guidelines (EB-2008-0346) (the “Guidelines”) or who have been granted Intervenor status by the Board in any subsequent DSM proceeding.

DSM Consultative: Consists of representatives of the relevant natural gas utility and the group of Intervenors and stakeholders who have agreed to participate on the utility’s DSM Consultative.

Stakeholders: Groups or individuals who have an interest in Ontario DSM matters, including intervenors. Other stakeholders who are not intervenors may be customers, trade allies, delivery agents, experts and others.

iii. Objective of the Terms of Reference

The purpose of the Stakeholder Terms of Reference is to clarify and define the roles and responsibilities of Intervenors, other Stakeholders, the utilities, and the Board with respect to participating in the DSM stakeholder engagement processes proposed in this document. These include processes relating to program design, DSM measure input assumptions, evaluation research, and the audit of DSM program annual results. These Terms of Reference and the consensus approach outlined herein are expected to lead to both greater objectivity on DSM technical standards and improved efficiency and effectiveness of stakeholder engagement through the period of the 2012 – 2014 Multi-Year Plans of Enbridge and Union.

iv. Background to the Terms of Reference

As outlined in the Guidelines, Union and Enbridge have jointly developed Terms of Reference for Stakeholder Engagement in cooperation with their stakeholders. The Utilities consulted with intervenors to reach agreement on the Terms of Reference, and are submitting the Terms of Reference to the Board as part of their DSM Plans for 2012-2014.

In developing the Terms of Reference, the Intervenors and utilities held several negotiation sessions, first with an Intervenor nominated Working Group followed by two days of negotiation sessions with the broader DSM consultative members. This Terms of Reference represents an agreement between the parties listed below. To provide the Board context to the extent of the consultation process, the following dates represent sessions that were held with either the smaller Working Group or the broader members of the DSM Consultative:

- The Working Group held 4 half-day sessions on August 19, 22, 24, and 26 as well as a two hour conference call on August 31.
- Discussions resumed on October 3 and 4 with the full DSM Consultative and agreement was reached on the Terms of Reference as described in this document. The parties to the Settlement Agreement are:

Building Owners and Managers Association (BOMA)
Consumers Council of Canada (CCC)
Canadian Manufacturers & Exporters (CME)
Energy Probe Research Foundation (Energy Probe)
EnviroCentre
Federation of Rental Providers of Ontario (FRPO)
Green Energy Coalition (GEC)
Industrial Gas Users Association (IGUA)
Low Income Energy Network (LIEN)
Pollution Probe
School Energy Coalition (SEC)
Vulnerable Energy Consumers Coalition (VECC)

The Terms of Reference go beyond the minimum requirements for consultation as presented in the Board Guidelines, Section 16.1.

In addition to two plenary Consultative meetings each year, the Terms of Reference provide for collaborative involvement between utilities and intervenors in:

- development and update of input assumptions;
- evaluation research priorities and individual studies;
- the audit of DSM annual results; and

- development of new program ideas.

The Terms of Reference also provide for involvement of other stakeholders in:

- development and update of input assumptions, and
- development of program ideas

2. Models for Intervenor and Stakeholder Engagement in the Utilities' DSM Activities

The model for intervenor/stakeholder engagement in the 2007 Multi-year Plan involved separate processes for the two natural gas utilities as follows:

- a minimum of two Consultative meetings each year; and
- creation of utility specific Evaluation Audit Committees ("EAC") to address matters relating to evaluation research and the audit of DSM annual results.

In addition, throughout the Plan period, the utilities consulted with their respective EACs prior to filing applications to update the measure assumptions used in their DSM programs.

The model proposed through this Terms of Reference document involves:

- a minimum of two plenary Consultative meetings each year for each utility;
- a common Technical Evaluation Committee ("TEC"), and a common Technical Reference Manual ("TRM") to document measure assumptions;
- a separate Audit Committee ("AC") for each utility;
- separate consultation in relation to Low Income Programs with intervenors and stakeholders; and
- provision for other consultation initiatives relating to program ideas for other program types

The proposed model offers several benefits.

- The division of functions will streamline both the process to update input assumptions and the audit process.
- The primary responsibility for critical review of evaluation research and input assumptions will rest with the TEC, thus streamlining the DSM audit process.
- The TEC will establish a common natural gas DSM technical body that will facilitate collaboration on evaluation research, and harmonization of DSM programs across the two utilities.
- The development of a common TRM represents best practice in DSM administration.

- The proposed model aligns with the Guidelines regarding
 - a minimum of two Consultative meetings each year for each utility; and
 - a common annual submission by the utilities to the Board to update input assumptions.
- In addition, the proposed models align with the two Board processes of
 - Disposition of DSM Deferral Accounts; and
 - Annual filing of Updated Input Assumptions.

3. Principles for Intervenor and Stakeholder Engagement for the Natural Gas Utilities

The following principles will guide intervenor and stakeholder engagement activities of the natural gas utilities.

Roles and Accountability

The utilities are responsible and accountable to the Ontario Energy Board for all their DSM activities. The Ontario Energy Board is responsible for approving DSM programs and related matters.

General

- Stakeholder engagement activities are undertaken to inform all parties on DSM program activities, to obtain each party's perspectives on the utility proposed program activities, and to establish alignment among parties on each utility's annual results.
- Intervenors and Utilities involved in stakeholder engagement processes should work in a constructive manner to improve the design, development and implementation of DSM programs in a timely fashion.
- Utilities and Intervenors will ensure that each committee has timely and complete access to all information necessary to carry out their functions.
- All processes that involve evaluation research, input assumptions, or audit of results shall be characterized by independence and transparency.

Consensus

- Unless otherwise stated, achievement of consensus is an objective but not a requirement of committee processes outlined in this Terms of Reference.
- Consensus is reached when all parties can sign on to a recommendation or position as in a settlement agreement to a Board proceeding.
- Where consensus is not reached, parties may file their separate positions with the Board.

Conduct of Committees

- Each committee will establish at the outset of each year of a plan period, a set of business conduct rules that will be used as guidance to ensure the constructive operation of that committee. For example the business conduct rules could cover items such as meeting participation or providing substitute participants, providing documentation with appropriate lead times, and participation in a constructive manner to support positive outcomes.

Committee Meetings

- In order to meet Board set deadlines or committee defined work schedules, where scheduling does not permit full attendance at committee meetings, each committee will convene meetings based on quorum, where quorum is defined for the Audit Committee as the utility plus two thirds of the intervenors and for the Technical Evaluation Committee as two utilities and three of the five other members of which two must be intervenors. For the purposes of achieving a quorum, participation by conference call, video link, or other electronic format is acceptable.

Confidentiality

- Non-disclosure agreements must be signed by participants when dealing with draft reports and study working documents and other documents as referenced for individual Committees. (refer to Appendix A)
- If any confidential information could potentially give the recipient an unfair business advantage in competing for work from the utilities, the utilities will “flag” such concerns in advance of providing the information and the potential recipient will have to choose to either: (1) not review the confidential information and remove himself / herself from the portion of the engagement process related to the confidential item; or (2) accept and review the confidential information but commit to not pursuing the work opportunity.

Conflict of Interest

- In the case of a conflict of interest arising, it is the participant’s responsibility to declare the conflict to the Committee as early as possible.

4. Consultative Meetings

As outlined in the Guidelines, the utilities will each hold a minimum of two plenary meetings of their respective DSM Consultative in each calendar year and all intervenor participants in the Board’s consultation on the development of the Guidelines (EB-2008-0346) and the most recent or current proceeding will be invited to the Consultative meetings.

The subject of the meetings may include:

- reviewing annual DSM results;
- selecting any subcommittee that may be part of the processes described in this Agreement (the TEC and the two ACs); and
- providing advice on the development and operation of the natural gas utilities' DSM Plan as well as on the design and development of new programs.

5. Technical Evaluation Committee Terms of Reference

There will be one Technical Evaluation Committee (TEC) for both natural gas utilities which will act as an independent body.

i. Goal

The goal of the TEC is to establish DSM technical and evaluation standards for natural gas utilities in Ontario.

ii. Scope of Work

- The TEC will make recommendations to the OEB on the annual Technical Reference Manual (TRM) Update.
- The TEC has accountability to:
 - produce and maintain a prioritized annual work list (by consensus)
 - establish evaluation priorities and specify future evaluation studies to be undertaken – execution of all work defined by the TEC is subject to the utilities' resource constraints (such as funding, personnel resources, time limitations); and
 - Review and reach consensus on the design and implementation of evaluation studies to be carried out including determination of whether the work is done by utility staff, the TEC technical consultant or third party firms.

iii. Composition and Selection

The Technical Evaluation Committee shall consist of seven individuals:

- three intervenor members selected by intervenors in accordance with footnote 34 of Subsection 16.1 of the Guidelines;
- two utility members - one from Union and one from EGD, self selected by each utility. (Other representatives from the utilities may attend Committee meetings from time to time but are not voting Committee members.); and
- two independent members with technical and other relevant expertise, selected from the public, to add independence and objective perspective to the TEC. Selection is by

consensus among utility and intervenor members or no one is appointed and the Committee does not become established until a consensus is achieved.

The structure of the Committee is to be similar to a corporate Board of Directors which has representation from shareholders, management, and independent members.

The independent members are expected to provide professional expertise in relation to evaluation and to the development of input assumptions, encompassing experience in residential, commercial and industrial applications such as energy efficiency in low rise buildings, commercial buildings, industrial processes, market transformation, and so on.

iv. Term

For the first year, independent members and intervenor members will be appointed for one year with an opportunity for reappointment. The goal is to achieve continuity in the longer term.

v. Process

- It is anticipated that approximately twelve monthly meetings (1/2 to a full day each) will be held in the first year. Fewer meetings may be required in years two and three.
- Any member may call for a meeting on reasonable notice and bring items forward for discussion by the TEC. The utilities shall be jointly responsible for scheduling meetings.
- Regarding confidentiality: Committee members will be expected to review Final Evaluation Reports and to review draft reports and other study work products as determined by the Committee's workplan. Regarding evaluation studies, Final Reports will not be considered confidential unless necessary to prevent disclosure of sensitive customer data (including data that could be potentially linked to individual customers even if the customers' names are redacted). Draft reports and study work products will initially be considered confidential unless otherwise determined by the Board in a proceeding and will be available on signing the Declaration and Undertaking attached as Appendix "A".
- The Committee will endeavour to reach consensus on its recommendations. Where consensus is not reached, the Committee members will outline their respective positions in the appropriate Board processes (application to clear DSM Deferral Accounts, annual submission to Update Input Assumptions, or DSM Plan application).
- One firm will be secured as a general technical consultant for the TEC to meet a workload as defined by consensus of the Committee but will not be considered a Committee member. The technical consultant is to be selected by consensus or no one is hired.
- Additional technical consulting firms may be secured based on the TEC's identification and prioritization.

- The assigned utility or technical consultant supervises the effort to complete the scope of work assigned by the TEC.
- The Technical Consulting firm will have a team that demonstrates a depth and breadth of technical and evaluation competencies for the purpose of managing the TRM and assisting with additional evaluation requirements as requested by the TEC.

vi. Outputs / Deliverables

Technical Reference Manual

- The TRM will be common to both Union and EGD and will document efficiency measure savings assumptions (and/or formulae) and all other assumptions (other than avoided costs) necessary for cost-effectiveness screening and program metrics. Input assumptions and formulae may be unique for each utility.
- The TRM may also include such other reference material as the Committee deems appropriate.
- The TEC will produce an annual Update to the TRM for the two utilities to file with the Board as per the Guidelines. This submission may be on a consensus or non-consensus basis.
- The Committee may also provide consensus recommendations to the Board throughout the year regarding TRM updates (e.g. new program input assumptions, free ridership rates).

vii. Timing and Interface with the Audit

In accordance with the Guidelines, the utilities will file the annual TRM Update submission as soon as practical after the completion of the annual audit process. The TEC will provide the latest Board approved TRM and any TRM recommendations from the TEC to the Auditor for the purpose of the audit. Unless the auditor brings forward new information with evidence, the updated TRM as approved by the Board, along with any TEC recommendations, will be considered best available information at the time of the audit.

viii. Fee Guidelines

Intervenor and independent members serving on the TEC will invoice the utilities for meeting attendance and preparation up to the appropriate rate established by the OEB. The invoices will document activities and intervenor and independent member time, and the cost will be equally shared between the two utilities. It is expected that the level of commitment for participation in this process will be on the order of 150 hours in the first year for each intervenor or independent member; it may be less in subsequent years. In the event additional hours are required, the Committee can re-visit the Committee's budget requirements.

ix. Roles and Responsibilities

Intervenor members

In addition to participating on the Committee, the intervenor participants will:

- report back to the intervenor members of the larger DSM Consultative in such manner as the intervenors determine;
- liaise with intervenor representatives on the AC; and
- at their discretion, file comments with the Board – particularly in the event that the Committee fails to reach consensus on the annual TRM update and/or the conduct of any evaluation work.

Utilities

In addition to participating on the Committee, the utilities will:

- alternate (between EGD and Union) as the Chair of TEC meetings;
- support the reasonable costs claims advanced by Committee members and costs of the technical consultant(s) retained;
- support all costs associated with the conduct of all evaluation research studies;
- bring draft evaluation research designs to the Committee for review and oversee the implementation of evaluation research studies in consultation with the Committee; and
- submit to the Board the annual application for the TRM Update as soon as practical after the audit's completion. The TRM Update will identify all changes to existing assumptions, all new assumptions and make clear whether any of the changes and additions were not the product of a Committee consensus.

Independent Members

The independent members will:

- provide professional expertise in relation to evaluation, the development of input assumptions and other DSM related technical matters brought before the Committee; and
- review the design and implementation of evaluation studies to be carried out by the utility.

Technical Consultant

The technical consultant will:

- be responsible for completing identified work as defined by the TEC.

The Ontario Energy Board

The role of the Ontario Energy Board is to:

- review recommendations relating to the annual filing of the Update to Input Assumptions; and
- where a consensus on the Update to Input Assumptions or the conduct of evaluation work is not achieved, to resolve any such dispute by way of Board Decision at the Board's discretion.

6. Audit Committee Terms of Reference

Each utility will have an Audit Committee.

i. Goal

The goal of the AC is to ensure that there is, each year, an effective and thorough audit of the utility's DSM results.

ii. Scope of Work

- The AC will establish, as part of the 2012 audit, the standard scope of the annual audit for the term 2012 to 2014 ("goals" versus "tasks").
- The standard scope will be used for the 2012 to 2014 term as part of the RFP and the AC may alter the scope annually based on consensus. The AC will provide the auditor with input and guidance (such as scope of work, review work plan/draft report and provide advice and direction).
- The AC will make recommendations based on the Audit Report regarding the utility's claims regarding DSM results and DSMVA, LRAM, utility incentives and any target adjustments through the AC Report submitted to the Board.

iii. Composition and Selection

Each utility will have an AC, which shall consist of four members:

- three intervenor members selected by intervenors in accordance with footnote 34 of Subsection 16.1 of the Guidelines. Intervenors selected may also sit on the TEC for continuity.

- one representative from the utility, self selected by each utility. Other representatives from the utility may attend Committee meetings from time to time but are not voting Committee members.

iv. Term

Intervenor members will be appointed for each year's audit process, eligible for reappointment for successive audits. In the event that a member must resign, the same process will be used to nominate and appoint a replacement.

v. Auditor Selection Process:

- Utilities will issue and maintain an ongoing RFQ to qualify audit firms to their pre-approval list
- Utilities and intervenors will seek consensus to identify a pre-approved list (from the RFQ) of a minimum of nine audit firms for consensus selection.
 - Where consensus on a firm for the pre-approved list is not achieved, the utility decides the firms on the pre-approved list, while ensuring that the minimum number of firms is still obtained.
 - Where disputes arise from a firm not being added to the bidders' list by the utilities, the intervenors may pursue this issue with the Board for decision at the time of the audit filing. (This may result in a potential delay of one year in a firm being added to the list.)
 - By consensus of the Committee, the minimum number of nine audit firms for bidding on the annual audit can be reduced.
 - Because of utility procurement policies, no feedback will be provided to unsuccessful bidders, nor to any firm being excluded from the bidders' list.
- The utility will issue an RFP to hire an auditor, with the RFP being distributed to all of the firms on the pre-approved list. The RFP will make clear the criteria that will be used to select a winning bidder and that the selection is by a committee of intervenors and the utility. The standard set of selection criteria (categories, descriptions, and relative importance) for auditor selection will be established prior to the RFQ process for the 2012 audit.
- Utilities and intervenors will seek consensus on auditor selection
 - Where consensus on an audit firm selection from the proposals submitted is not achieved, the intervenors will decide the firm from among the proposals submitted by pre approved bidders.

- Disputes arising from a non-consensus firm selected as the auditor will be given to the Board for consideration when the audit report is filed following completion of the audit.

vi. Process:

- The utility member will act as chair of the AC. The Chair does not have any extra powers or votes, but will chair the meetings.
- The utility will administer the audit contract and hold the auditor accountable to the terms of the contract.
- All communications are transparent to all AC members (exceptions will be identified by the AC at the beginning of the annual audit).
- The auditor, utility, and intervenors will work to ensure that the original scope of the audit is maintained and not allow “scope creep”.
- The auditor will receive guidance and direction from the AC (e.g. on the scope of work, draft work plans, and draft work products). However, the Auditor’s report and effort will be independent of utility or intervenor control or influence. (The AC cannot, for example, instruct the auditor on “how” to engage in their work, such as tools to use, methodology, processes used in the audit, how the auditor conducts the work and forms their opinion) and the final Audit Report must be filed with the Board without adjustment. For greater certainty, the utility and the intervenors may, at AC meetings, provide comments to the Auditor on drafts of the report, which the Auditor is free to accept or reject, but the Final Report must represent the independent professional opinion of the Auditor.
- Any member of the AC may call for a meeting on reasonable notice. It is the role of the utility to provide administrative support in the scheduling of all meetings.
- Meetings will be held from December through June, including possible joint meetings of the two audit committees, when necessary. It is expected that 9-10 meetings will normally be sufficient.
- The AC will endeavour to reach consensus on recommendations concerning the utility’s claims regarding DSM annual results. Where consensus is not reached, the Committee will outline areas of disagreement in the AC’s Report to the Board.
- Consistent with the principle of transparency, all verification reports, evaluation reports, summary spreadsheets, and other materials made available to the auditor, will be available on request, for review by all Committee members (with utility defined redaction of information to maintain privacy considerations) and on signing the Declaration and Undertaking attached as Appendix “A”.

vii. Outputs / Deliverables

The utility will file with the Board the

- Final Auditor's Report, having been reviewed by the Audit Committee, by June 30th as required by the Board's Natural Gas Reporting and Record Keeping Requirements Rules for Gas Utilities per page 41 of the Guidelines (EB-2008-0346).

The utility will also file the following reports by July 31st with the Board:

- the Audit Committee's Report, and
- the updated Final Annual Report.

viii. Fee Guidelines

Intervenor members will invoice the utility for time spent on Committee matters including meeting attendance and preparation up to the appropriate rate established by the OEB. The invoice will document activities. Intervenors will submit separate invoices to each utility with respect to the AC of that utility. It is expected that the level of commitment for participation in this process will normally not exceed 60 hours per year for each intervenor member. In the event additional hours are required, the Committee can revisit the Committee's budget requirements.

ix. Roles and Responsibilities

Intervenors

In addition to participation on the AC, the intervenor members of the Committee will:

- represent the larger Consultative's comments arising out of the Draft Annual Report and bring forth any issues/concerns expressed
- review and submit to the Auditor comments on the utility's draft Annual Report; and
- at their discretion, file comments with the Board – particularly in the event that the Committee fails to reach consensus on the selection of the auditor, the conduct of the Audit, the Final Annual Report, and/or the Audit Committee Report filed by the utility.

The Utilities

In addition to participating on the Committee, the utilities will:

- act as chair of the AC and provide the Draft Annual Report to the DSM Consultative and to Committee members;
- respond to issues that arise out of the audit process;
- update the Annual Report after the audit has been completed;
- support all costs associated with the Auditor and the Audit through the DSM evaluation budget;
- support the reasonable cost claims advanced by Committee members;

- file with the Board the Audit Report, the Final Annual Report and the Audit Committee Report, noting in the process if any elements of the Final Annual Report and the Audit Committee Report do not represent the consensus of the AC.

The Auditors

The Auditors shall, at a minimum:

- provide an audit opinion on the DSMVA, LRAM and utility performance incentive amounts proposed by the natural gas utility and any amendment thereto;
- confirm any target adjustments have been correctly calculated and applied;
- identify any input assumptions that either warrant further research or that should be updated with new best available information;
- review the reasonableness of any verification work that has been undertaken to inform utility results; and
- recommend any forward-looking evaluation work to be considered.

The Ontario Energy Board

The role of the Ontario Energy Board is to:

- review recommendations relating to the Audit Committee Report and utility application for clearance of DSM Deferral accounts; and
- where a consensus on the Audit Committee Report is not achieved, the Board will resolve any disputes by way of Board Decision at its discretion.

7. Program Consultation

Each utility will undertake separate utility-led consultation initiatives.

i. Objective

The objective of stakeholder engagement in DSM programs is to enhance the development of effective and innovative DSM programs. The utilities will establish DSM programs through individual consultation processes engaging intervenors and stakeholders.

ii. Scope of Program Consultation

Each utility commits to holding at least two plenary consultations with intervenors each year.

In addition, the utilities commit to holding two joint full day meetings a year for consultation on Low Income programs (one in the first quarter and one in the fall). The meetings will be structured to allow for plenary discussion as well as breakout sessions to discuss matters specific to each utility. The meetings will include intervenor representatives as well as other

stakeholders. The overall focus of the meetings will be on program design and implementation rather than program status and regulatory matters. The objectives of the consultation sessions are:

- For intervenors and other stakeholders to provide their perspective on the delivery of current programs
- To learn from intervenor groups and stakeholders how they can support the utilities in achieving the targets for Low Income DSM Programs
- To discuss ideas presented by intervenors and stakeholders for new / improved Low Income DSM Programs.

The utilities will consult with representatives of LIEN and VECC regarding the agendas and invitation lists for the Low Income sessions.

The utilities may also, at their discretion, consult with Intervenors and stakeholders on program design and implementation relating to other program types in their DSM portfolios.

Appendix “A”

IN THE MATTER OF THE *Ontario Energy Board Act*
1998, 1998, s. 15 (Schedule B);

AND IN THE MATTER OF an Application or
Applications by **[insert Utility Name]** (“ ”) for an Order
or Orders granting approval of initiatives and amounts
related to **[Utility’s]** Demand Side Management Activities
(“DSM”) and all related and associated DSM Consultatives
and Technical and Audit Committees

DECLARATION AND UNDERTAKING TO (insert Utility Name or Names)

I, _____, am counsel of record or a consultant for
_____. In the event that I serve on **[Name of Utility]**
DSM Consultative, Audit Committee, or Technical Evaluation Committee (singularly or
collectively the “Committee”), I agree to be bound by the Declaration and Undertaking.

DECLARATION

I declare that:

1. I have read the *Rules of Practice and Procedure* of the Ontario Energy Board (the “Board”).
2. I am not a director or employee of a party to any Board proceeding for which I act or of any other person known by me to be a party in any Board proceeding.
3. I understand that this Declaration and Undertaking applies to all information that has not already been made public and in respect of which **[Utility]** makes a written claim of confidentiality that I receive in a Committee process and any subsequent Board proceeding dealing with the subject matter of the Committee process (“Confidential Information”). It is the intention of the undersigned and **[Utility]** that this Declaration and Undertaking apply to all of the undersigned’s future participation or service on any Committee.
4. I understand that this Declaration and Undertaking is being made to **[Utility]** at this time. In the event that, in the course of a subsequent Board proceeding dealing with the subject matter of a Committee process, the Board determines that any Confidential Information held by me under this Declaration and Undertaking:

- (a) shall be considered to be confidential under the Board's Practice Direction on Confidential Filings, and I file a Declaration and Undertaking pursuant to that Practice Direction, or
- (b) shall not be considered by the Board to be confidential and is to be placed on the public record;

this Declaration and Undertaking shall thereafter be null and void with respect to that Confidential Information.

UNDERTAKING

I undertake that:

1. I will use Confidential Information exclusively for duties performed in respect of each Committee process and any subsequent Board proceeding dealing with the subject matter of that Committee process.
2. I will not divulge Confidential Information except to a person granted access by [Utility] to such Confidential Information.
3. I will not reproduce, in any manner, Confidential Information without the prior written approval of [Utility]. For this purpose, reproducing Confidential Information includes scanning paper copies of Confidential Information, copying the Confidential Information onto a diskette or other machine-readable media and saving the Confidential Information onto a computer system. I understand that I may reproduce a hard copy of electronic data received solely for internal purposes, and I undertake to destroy such copies in accordance with this Declaration and Undertaking. For clarity, this prohibition does not preclude the forwarding of electronic Confidential Information material received from one computer to another for the personal use of the undersigned.
4. I will protect Confidential Information from unauthorized access.
5. I will not use Confidential Information in any commercial application or for any monetary or personal benefit, with the exception of remuneration for my participation on any Committee.
6. I will, promptly following the end of each Committee process or the end of any subsequent Board proceeding dealing with the subject matter of a Committee process, whichever shall be later, or within 10 days after the end of my participation in a Committee process or any subsequent Board proceeding dealing with the subject matter of the Committee process:

- (a) return to **[Utility]**, all documents and materials in all media containing Confidential Information, including notes, charts, memoranda, transcripts and submissions based on such Confidential Information; or
- (b) destroy such documents and materials and file with **[Utility]** a certification of destruction in the form prescribed by the Board pertaining to the destroyed documents and materials.

For this purpose, the end of any subsequent Board proceeding is the date on which the period for filing a review or appeal of the Board's final order in that proceeding expires or, if a review or appeal is filed, upon issuance of a final decision on the review or appeal from which no further review or appeal can or has been taken.

In respect of those Intervenorors that serve on the same Committee for more than one term, the obligation to destroy Confidential Information arises as of the date of the Intervenor's retirement from the Committee.

7. I will inform **[Utility]** immediately of any changes in the facts referred to in this Declaration and Undertaking.

Dated at Toronto, this ____ day of _____, 2011.

Signature: _____

Name:

Company/Firm:

Address:

Telephone:

Email:

11349316.2

UNION GAS LIMITED
Comparison of Revised 2012 DSM Budget using 2012 Board-approved Distribution Revenue
for allocation of Low Income vs. 2012 DSM amounts in 2012 Board-approved Rates
Allocation by Rate Class

Line No.	Particulars (\$000's)	2012							2012 Approved per EB-2011-0025				
		Revised DSM Program Budget	DSM Program Inflation Factor (2)	Total DSM Program Budget	Low Income DSM Program Budget (1)	Low Income Inflation Factor (2)	Total Low Income DSM Budget	Grand Total Revised 2012 DSM Budget	DSM Program Budget	Low Income Program Budget	Inflation Factor (2)	Total 2012 DSM Budget	Variance
		(a)	(b)	(c) = (a+b)	(d)	(e)	(f) = (d+e)	(g) = (c+f)	(h)	(i)	(j)	(k) = (h+i+j)	(l) = (g-k)
<u>Northern & Eastern Operations Area</u>													
1	R01	1,900	55	1,954	1,649	47	1,696	3,651	2,366	1,705	117	4,188	(537)
2	R10	847	24	871	281	8	289	1,160	928	315	36	1,279	(118)
3	R20	840	24	864	87	2	90	953	777	163	27	968	(14)
4	R100	1,529	44	1,572	181	5	187	1,759	1,200	216	41	1,456	303
5	Total North (lines 1-4)	5,115	147	5,261	2,199	63	2,262	7,523	5,271	2,400	220	7,891	(367)
<u>Southern Operations Area</u>													
6	M1	5,922	170	6,092	4,016	115	4,131	10,224	8,707	3,986	364	13,058	(2,834)
7	M2	3,158	91	3,249	547	16	562	3,811	2,881	606	100	3,587	224
8	M4	1,392	40	1,432	136	4	140	1,572	1,157	162	38	1,356	216
9	M5	2,455	70	2,526	96	3	99	2,624	1,291	99	40	1,430	1,195
10	M7	795	23	818	66	2	68	886	532	100	18	650	236
11	T1	3,567	102	3,669	627	18	645	4,314	2,409	491	83	2,984	1,330
12	Total South (lines 6-11)	17,290	496	17,786	5,487	157	5,645	23,431	16,976	5,444	643	23,064	367
13	Total Union (line 5 + line 12)	22,404	643	23,047	7,686	221	7,907	30,954	22,247	7,843	864	30,954	-

Notes:

- (1) Allocated to rate classes based on 2012 Board-approved distribution revenue as per EB-2011-0025, Rate Order, Working Papers, Schedule 3, column (k), excluding Upstream Transportation (column (j)), and Low-Income DSM Budget of \$8.068 million allocated on 2007 Board-approved Rate Base.
(2) Inflation factor of 2.87% obtained from Statistics Canada, National Income and Expenditure Accounts, Table 30 - Cansim Table No 3800003 First Quarter 2011.

Annual % Change in GDP IPI

April - June 2010	3.04%
July - September 2010	2.60%
October - December 2010	2.81%
January - March 2011	<u>3.04%</u>
Average % Change	2.87%

Example of the Calculation of the Commercial/Industrial Deep Savings Targets

Line No.

1	Total Savings From 2010 C/I Custom Projects (m ³)	200,937,353	(1) (2)
2	Total 2009 Consumption of C/I Custom Project Participants (m ³)	5,318,598,501	(1) (3)
3	2011 C/I Deep Savings Target (Line 1/Line 3)	<u>3.78%</u>	

Notes:

(1) Data is from Union's response to Exhibit B6.14.

(2) For illustration purposes only, data does not include m³ savings from prescriptive measures (m³ savings from prescriptive measures will be used in the calculation when determining the deep savings targets).

(3) For illustrative purposes only, data is not weather normalized (weather normalized volumes will be used in the calculation when determining the deep savings targets).