

**EB-2015-0029**  
**EB-2015-0049**

**Union Gas Limited and Enbridge Gas Distribution Inc.**

**Application for approval of 2015-2020  
demand side management plans.**

**VECC Submissions**

**October 2, 2015**

## Table of Contents

1.	Summary	Page 3
2.	Overview	Page 4
3.	Proposed 2015 DSM Plans – 2014 Rollover	Page 5
4.	Guiding Principles	Page 8
5.	2016 to 2020 Enbridge & Union DSM Programs, Budgets & Targets	Page 11
	5A. Enbridge Residential Program	Page 13
	5B. Union Residential Program	Page 18
6.	Low-Income Programs	Page 26
	6A. Enbridge Low-Income	Page 27
	6B. Union Low-Income	Page 37
7.	Market Transformation Programs	Page 43
8.	On-bill Financing	Page 46
9.	Mid-Term Review	Page 47
10.	Coordination of Natural Gas DSM and Electricity CDM Programs	Page 48
11.	Collaboration between Enbridge and Union	Page 48

**Union Gas Limited and Enbridge Gas Distribution Inc.  
Application for approval of 2015-2020 demand side management plans.**

**VECC Submissions**

- Enbridge Gas Distribution Inc. (Enbridge) and Union Gas Limited (Union) filed applications, dated April 1, 2015, with the Ontario Energy Board (the OEB) under section 36 of the Ontario Energy Board Act, 1998, for orders approving their respective demand side management (DSM) plans for the years 2015 to 2020.
- As outlined in the Conservation Directive, the term of the DSM framework is six years, from January 1, 2015 to December 31, 2020, with a mid-term review completed by June 1, 2018.
- Union and Enbridge seek approval of their DSM Plans for the six year period that includes DSM program types and budgets, scorecard targets, incentive amounts and evaluation plans.

**1. Summary**

- Apart from government and regulatory supervision there are three main stakeholders in DSM:
  1. Regulated Utility
  2. Ratepayers
  3. Public Interest
- The regulated utility gets compensated and incented to produce programs and reduce energy consumption and corresponding emissions etc. The DSM programs are also a way to connect with customers, sell them other things and cement a relationship.
- The public environmental and future interest is inherent in the effort to reduce energy consumption, the carbon footprint, climate change etc., largely skewed towards higher expenditures to reduce future risk, with little disincentive not to spend.
- Ratepayers, while enjoying the general public benefits set out above must have access and be able to implement DSM programs in their homes to lower the bills that have been augmented by the DSM programs.
- For low income tenants and seniors who face barriers due to age, lack of familiarity with energy programs and technology, language and mobility issues, it is much more important to ensure that the programs will be designed to overcome these barriers.

- In evaluating the DSM programs, this is VECC’s priority concern because on a short term basis it is on the shoulders of ratepayers that the programs must be largely financed.

## 2. Overview

- Enbridge’s total lifetime Natural Gas Savings from 2015 to 2020 are 6,355 million m<sup>3</sup>. Residential /Low-Income programs contribute 29% to Enbridge’s 2020 CCM goal. Commercial and industrial programs contribute 71%.

Enbridge 2016 to 2020 Goal & CCM Contributor			Union 2016 to 2020 Goal & CCM Contributor		
		%			% Total
Residential	1,064	<b>19%</b>	Residential	653	<b>11%</b>
Low Income MF	336	<b>6%</b>	Low Income MF	282	<b>5%</b>
Low Income SF	149	<b>3%</b>	Low Income SF		<b>0%</b>
MTEM Res	96	<b>2%</b>	Perf Based	60	<b>1%</b>
Commercial/Industrial	3,936	<b>71%</b>	Commercial/Industrial	5,163	<b>84%</b>
<b>Total 2016-2020</b>	<b>5,581</b>	<b>100%</b>	<b>Total 2016-2020</b>	<b>6,158</b>	<b>100%</b>
2015 Transition Year	774		2015 Transition Year		
	6,355				

- Union’s total lifetime Natural Gas Savings from 2016 to 2020 is 6,158 million m<sup>3</sup>. Residential /Low-Income programs contribute 16% to Union’s 2020 CCM goal (10% less than Enbridge). Commercial and industrial programs contribute 84%.
- Enbridge’s proposed savings are higher than their programs have achieved in recent years, Union’s are dramatically lower, with the result being that annual savings province-wide will actually be lower in every year from 2016 to 2020 than they were in every year from 2012 to 2014<sup>1</sup>. Union’s cancelling of its large industrial program (Union followed the framework’s/guidelines’ suggestion to stop offering its self-direct program) has impacted its proposed savings.
- Enbridge’s DSM budget increases \$37.772 million in 2015<sup>2</sup> to \$63.535 million in 2016, an increase of 68%.
- Union’s DSM budget increases \$33.988 million in 2015<sup>3</sup> to \$57.254 million in 2016<sup>4</sup>, an increase of 52%.

<sup>1</sup> Ex L.GEC.1 Page 3

<sup>2</sup> Ex B T1 S3 Page 3

<sup>3</sup> Ex A T2 Page 7

<sup>4</sup> Ex A T3 Page 6

- Over the 2016 to 2020, the proposed budget spend is as follows:

	2016-2020 Total Budget <sup>5</sup> (million)	2016-2020 Program Budget	Annual \$ (million)	2016-2020 Natural Gas Savings Goal	\$/CCM
<b>Enbridge</b>	\$381.2 <sup>6</sup>	\$360.7 (95% of total)	\$76	5,581 million <sup>7</sup>	0.0683
<b>Union</b>	\$301.9 <sup>8</sup>	\$252.1 <sup>9</sup> (84% of total)	\$60	6,158 million	0.0490

- VECC notes that Enbridge’s proposed DSM costs are higher than Union’s, however Enbridge’s natural gas savings goal for 2016-2020 is lower, resulting in a higher cost per CCM for Enbridge (\$0.068 vs. \$0.049).
- Synapse concludes that overall the programs proposed by the utilities are highly cost-effective, with Enbridge’s 2016-2020 Total Resource Cost (TRC) Plus test benefit-cost ratio at 2.4, and Union’s 2016 TRC benefit-cost ratio at 2.0.<sup>10</sup>

**Table 1. Highlights from Enbridge and Union’s 2016-2020 Plans**

Metric	Enbridge	Union
TRC Plus Test Benefit-Cost Ratio	2.4 (2016-2020)	2.0 (2016)
PAC Test Benefit-Cost Ratio	4.0 (2016-2020)	5.2 (2016)
2016 Savings as Percent of Sales	0.63% (2014 Sales)	0.47% (2016 sales)
2016-2020 Cost of Saved Energy (m <sup>3</sup> )	\$0.07	\$0.05

### 3. Proposed 2015 DSM Plans – 2014 Rollover

- The DSM Framework<sup>11</sup> provides for gas utilities to roll-forward their 2014 DSM plans, including all programs and Plan parameters (i.e., budget, targets, incentive structure) into 2015.
- Both Enbridge and Union’s DSM Plans for 2015 include a roll-over of the 2014 Plan parameters.

#### 2015 Budget

<sup>5</sup> Includes inflation

<sup>6</sup> Ex B T1 S4 Page 3-5

<sup>7</sup> Ex B T1 S2 Page 2, 6,355 million less 2015 CCM of 774 million = 5,580

<sup>8</sup> Includes inflation at 1.68% totalling \$14.977 million

<sup>9</sup> Ex A T3 Page 6

<sup>10</sup> L.OEB.Staff.1 Page 3

<sup>11</sup> DSM Framework Page 37

- For 2015, Enbridge updated its 2014 program budget by 2% GDP-IP<sup>12</sup> from \$32.16 million to \$32.80 million.<sup>13</sup>
- For 2015, Union updated its 2014 program budget for inflation (1.68%) from \$32.049 million to \$32.588 million. Union's inflation rate of 1.68% was approved in Union's 2012-2014 DSM Plan Settlement Agreement (EB-2011-0327).<sup>14</sup>
- VECC takes no issue with Enbridge and Union's proposed 2015 budget.

### 2015 Targets

- To set 2015 targets, Enbridge rolled over its 2014 targets. VECC submits that given 2014 actuals for some programs exceeded 2014 targets, the proposed 2015 targets are too low. VECC submits 2014 actuals should have been used as the basis to set 2015 targets.
- Union's proposal to adjust its targets for 2015 based on 2014 actuals plus an escalator. VECC submits this approach is appropriate.
- 2015 Shareholder Incentive
- For 2015, Enbridge increased its 2014 maximum shareholder incentive in the same manner by 2% from \$10.87 million to a 2015 maximum shareholder incentive of \$11.09 million.<sup>15</sup>
- For 2015, Union proposes to increase its 2014 maximum shareholder incentive by 1.68% from \$10.82 million to a 2015 maximum shareholder incentive of \$11.02 million.<sup>16</sup>
- The Board's DSM Framework caps the shareholder incentive at \$10.45 million.
- VECC submits this \$10.45 million incentive cap should also apply for 2015 consistent with the Board's DSM Framework issued in December 2014, prior to the April 1, 2015 submission of Enbridge and Union's DSM applications. On this basis, VECC submits Enbridge and Union's 2015 incentive should be capped at \$10.45 million.
- 2015 Incremental Budget

---

<sup>12</sup> EB-2012-0394

<sup>13</sup> Ex B T1 S3 Page 4

<sup>14</sup> Ex A T2 Page 5

<sup>15</sup> Ex B T1 S3 Page 4

<sup>16</sup> Ex B T1 S3 Page 4

- Section 15.1 of the DSM Framework <sup>17</sup> states that the gas utilities may increase overall spending in 2015 by up to 15% and use these additional funds to begin to incorporate and address the guiding principles and key priorities outlined in the DSM Framework.
- Enbridge proposes to spend \$4.92 million (15% of 2015 roll over budget of \$32.80 million) for this purpose on a series of studies and initiatives:

<b>2015 Incremental Budget</b>	<b>Budget</b>
My Home Health Record Behavioural Program (OPower)	\$2,650,000
Integrated Resource Planning Study	\$300,000
Potential Study Update	\$50,000
Green Button Initiative	\$300,000
Comprehensive Energy Management	\$370,000
Low Income New Construction	\$250,000
Collaboration and Innovation Fund	\$1,000,000
<b>Total</b>	<b>\$4,920,000</b>

- Union’s 2015 DSM budget also includes an additional \$1.4 million incremental budget as follows:

<b>2015 Incremental Budget</b>	<b>Budget</b>
Achievable Potential Study	\$200,000
DSM and Infrastructure Planning Study	\$300,000
DSM Tracking and Reporting System	\$1,000,000
<b>Total</b>	<b>\$1,400,000</b>

- Enbridge and Union take the position is that the incremental budget requirement of \$4.92 million \$1.4 million, respectively is in addition to the existing 15% overspend provision in place in EB-2006-0021 that allows Enbridge and Union to aggressively pursue programs which prove to be very successful during the program year and strive toward achievement of the upper incentive band.

---

<sup>17</sup> DSM Framework Page 37

Union also indicates that it is inappropriate to use the 15% overspend amount to conduct the incremental items.

- VECC disagrees. VECC submits the Board's DSM Framework is clear that the additional 15% in funds is to begin to incorporate and address the guiding principles and key priorities outlined in the DSM framework. The amount (15%) is consistent with the gas utilities' current, approved DSM plans however the purpose to use the additional funds in 2015 has been adjusted. VECC does not support the spending of an additional 15% above and beyond the incremental budgets identified above.
- Enbridge proposes a ring-fencing provision of the Collaboration and Innovation Fund that would occur in each year of the plan from 2015 to 2020 in that unused funds would be returned to ratepayers and not available for redistribution within the DSM portfolio.<sup>18</sup> VECC submits this approach is appropriate.
- With respect to Enbridge's Incremental Budget, Enbridge seeks the following:
  - Flexibility to be able to move funds between budget items within the total cap of \$4.92 million.
  - Enbridge will not count any savings generated from the budget items towards its 2015 targets.
  - Enbridge will track any natural gas savings from the budget items.
  - The spending on the Incremental Budget will be cleared with 2015 audited results and info on spending will be provided in 2015 Annual Report.
  - Enbridge will not earn an incentive on its use of the 2015 Incremental Budget.
- VECC takes no issue with Enbridge's proposal.

#### **4. Guiding Principles**

- The Board determined that DSM budgets should be guided by the simple principle that DSM costs (inclusive of both DSM budget amounts and shareholder incentive amounts) for a typical residential customer of each gas utility should be no greater than approximately \$2.00/month.
- Based on a \$2.00/month cost impact to a typical residential customer and considering the general historic program mix and the relative size of each utility, the Board has estimated total annual DSM amounts of \$85M for Enbridge and \$70M for Union (these amounts are inclusive of the maximum annual shareholder incentive of \$10.45 million).<sup>19</sup>

---

<sup>18</sup> J5.7

<sup>19</sup> DSM Framework Pages 17-18

- Enbridge’s proposed total annual DSM amounts exceed \$85 million in 2018. Union’s proposed total annual DSM amounts exceed \$70 million in 2018.
- Combined, the total DSM budgets for Enbridge and Union have the potential to reach \$787 million over five years if the maximum incentive is achieved.

<b>Enbridge</b>						<b>2016-2020 Total</b>
<b>Total Budget</b>	63,535,727	73,826,882	79,680,131	81,273,734	82,869,209	381,185,683
<b>Max Shareholder</b>	10,450,000	10,450,000	10,450,000	10,450,000	10,450,000	52,250,000
	73,985,727	84,276,882	90,130,131	91,723,734	93,319,209	433,435,683

<b>Union</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2016-2020 Total</b>
<b>Total Budget</b>	57,254,000	56,049,000	61,424,000	62,464,000	64,174,000	301,365,000
<b>Max Shareholder</b>	10,450,000	10,450,000	10,450,000	10,450,000	10,450,000	52,250,000
	67,704,000	66,499,000	71,874,000	72,914,000	74,624,000	353,615,000

- The 100% target incentive is \$4.180 million.
- Enbridge indicates that at the 100% incentive at target the average monthly bill impact for Residential Rate 01 and Rate M1 customers in 2020 is approximately \$2.00
- Union indicates that at 100% incentive at target the average monthly bill impact for Residential Rate 01 and Rate M1 customers in 2020 is approximately \$2.00. In 2014, Rate M1 and Rate 01 were allocated 45% of the total DSM budget. By 2020, this percentage increases to 61%.<sup>20</sup>
- Union provided a sensitivity analysis associated with the incremental gas savings associated with a \$10 million increase to the budget resulting in an average residential impact of \$2.18/month for Union South and \$2.51/month for Union North.<sup>21</sup>
- Enbridge undertook a sensitivity analysis with spending at 75%, 125% and 150% of proposed annual budgets.<sup>22</sup>
- Union proposes to build 100% of the DSM incentive into rates in order to mitigate large out of period deferral impact for customers and allow a smaller amount to be either credited/or debited as a true-up

<sup>20</sup> Ex B.T3.Union.CME.13 Attachment 1

<sup>21</sup> Ex B.T3.Union.BOMA.5

<sup>22</sup> Ex B T1 S5 Page 3

based on actual performance.<sup>23</sup>

- Union confirmed it has not previously included 100% of the DSM incentive target into rates in advance of achieving or exceeding the target.<sup>24</sup>
- VECC submits it is not appropriate now that DSM incentives be included in rates prior to achieving the target. If Union does not achieve its targets it will have to credit customers through the DSMIDA. Given historical performance there is a likelihood that for some programs Union will not achieve the 100% target and customers should not be out of pocket. In VECC's view, the historical practice should continue and the Board should reject Union's proposal to build 100% of the DSM incentive into rates. The entire amount should be disposed of through the DSMIDA.
- Union proposes to allocate the DSM incentive between the scorecards based on the approved budget share (not budget actuals) and the target amount will be built into rates to minimize large out of period adjustments. VECC submits this methodology is consistent with the Board's direction outlined in Section 5.2 of the Framework. If the DSM incentive was allocated based on actual spend the utility could transfer budget away from an unsuccessful scorecard to a more successful scorecard making the scorecard worth more.<sup>25</sup>
- Section 5.2 of the Board's DSM Framework states:

"To encourage performance beyond the 100% target level, a pivot point should be introduced at the 100% level. More specifically, 40% of the maximum shareholder incentive available (or \$4.2 million) should be provided for performance achieving a scorecard weighted score of 100%, with the remaining 60% (or \$6.3 million) available for performance at 150%..."

- Union set the scorecard metric for the upper band at 150% in its 2012-2014 DSM plan. For its 2016-2020 plan Union has not set the upper band at 150% but has instead set it at 125%, which represents a deviation from the Board's Guidelines (Section 3.2) which outlines that, "three levels of achievement should be provided on the scorecard (s) for each metric: one at each 75%, 100% (target), and 150%."
- Union believes that the upper band should be set at a level that represents an achievable stretch in order to encourage the utility to aggressively pursue programs that are proven to be very successful. With 15% budget overspend available for achievement beyond the 100% target, Union believes a 150% stretch is not proportional. If Union had used a 75%/100%/150% scorecard design, it would have resulted in lower 75% and 100% target levels in order to ensure the upper band level was attainable with the available budget. VECC supports this approach.

---

<sup>23</sup> Ex B.T4.Union.CCC.4

<sup>24</sup> Ex B.T4.Union.CME.4

<sup>25</sup> ExB.T2.Union.LPMA.13

## 5. 2016 to 2020 Enbridge & Union DSM Programs, Budgets & Targets

- The Board’s 2015-2020 DSM Framework identified the following guiding principles:
  - Design programs so that they achieve high customer participation levels;
  - Minimize lost opportunities when implementing energy efficiency upgrades; and
  - Programs should be designed to pursue long-term energy savings.
- The Table below shows the DSM programs offered by Enbridge and Union and the percentage of total budget allocated to each program for the 2016 to 2020 period compared to 2015.

<b>Enbridge DSM Programs</b>	<b>% 2015 Budget</b>	<b>% 2016 to 2020 Total Budget</b>	<b>Union DSM Programs</b>	<b>% 2015 Budget<sup>26</sup></b>	<b>% 2016 to 2020 Budget<sup>27</sup></b>
Resource Acquisition 8 (4 new)	58%	59%	Resource Acquisition 4 (2 new)	52%	70%
Low-income 3 (1 new)	<b>23%</b>	<b>18%</b>	Low-income 4 (2 new)	26%	26%
Market Transformation & Energy Management 11 (6 new)	19%	23%	Market Transformation 1 (final year in 2016)	5%	2.4%
			Large Volume Rate T1/T2/Rate 100  1 (1 new)	17%	<1%  (ends in 2016)
			Performance-Based (new)  2 (2 new)	n/a	1.3%
<b>Total 22 (11 new)</b>	100%	100%		100%	100%

<sup>26</sup> Ex A T2 Page 21 Table 11

<sup>27</sup> Ex A T3 Page 36 Table 8

- In accordance with the Board's Guidelines<sup>28</sup>, Enbridge's spend on Resource Acquisition is the largest share of the DSM budget and as a percentage of total budget spend (59%) it is consistent with Enbridge's historical spend (58%).
- Enbridge's budget allocation on Low-Income and Market Transformations has changed and not consistent with the historical spend. Although Enbridge increased the annual budget spend related to Low-Income programs, the percentage of total budget allocated to the Low-Income program over the 2016 to 2020 period has decreased 5% from 23% to 18%; making Enbridge's Market Transformation budget the second largest share of the DSM budget.
- VECC submits Enbridge's percentage allocation of total budget to Low-Income programs should not decrease over the 2016 to 2020 DSM Plan compared to 2015. VECC submits the percentage allocation of total budget to Low-Income programs should at a minimum be maintained at 23%. VECC submits this can be achieved by reallocating budget between programs or increasing the overall DSM budget.
- Union's spend on Resource Acquisition includes residential and commercial/industrial programs and represents the largest share of the DSM program budget which is consistent with the Board's DSM Guidelines. Union has not only increased the annual budget spend on Resource Acquisition programs but as a percentage of total budget, Union has increased the average budget allocation from 52% in 2015 to 70% over the 2016 to 2020 period.
- Union's Low Income Budget represents the second largest share of the DSM budget. The Low Income budget share represents approximately 26% of the total program budget which is consistent with the 2012-2014 DSM Plan.<sup>29</sup> Union has increased its Low Income budget by 66% to \$11.4 million in 2016, ramping up to \$14.9 million in 2020 but in contrast to Enbridge, Union has maintained the 26% budget allocation to its Low-Income programs. VECC supports Union's approach.
- Union's remaining program budget is split between Performance Based, Large Volume and Market Transformation programs, for the remaining 6% of the budget share. This represents a significant difference when compared to Enbridge's DSM plan where Market Transformation has a 23% share of the program budget.

---

<sup>28</sup> DSM Guidelines Page 26

<sup>29</sup> Ex A T3 Page 8

## Residential Offerings

- With respect to Residential Offers, Enbridge has five offerings across its DSM Program Portfolio; Union has three offerings:

Enbridge	Union
Home Energy Conservation	Home Reno Rebate
Adaptable Thermostats	Energy Savings Kit
Home Health Record (OPower)	Behavioural Offering
Residential Savings By Design	
Home Rating	

### 5A. Enbridge Residential Programs

- Details on Enbridge's Residential Programs are as follows:

Enbridge Resource Acquisition Residential Programs	Program Budget \$ <sup>30</sup>	% Budget	Participants	CCM Target @ 100% 2016 to 2020	% Total CCM Goal 2016 to 2020 <sup>31</sup>	Cost Effectiveness (\$/CCM) 2016 to 2020 <sup>32</sup>
Home Energy Conservation	\$82.42 M	44.4%	56,280	769	13.8%	9.1 cents
Adaptable Thermostats	\$9.07 M	4.8%		295	5.3%	3.1 cents
<b>Sub-Total</b>	<b>\$91.49 M</b>	<b>49.2%</b>		<b>1064</b>	<b>19%</b>	
Total Resource Acquisition	\$185.6 M			4,998		3.7 cents

- Enbridge's Residential offerings (Home Energy Conservation and Adaptable Thermostats) represent almost 50% of Enbridge's Resource Acquisition budget (which also includes Commercial/Industrial offerings). Residential programs are forecast to contribute 1,064 million CCM or 19% towards Enbridge's 2016 to 2020 CCM goal of 5,580 million.

<sup>30</sup> Ex B T1 S4 Page 9

<sup>31</sup> 6,335,128,342 CCM 2015-2020 Goal less 2015 Transition = 5,580,769,061 2016 to 2020 CCM Goal

<sup>32</sup> J8.14

### Home Energy Conservation (HEC) (Expansion)

- One of the guiding principles for the DSM framework is that programs should be designed to pursue long-term energy savings.
- Enbridge’s HEC offering provides financial incentives to residential customers targeted at deep savings by requiring customers to undertake a minimum of two DSM measures and averaging savings across all participants of 25%. The features of the offering shown below include a pre and post energy audit, a tiered incentive structure and an incentive cap of \$2,000.

Enbridge	Home Energy Conservation
Measures	<ul style="list-style-type: none"> <li>• Basement Insulation</li> <li>• Attic Insulation</li> <li>• Wall Insulation</li> <li>• Air Sealing</li> <li>• Furnace/Boiler</li> <li>• Water Heater</li> <li>• Window/Door/Skylight</li> <li>• Exposed Floor Insulation</li> <li>• Drain Water Heat Recovery System</li> </ul>
Pre and Post Energy Audit	<ul style="list-style-type: none"> <li>• Up to \$500</li> </ul>
Tiered Incentive Structure	<ul style="list-style-type: none"> <li>• \$500 – 15-25% annual gas savings</li> <li>• \$1,100 – 26-49% annual gas savings</li> <li>• %1,600 - &gt;50% annual gas savings</li> </ul>
Max Incentive	<ul style="list-style-type: none"> <li>• \$2,000 per home</li> </ul>

- Enbridge proposes to spend \$82.42 million over the 2016 to 2020 period on its HEC offering. Enbridge has adjusted the incentive structure but has not added any new measures.
- From 2014 to 2016 the budget has increased from \$8.605 million<sup>33</sup> to \$12.15 million.<sup>34</sup>
- Participant targets increase from 5,213 in 2014 to over 13,000 by 2020.

	2016	2017	2018	2019	2020	Total
<b>Residential HEC Participants</b>	7,508	10,000	12,346	12,948	13,478	56,280

<sup>33</sup> JT1.9

<sup>34</sup> Ex B T1 S4 Page 9 Table 7

- The total net present value of lifetime natural gas, electricity and water savings for the HEC offer in 2016 is \$23.6 million, while the incremental costs to the customer, after receiving an incentive from Enbridge, is \$10.9 million.<sup>35</sup>
- With respect to Cost Effectiveness, as shown in the Table below, Enbridge’s Residential HEC offering is 10.8 cents per CCM (average over 5 years), compared to the Resource Acquisition programs as a whole at 3.7 cents per CCM.

<b>Cost Effectiveness<sup>36</sup></b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>	<b>AVG</b>
Resource Acquisition	0.0330	0.0362	0.0385	0.0386	0.0387	0.1850	0.0370
Residential HEC (\$/CCM)	0.1184	0.1111	0.1067	0.1037	0.1017	0.5416	<b>0.1083</b>

- VECC supports Enbridge’s HEC offering subject to the comments below.
- Enbridge has typically targeted its Home Energy Conservation offer to neighbourhoods with higher than average household income; higher than average energy consumption; dwellings built 16 to 30 years ago; above average proportion of single detached dwellings; and low participation in NRCan’s ecoEnergy program.<sup>37</sup>
- Enbridge clarified at the hearing that it proposes to relax the above criteria and will offer this program franchise-wide in 2016 to 2020 and does not limit eligibility based on income.<sup>38</sup> VECC supports this approach.
- Enbridge also indicates an opportunity exists to further expand the HEC offer to those customers who are just above the low income cut-off, who are not currently eligible for the Low-Income offers and are unlikely to perform any energy equipment upgrades with the limited increased income. These customers appear to not be in the target market of either offering (HEC or Low-Income). Low-Income customers are defined as those households spending 30% or more of their income towards shelter costs. Enbridge indicates it may be appropriate to offer an increased incentive through the HEC to this lower “income” subset of customers.
- VECC supports Enbridge’s proposal to further develop its HEC to increase access by this subset of customers. VECC submits Enbridge should further develop this approach and include any changes to

---

<sup>35</sup> Ex I.T8.EGDI.CCC.30

<sup>36</sup> J8.14

<sup>37</sup> Ex B T2 S1 Page 24

<sup>38</sup> J8.1 Page 9

the HEC offering as part of the Mid Term Review.

- VECC submits there are a significant number of Enbridge’s residential customers that are eligible for this program that are seniors.
- VECC is concerned that many seniors may not be aware of Enbridge’s HEC offer who may be missed under Enbridge’s current marketing and communication strategies. VECC submits that a percentage of Union’s promotional budget should be directed at marketing and communication strategies to promote the HEC offer to seniors to increase their access and uptake of the program. VECC submits seniors stand to benefit from this program through direct savings on their energy bills.
- Although Enbridge has changed the incentive structure it has not added any new measures to its offering. VECC submits that Enbridge should continue to evaluate other technologies with a view to increasing the measures available under the HEC offering in order to achieve deep savings.
- Synapse recommends that Enbridge provide additional measures such as faucet aerators, showerheads, programmable or adaptable thermostats, lighting measures or smart strips. Such an offering ensures a holistic approach to program savings.<sup>39</sup> Enbridge’s response is that it does not believe that it would be appropriate for the gas utilities to utilize natural gas rate payer funding for electric conservation measures. VECC submits these measures also impact natural gas savings.
- Enbridge’s incentive cap is \$2,000. Union’s incentive cap is \$5,000. Synapse recommends that the incentive cap be increased to \$5,000 to be consistent with Union’s incentive. Enbridge is not specifically opposed to increasing incentives but notes higher targets accompanied with higher targets have a significant impact on budget.<sup>40</sup> VECC supports consistent offers between Enbridge and Union. VECC recommends that Enbridge fully assess the impact of increasing the incentive cap to be considered at the Mid-Term review.
- Adaptive Thermostats
- Enbridge’s Adaptive Thermostat offering provides a \$75 rebate upon proof of purchase and installation. The typical cost of an adaptive thermostat is approximately \$250.
- The offering will also be used to drive interest in Enbridge’s HEC and Home Rating offers.
- The target is 9,000 Adaptive Thermostats in 2016 with a growth rates of 1% in 2017, 1.5% in 2018, 2% in 2019 and 2020.<sup>41</sup>

---

<sup>39</sup> L.OEBStaff.1 Page A4

<sup>40</sup> J8.1 Page 9

<sup>41</sup>Ex I.T2.EGDI.GEC.16

- Enbridge indicates it has been engaged in discussions with a few LDCs on collaboration around adaptive thermostats. VECC submits there is a real opportunity for design and deployment integration and joint saving and recommends that this offer be a priority for collaboration between Enbridge and its LDCs.
- With respect to Cost Effectiveness, as shown in the Table below, Enbridge’s Residential Adaptive Thermostat offering is 3.16 cents per CCM (average over 5 years), compared to the Resource Acquisition programs as a whole at 3.7 cents per CCM.

<b>Cost Effectiveness<sup>42</sup></b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>	<b>AVG</b>
Resource Acquisition	0.0330	0.0362	0.0385	0.0386	0.0387	0.1850	0.0370
Residential Adaptive Thermostats	0.0367	0.0320	0.0304	0.0296	0.0294	0.1581	0.0316

- VECC supports Enbridge’s new Residential Adaptive Thermostat stand-alone prescriptive offering on the basis that it will help Rate 1 Residential customers achieve gas savings. The offering will contribute 295 million CCM or 5.3 % towards Enbridge’s 5,580 million CCM goal. VECC recognizes the evolving technology related to programmable thermostats will assist customers in achieving gas savings.
- Synapse recommends that the incentive rebate be increased from \$75 to \$100.
- Enbridge indicates it is not opposed to a higher incentive but it would result in significant budget implications. VECC submits Enbridge should further analyze this approach and include any changes to the Adaptive Thermostat offering as part of the Mid Term Review.
- Enbridge indicates it has been in discussions with a few LDCs on collaboration around this offering related to design and deployment integration.<sup>43</sup> VECC submits Enbridge should update the Board on its progress at the Mid-Term Review.

Scorecard

- The HEC and Adaptive Thermostats offering are part of the Resource Acquisition Scorecard that includes CCM metric with an 80% weighting; 40% for Large Volume customers and 40% for Small Volume customers. The CCM for Large and Small Volume customers is as follows:

<b>RA Scorecard</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>
HEC CCM (M)	1011.9	894.3	965.8	1028.3	1046.2	1064.9	4999.5

---

<sup>42</sup> J8.14

<sup>43</sup> Ex B T2 S1 Page 29

- VECC notes the proposed 2016 target is significantly below the 2015 target.
- Enbridge explains that the significant increase in budget is largely due to the fact that the HEC program is proposing significantly higher targets than in previous years. While the 2015 CCM target for Resource Acquisition may be 1,011.9 million CCM, achievements in this category were 766.7 million in 2013 and 664.4 million CCM in 2014 based on pre-audit results. In light of this trend the change in 2016’s Resource Acquisition CCM target does not represent a decrease in the natural gas savings being realized by ratepayers. Rather, the 2016 target represents a re-alignment of targets which are clearly no longer appropriate.<sup>44</sup>
- The Scorecard also includes a Residential Deep Savings targets related to the number of HEC participants) with a weighting of 10%.
- VECC takes no issues with Enbridge’s proposed CCM targets on its Resource Acquisition Scorecard related to Residential programs (HEC and Adaptable Thermostats) or Residential Deep Savings (HEC number of participants).

## 5B. Union Residential Programs

- Details on Unions’ Residential offerings are as follows:

Union Residential Offerings	2016-2020 Program Budget \$ <sup>45</sup>	% Budget	Participants	Lifetime CCM (millions M3)	% CCM	Cost Effectiveness (\$/CCM)
Development & Start-up	\$1.85 M	2.5%		-		
<b>Home Reno Rebate</b>	\$53.8M	75%	22,000	571.8	88%	12.3
<b>Behavioural</b>	\$14.3 M	20%	1,500,000	21.3	3%	87.6
<b>ESK</b>	\$1.9 M	2.5%	75,000	60.4	9%	4.2
<b>Total</b>	<b>\$71.85M</b>	<b>100%</b>		<b>653.5</b>		\$0.109

### Home Reno Rebate

- Union’s Home Reno Rebate budget represents that largest share of the Residential budget (75% or \$53.8 million) to achieve the largest share of Residential lifetime CCM (88%).

<sup>44</sup>Ex I.T2.EGDI.STAFF.4

<sup>45</sup> Ex A T3 Appendix A Page 15

- The forecast number of participants increases from 3,000 in 2016 to 5,000 in each of the years 2017 to 2020 for a total of 22,000 participants. Participants must have a natural gas furnace/boiler. VECC notes that for Enbridge’s similar HEC program, it has proposed 56,280 participants, 2.6 times more. VECC acknowledges that Enbridge has approximately 50% more Residential customers so when this is taken into consideration, Enbridge’s proposed participation levels are still double Union’s. This issue is discussed further under cost-effectiveness of the program.
- Union did not specifically survey customers regarding this proposal. Union did not perform a robust assessment of potential participant levels with lower incentives.<sup>46</sup> VECC submits that this analysis should be part of the Mid-Term review to assess if the program can be delivered more cost effectively.
- The cost of incentives for the Home Reno Rebate program over the 2016 to 2020 period is \$42.581 million which represents 98% of the residential incentive budget. The average cost per participant is \$1935.50.
- Union made changes to its Home Reno Rebate program for the 2016-2020 period.
  - Union’s Home Reno Rebate proposes a 15% reduction in annual natural gas use instead of 25% previously used to reflect the change in approach for modeling heating system efficiency to reduce the annual savings for heating system and building envelope measures implemented by participants. Union indicates this is a conservative approach to measuring savings.<sup>47</sup>
  - Union increased the prescriptive measure rebate levels for Home Reno Rebate but did not add additional measures. In addition, Union has increased the maximum incentive in 2016 to \$5,000 from \$2,500.
  - The offer also includes a bonus rebate of \$250.
- Without the 15% non-energy benefit adder the Home Reno Rebate Offer is not TRC positive. Using the 2014 avoided costs, the TRC ratio is 0.65 compared to a TRC of 1.48 using the 2016 avoided costs.<sup>48</sup>
- The Board expects the gas utilities to develop new and innovative DSM programs.<sup>49</sup> Union positions its Home Reno Rebate as a holistic program to generate long term savings and avoid lost opportunities. VECC submits that in order to better address the Board’s DSM Framework with respect to innovation, Union should have added new measures to its Home Reno Rebate Program to provide more opportunities for deep savings to its customers. VECC submits the addition of additional measures under the Home Reno Rebate program should be a consideration to be assessed at the mid-term

---

<sup>46</sup> Ex B.T5.Union.CCC.20

<sup>47</sup> Ex B.T5.Union.CCC.18

<sup>48</sup> JT2.12

<sup>49</sup> DSM Framework Page 19

review.

- As a starting point, Union could include the two additional measures that are part of Enbridge’s similar HEC offer that are not included in Union’s Home Reno Rebate; Exposed Floor Insulation and Drain Water Heat Recovery System. Solar water heating is another measure for consideration.
- VECC notes Board’s expert Synapse made the same recommendation. Synapse indicated that Union should provide additional measures as part of this offering to ensure a holistic approach to program savings (such as faucet aerators, showerheads, programmable or adaptable thermostats, lighting measures, smart strips).<sup>50</sup>
- Union proposes to spend \$11.2 million over the 2016-2020 period to promote its Home Reno Rebate program.
- VECC submits there are a significant number of Union’s customers that are eligible for this program that are seniors.
- Union confirmed that with respect to the Home Reno Rebate program, it is not aware of any specific marketing done particularly to seniors.<sup>51</sup>
- VECC is concerned that many seniors may not be aware of Union’s Home Reno Rebate program who may be missed under Union’s current marketing and communication strategies. VECC submits that a percentage of Union’s promotional budget of approximately \$11.2 million, commensurate with Union’s percentage of residential seniors, should be directed at marketing and communication strategies to promote the Home Reno Rebate program to seniors to increase their access and uptake of the program. VECC submits seniors stand to benefit from this program through direct savings on their energy bills.
- As noted above, Enbridge has identified an opportunity to further expand the HEC offer to those customers who are just above the low income cut-off, who are not currently eligible for the Low-Income offers and are unlikely to perform any energy equipment upgrades with the limited increased income. VECC further submits that Union should also consider expanding its Home Reno Rebate Offer to include an increased incentive for those customers who are just above the low income cut-off.
- In terms of participation, Union proposes a 240% increase in participation in 2016 compared to 2015. The proposed program budget increase is 328% (2.2 million to 7.2 million).

**Participation Rates<sup>52</sup>**

**2012      2013      2014      2015<sup>53</sup>      2016**

---

<sup>50</sup> L.OEBStaff.1 Page A4

<sup>51</sup> Transcript Vol Page 101 Lines 22-23

<sup>52</sup> JT2.14

<sup>53</sup> VECC 16



- As discussed above, Enbridge provides a calculation of Cost Effectiveness (\$/CCM) done at the program cost level (excluding overhead) that indicates the over the 2016 to 2020 period, the HEC offering is 10.83 cents/CCM.
- **Residential Behavioural Offering**
- The Board's DSM Framework indicates that program concepts such as social benchmarking should be a priority in the first half of the new multi-year DSM term.<sup>58</sup> The Board's view is that benchmarking programs enable the customer to gain more insight into the opportunities that may exist for them to upgrade their efficiency levels and conserve greater levels of natural gas.<sup>59</sup>
- In response to the Board's DSM Framework, Union developed a new Behavioural Offering, to be launched in late 2016, offered to the 40% of residential customers that consume greater than Union's residential Normalized Average Consumption.
- The offering provides natural gas usage comparisons that benchmark the customers' consumption against that of like peers. Natural gas savings are quantified by comparing the actual natural gas use of participants to that of a control group. The offering is evidence based and relies on customer specific data.
- The scale of the Behavioural Offering is 300,000 participants for the 2016 to 2020 period. The total program budget 2016 to 2020 is \$14.336 million. The average cost per participant is \$47.8. This offering does not have an incentive budget.
- The contribution to the total Residential Cumulative Natural Gas Savings Target (2016-2020) of 653 million m<sup>3</sup><sup>60</sup> is 21.26 million m<sup>3</sup> or 3%. In 2016, the Behavioural Offering does not contribute to the CCM Metric Target on the Resource Acquisition Scorecard of 1,109,631,656.<sup>61</sup>
- Union's Behavioural Offering is comparable to Enbridge's My Home Health Record. Both offerings have two components: a home energy report and an online portal.
- Union indicates that generally speaking Union customers tend to lag behind general trends with respect to technology and online behaviours. Union's research indicates that 43% of customers have a low level of comfort using computers, have privacy and trust issues related to the internet and generally have a low level of online activity.<sup>62</sup> VECC submits this research demonstrates that Union's target market for this offering is limited and this behaviour needs to be taken into account selecting participants.

---

<sup>58</sup> DSM Framework Page 2

<sup>59</sup> DSM Framework Page 6

<sup>60</sup> Ex A T3 Page 12 Table 3

<sup>61</sup> Ex A T3 Page 20

<sup>62</sup> Ex B.T5.Union.Staff.21

- On a cost per CCM for 2016-2020, Union's Behavioural Offering is almost double that of Enbridge's My Home Health Record: 87.6 cents per CCM<sup>63</sup> compared to 46 cents per CCM.<sup>64</sup> Enbridge's proposed participation levels greatly exceed Union's (5,200,000<sup>65</sup> compared to 1,500,000 for Union) which may partly account for the difference in cost per CCM.
- Union's Behavioural Offering does not meet the TRC Plus Test in isolation but the overall Residential program exceeds the 1.0 TRC threshold requirements (1.4).<sup>66</sup>
- In considering the above, VECC does not support Union's Behavioural offering as designed. VECC submits Union should further assess the program design and budget, in consultation with Enbridge and the selected vendor, to determine if the cost of the Offering can be reduced and if participation levels can be increased.
- Union needs to complete a Request for Proposal process to select a vendor. VECC supports Synapse's recommendation that Union should provide the Board with an update on the specific offering details once the vendor is selected and any changes have been identified.
- **Energy Savings Kits (ESK)**
- Over the 2016 to 2020 DSM Plan, Union has shifted its focus to its Home Reno Rebate and Behavioural offerings and therefore focus on its ESK offering has been significantly reduced.
- The ESK offering contains a showerhead, kitchen and bathroom aerator, pipe wrap (2 metres), Teflon tape and a \$25 Programmable Thermostat rebate coupon. Union has offered an ESK program since 2000. Since that time (2000 to 2014) Union has processed 690,000 ESKs. Of those approximately 84,500 (12.2%)<sup>67</sup> received basic measure treatment which means in the low-income program customers are provided with a free installation of the measures.<sup>68</sup>
- Union estimates there are approximately 977,000 single family residential customers with natural gas water heating. On this basis, Union estimates a saturation rate of 79%.
- Union proposes to spend \$1.934 million<sup>69</sup> of its DSM program budget on its ESK offering over the 2016 to 2020 period with 75,000 participants or 15,000 per year in order to achieve 60.4 million Lifetime m3 or 9% of Union's Residential Lifetime CCM Target of 653 million m3.

---

<sup>63</sup> Ex B.T3.Union.SEC.31

<sup>64</sup> J8.17

<sup>65</sup> Ex I.T5.EGDI.EP.22

<sup>66</sup> Ex B.T8.Union.SEC.12

<sup>67</sup> Ex B.T5.Union.Staff.21

<sup>68</sup> Transcript Vol 3 Page 110

<sup>69</sup> Ex A T3 Appendix A Page 14 Table 3

- The incentive cost per participant is either \$6.33 or \$6.90 depending on whether the offer is door to door or online.<sup>70</sup>
- Union expects 3,000 participants per year for a total of 15,000 to redeem their \$25 programmable thermostat rebate.
- VECC notes Enbridge has a stand-alone Adaptive Thermostat program which begs the question why is Union not moving into this area as its programmable offering does not appear to be keeping pace with the adoption or more advanced and web-enabled thermostat technologies.
- Union indicates its programmable thermostat rebate is also eligible for adaptive and web-enabled models. Union believes it is appropriate to continue offering a programmable thermostat rebate on the basis that Union’s customers tend to lag behind general trends with respect to technology and online behaviour as discussed above.<sup>71</sup>
- VECC submits that Union should also provide an incentive for Adaptable Thermostats similar to Enbridge.
- Union indicates it will consider the introduction of a separate Adaptive Thermostat Offer over the term of the Plan and views this as a potential CDM collaboration opportunity. Union is currently engaged with Hydro One in a Bring Your Own Thermostat (BYOT) pilot project that explores the various adaptive thermostat technologies over a 12 month period.<sup>72</sup> VECC submits that an update on this offer should be tabled at the Mid-Term review.
- The ESK is Union’s most cost-effective Residential offering on a TRC-Plus Ratio basis.<sup>73</sup>
- Based on Cost Effectiveness ( average \$ per CCM for 2016-2020), Union’s ESK offering is the most cost effective at 4.2 cents per CCM compared to 12.3 cents per CCM for the Home Reno Rebate offering and 87.6 cents per CCM for the Behavioural Offering.<sup>74</sup>
- Since DSM costs are recovered from all customers and Union believes it is important to ensure the Residential program provides broad access and opportunities to participate.<sup>75</sup> As discussed above, VECC submits this broad access must include a strategy to engage seniors. Union’s promotion budget for its ESK offering is \$1.06 million over five years.<sup>76</sup> VECC submits a share of this budget should be directed at providing access and uptake opportunities for seniors given the potential for savings for this vulnerable

---

<sup>70</sup> JT2.14 VECC 16

<sup>71</sup> Ex B.T5.Union.Staff.21

<sup>72</sup> Ex B.T5.Union.Staff.21

<sup>73</sup> Ex A T3 Appendix A Page 23 Table 7

<sup>74</sup> J8.17

<sup>75</sup> Ex B.T3.Union.SEC.31

<sup>76</sup> JT2.14

customer group.

- VECC supports Union's ESK program due to the high TRC Plus Ratio and the natural gas savings benefits to residential customers. However, due to the fact that the saturation rate for this program is high, a case could be made to discontinue the program. With the removal of the ESK offering, the Residential TRC-Plus Ratio is 1.0 in 2016 and 1.1 in each of the years 2017 to 2020.<sup>77</sup>
- If Union were to discontinue the ESK program, it indicates it would consider reallocating the ESK budget to the Residential Behavioural Offering and the Commercial/Industrial custom offering.
- VECC submits that should the Board decide to discontinue this program, no share of the budget should be directed towards the Residential Behavioural Offering for the reasons discussed above which propose that the offering as currently designed is not cost effective.
- VECC notes Enbridge stated in cross examination with VECC that they ended their ESK program in 2012 due to saturation of the market after reaching 1.2 million customers, leaving only 300,000 as real potential. Enbridge indicates "it became very not cost effective because of the high free ridership, and the removal and non-install rates."<sup>78</sup> From this, VECC estimates Enbridge's saturation rate appears at 0.8 (1.2 million/1.5 million) compared to 0.79 for Union. VECC questions if Union's market has also been saturated with this program and should be discontinued.
- **Customer Consultation**
- Union indicates it has not undertaken surveys or focus groups with residential customers specifically related to the development of the DSM Plan but consulted with stakeholders that represent environmental and ratepayer interests.
- Prior to the Mid-Term review it may be advantageous to consult directly with customers on the program design to assess if the incentive levels are appropriate and to identify areas of improvement.

---

<sup>77</sup> J1.12

<sup>78</sup> Transcript Vol 3 Page 136

## 6. Low-Income Programs

- Enbridge and Union have the following offerings under their Low-Income programs:

Enbridge Low-Income	Union Low-Income
Multi Res Affordable Housing (Part 9): Home Winterproofing	Multi Res Affordable Housing (Part 9): Home Weatherization
Multi Res Affordable Housing (Part 3)	Multi Res Affordable Housing (Part 3)
Low-Income New Construction (new)	
	Aboriginal (new)
	Furnace End-of-Life (new)

- The Table below provides customer data on residential and low-income customers for Enbridge and Union. For both Enbridge and Union, residential customers represent 92% of all customers.<sup>79</sup>

Customer Data	Enbridge	Union
# Residential Customers	1.97 million	1.36 million <sup>80</sup>
% Low Income Customers	13.5% of households <sup>81</sup>	22% of 1.15 million homes

- Guiding Principles**

- The Board's Guiding Principle # 7 is: "Ensure low-income programs are accessible across the province".<sup>82</sup>
- The Board is of the view that energy conservation is a critical area that can help customers better manage their bills, and therefore low-income consumers should have the opportunity to participate in DSM programs.<sup>83</sup>

<sup>79</sup> Ex L.OEB.Staff.1 Page 10

<sup>80</sup> J8.13

<sup>81</sup> Ex B T2 S1 Page 41

<sup>82</sup> DSM Framework Page 8

<sup>83</sup> DSM Filing Guidelines Page5

## 6A. Enbridge’s Low-Income Programs

- As discussed at paragraph x, VECC submits that the proportion of Enbridge’s budget allocated to Low-Income offerings over the 2016 to 2020 period should be at the historical allocation level of 23% and not decreased to 18% as proposed by Enbridge. The funding level for Low-Income programs should not be decreased over the DSM Plan.
- The Table below compares Enbridge’s Low-Income offerings in terms of TRC Plus, budget allocation and CCM targets.

Enbridge Low-Income Program	TRC Plus	# Participants	2016-2020 Program Budget \$ <sup>84</sup>	% Budget	2016-2020 CCM (millions) @ 100%	% of Total 2016-2020 CCM Goal (5,580 million)
Home Winterproofing (Single Family Part 9)	1.20 <sup>85</sup>	1,595 social <u>9,845 private</u> 11,400	\$31.7	56%	149.2 (31%)	3%
Multi Res Affordable Housing (Part 3)	1.87 <sup>86</sup>	1,235 social <u>741 private</u> 1,976	\$18.4	32%	335.5 (69%)	6%
Low-Income New Construction		19 social <u>15 private</u> 34	\$6.6	12%	-	
<b>Total Low-Income</b>			<b>\$56.7</b>	<b>100%</b>	<b>484.7</b>	<b>9%</b>
<b>Low-Income Cost Effectiveness</b>						<b>\$0.117</b>

- Home Winterproofing is the largest share of the Low-Income Budget (56%) followed by Multi-Residential Affordable Housing (32%).
- The cost effectiveness (\$/CCM) of Enbridge’s Low Income program is \$0.117, compared to \$0.038 for its Resource Acquisition programs. Combined the cost effectiveness is \$0.045.<sup>87</sup>
- The 2016 to 2020 cumulative natural gas savings target for the Low-Income program is 484.7 CCM:<sup>88</sup>

<sup>84</sup> Ex B T1 S4 Page 19

<sup>85</sup> J8.10

<sup>86</sup> J8.10

<sup>87</sup> JT1.36

CCM	2014	2015	2016	2017	2018	2019	2020	Total 2016- 2020
Low Income	59.6	43.6	87.9	92.3	100.0	101.5	103.0	484.7

- The TRC-Plus Ratio for Part 9 and Part 3 homes in 2016 is 1.32 and 2.06, respectively or 1.38 overall.<sup>89</sup>
- Enbridge’s evidence is that approximately 13.5% of households in Enbridge’s franchise area are considered low income<sup>90</sup> and a high proportion of low income customers are seniors on fixed incomes.
- Enbridge indicates that in Ontario cities, people who live below the poverty line are burdened with high shelter costs including utilities (more than 30% of household income on shelter) and a high proportion of low income residents are seniors, new immigrants, or low wage earners. A significant portion use electric space heating.
- As previously discussed under Enbridge’s Residential programs, the needs of seniors are such that they may previously not have been low income, but have fallen into low income because of their age, fixed income, or loss of a spouse.
- Statscan indicates that the proportion of population 65 years of age and older is at 15.6% for Ontario (2014) which is in keeping with the national average (15.7%)<sup>91</sup> and this percentage is increasing. Of the 1.97 million residential customers that Enbridge serves, a significant segment of the population are seniors, potentially over 300,000.
- Various factors create vulnerability among seniors and a common issue is economic vulnerability. Access to resources and support that will assist them in reducing costs, and thereby improve their quality of life is key.
- VECC submits there are various factors that create vulnerability among seniors as follows<sup>92</sup>:

---

88

89 Ex B T2 S3 Page 3

90 Ex B T2 s1 Page 41

91 <http://www.statcan.gc.ca/daily-quotidien/140926/cg-b004-eng.htm>

92 *Profile of vulnerable seniors in Hamilton*  
[http://www.sprc.hamilton.on.ca/wp-content/uploads/2011/09/SPRC\\_Seniors\\_Report\\_2011\\_Summary.pdf](http://www.sprc.hamilton.on.ca/wp-content/uploads/2011/09/SPRC_Seniors_Report_2011_Summary.pdf)

*Percentage of seniors in Ontario*  
<http://www.statcan.gc.ca/daily-quotidien/140926/cg-b004-eng.htm>

*Social isolation in Ontario*  
<http://www.ohpe.ca/node/16479>

*Average total income of women and men, by province, 2008*

### **Isolation**

- Social (loneliness, immigrant language barriers, reduced income, declining health)
- Geographical (live in rural/remote areas, with less access to resources/support)
- Technological (access to online resources restricted or absent)

### **Senior women**

- Female seniors have significantly lower incomes than their male counterparts
- Unattached senior women face high poverty rates

### **Equity**

- Economic vulnerability for seniors is significantly higher among: women, immigrants, unattached people, and aboriginals

### **Health**

- Four out of five seniors reside at home with some sort of chronic health condition
- Limited benefits coverage which may result in seniors having to pay for some medically-related and dental services

### **Difficulty navigating the system of support services**

- Lack of information about programs and services provided to meet the needs of seniors
- Accessibility issues and transportation challenges

- Given the economic issues facing seniors, the growing number of seniors, and their challenges in staying economically afloat, there is a need to ensure cost saving programs are effectively communicated and made accessible to seniors.
- At the hearing, Enbridge stated that as part of its low-income program, the senior population is a big part of the vulnerable population targeted for this program and Enbridge engages the senior associations as part of their outreach efforts to make them aware that this program is available.<sup>93</sup>
- Enbridge indicates it has taken the important step of creating multi-lingual outreach materials to enhance accessibility for low-income customers.<sup>94</sup> VECC submits this will assist low-income seniors with language barriers in accessing Enbridge's programs.

---

<http://www.statcan.gc.ca/pub/89-503-x/2010001/article/11388/tbl/tbl001-eng.htm>

*Seniors Income levels*

<http://www.ohrc.on.ca/en/discussion-paper-discrimination-and-age-human-rights-issues-facing-older-persons-ontario/demographics>

*Ontario Health Promotion E-Bulletin – Social isolation/Health effects*

<http://www.ohpe.ca/node/16479>

<sup>93</sup> Transcript Volume 8 Page 137-138

<sup>94</sup> Ex B T1 S2 Page 10

- VECC submits 15% of Enbridge’s marketing budget should be dedicated to targeted communication strategies for seniors who are an important subset of vulnerable low-income customers who may not be aware these offers exist and who would benefit by increasing the energy efficiency of their homes and having comfort and some health and safety matters within their homes addressed as well.
- For the reasons indicated above, it is important that seniors are targeted separately and not simply included under the regular low income customer segment.
- VECC submits this approach is consistent with the Board’s Low Income program requirements that asks gas utilities to provide an education and training strategy that:
  - Helps low-income energy consumers help themselves; and
  - Helps program participants to understand the benefits of participating in the low-income DSM program and conservation, in general.<sup>95</sup>
- VECC submits this approach will help low-income seniors to help themselves.
- Enbridge indicates that there are several notable underserved markets to date that typically include low-income households outside of large urban areas and in privately owned facilities.<sup>96</sup> Enbridge’s promotional budget should include strategies to address any barriers that prevent these underserved customers from taking up the program.

**Low-Income Home Winterproofing**

- The goal of the Home Winterproofing (previously Home Weatherization) is to reduce energy costs for low-income households (OBC Part 9) by increasing energy efficiency and addressing some health and safety matters in the home.
- The Offer is a direct install offer at no cost to the participant. The offer includes a free home energy audit and weatherization services (i.e. insulation and air sealing). In addition, a free carbon monoxide monitor is provided as needed for self-installation.
- The home is also prequalified for water conservation measures (showerheads and aerators) as well as programmable thermostat, heat reflectors and a drain water recovery unit). In 2016, Enbridge intends to include a furnace replacement component (\$500,000).<sup>97</sup>

---

<sup>95</sup> DSM Guidelines Page 10

<sup>96</sup> Ex B T1 S2 Page 17

<sup>97</sup> Ex B T2 S1 Page 44

- Enbridge indicates that based on a random sampling of its low-income multi-residential participants that participated in its direct install showerhead offer, 87.7% remained installed.<sup>98</sup> Under the ESK-TAPS program, a 2011 survey show a retention rate of 22.5% and 33.1% for self-installed bathroom and kitchen aerators respectively. Enbridge confirms that it does not anticipate any increase in insurance coverage should aerators be included as a direct install.<sup>99</sup> Enbridge further indicates that direct installation of kitchen and bathroom aerators is likely cost effective in consideration of the Low-Income TRC Plus Ratio threshold of 0.7.<sup>100</sup>
- VECC supports the direct installation of showerheads and aerators under this offering versus self-installation to ensure the measures are installed and savings are achieved. VECC made the same recommendation under Union’s Home Winterization offering.
- Enbridge works with community based organizations to deliver and implement the offer. As discussed above, VECC submits a dedicated marketing budget should be earmarked for vulnerable low-income seniors in order to increase their access and uptake of this offering, separate from the traditional low-income marketing plan.
- The participant target breakdown for the Home Winterproofing offer for years 2015 to 2020 is shown below, with a shift to private market buildings.<sup>101</sup> In 2013 and 2014 the actual number of homes weatherized was 1,839 and 1,107, respectively.

Year	Budget Number of Homes	Social Housing	% of Total	Private	% of Total
2015	2,171	760	35.0%	1,411	65.0%
2016	2,200	440	20.0%	1,760	80.0%
2017	2,310	462	20.0%	1,848	80.0%
2018	2,310	231	10.0%	2,079	90.0%
2019	2,310	231	10.0%	2,079	90.0%
2020	2,310	231	10.0%	2,079	90.0%

- The proposed increase in participation in 2016 over 2015 is 1.4%. However, from 2015 to 2016 the budget is increasing from \$4.656 million<sup>102</sup> to \$5.76 million (23%).

<sup>98</sup> J9.1

<sup>99</sup> J9.3

<sup>100</sup> J9.4

<sup>101</sup> Ex I.T5.EGDI.LIEN.2

<sup>102</sup> Ex B T1 S3 Page 8

- The metric for this offering on the Low Income Scorecard is CCM (millions) at a weight of 45% (previously 50%). The 2016 to 2020 target (100%) is 149.2 CCM. The annual targets are as follows:

<b>LI Scorecard</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	
<b>Part 9 SF</b>							
Lower	18.1	21.7	22.7	22.7	22.5	22.3	
<b>Middle</b>	<b>24.1</b>	<b>28.9</b>	<b>30.3</b>	<b>30.3</b>	<b>30.0</b>	<b>29.7</b>	<b>149.2</b>
Upper	30.2	43.4	45.5	45.5	45.0	44.6	

- The 100% metric target for 2014 was 23.6. Enbridge achieved 108% of its target in 2014 (2014 Actual = 25.67). The target for 2015 at 24.1<sup>103</sup> is below 2014 actual.
- VECC submits the (100%) target for 2015 and 2016 and subsequent years are too low based on the increased budget, historical performance and participation levels and should be increased.
- GEC also considered Enbridge’s low income single family savings target to be a little low. VECC supports GEC’s analysis and recommendation that Enbridge’s Low-Income Single Family target should be increased by 10%.<sup>104</sup>
- 016 should be increased by 5% and an additional 5% in 2017 (which is consistent with the proposed 2016 to 2017 % increase).
- With respect to Cost Effectiveness, the average cost per CCM (2016 to 2020) is 21 cents per CCM.

<b>Cost Effectiveness \$/CCM</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>AVG</b>
Part 9	0.1931	0.1992	0.2058	0.2119	0.2183	0.2248	0.2120

- VECC notes the cost per CCM in 2016 is consistent with 2015.
- The TRC-Plus Ratio is 1.20.
- VECC supports this program, subject to the comments above, given its cost per CCM, TRC-Plus Ratio, contribution to Enbridge’s CCM goal, and its ability to lower energy bills for low-income customers including seniors by increasing the energy efficiency of homes.

<sup>103</sup> Ex B T1 S3 Page 8

<sup>104</sup> Ex L.GEC.1 Page 46

- VECC supports Enbridge’s ongoing work to assess the cost-effectiveness and appropriateness of including additional technologies in the offer.<sup>105</sup>
- **Low-Income Multi-Residential Affordable Housing**
- Enbridge’s Low-income Multi-Residential Affordable Housing offering is a holistic approach that provides a mixture of fixed, custom and in-suite measures. The goal of the program is to reduce overall energy consumption.
- The target market is Social and Assisted Housing Part 3 buildings, Private multi-residential building owners with a high proportion of low- income residents and shelters and supportive housing. Social and assisted housing represents 12% of Enbridge’s multi-residential housing sector. An additional 8% of private sector multi-residential are occupied by low-income residents.
- Enbridge fixed incentives are based on a fixed dollar amount for smaller types of equipment such as condensing boilers, high efficiency boilers, energy recovery ventilation systems and heat recovery ventilation systems. In-suite direct install measures include free showerheads and heat reflector panels supplied and installed. Custom incentives are calculated at a rate of \$0.40/m<sup>3</sup> saved up to 50% of the cost of the retrofit related to the building envelope, drain water heat recovery, DWH replacement, high efficiency boilers, etc.<sup>106</sup>
- The participant target breakdown for the Multi-residential Affordable Housing Program Offering for years 2015 to 2020 is shown below. The actual number of participant buildings in 2012, 2013 and 2014 was 169, 83 and 104, respectively.<sup>107</sup>

Year	Budget Number of Participant Buildings	Social Housing	% of Total	Private MR	% of Total
2015	253	152	60.00%	101	40.00%
2016	217	87	40.00%	130	60.00%
2017	228	91	40.00%	137	60.00%
2018	257	103	40.00%	154	60.00%
2019	263	105	40.00%	158	60.00%
2020	270	108	40.00%	162	60.00%

<sup>105</sup> J5.3 Page 19

<sup>106</sup> Ex B T2 S1 Page 40

<sup>107</sup> Ex I.T5.EGDI.LIEN.2

- The metric for this offering on the Low Income Scorecard is CCM (millions) at a weight of 45%. The 2016 to 2020 target (100%) is 335.5 CCM.<sup>108</sup> The targets are as follows:

Part 3 MF	2015	2016	2017	2018	2019	2020	
Lower	51.6	44.2	46.5	52.3	53.6	55.0	
<b>Middle</b>	<b>68.7</b>	<b>59.0</b>	<b>62.0</b>	<b>69.7</b>	<b>71.5</b>	<b>73.3</b>	<b>335.5</b>
Upper	86.0	88.5	92.9	104.5	107.2	110.0	

- The program budget is increasing from \$2.208 million in 2015 to \$3.28 million in 2016, an increase of 48%, yet the number of participant buildings from 2015 to 2016 reflects a decrease.
- Enbridge has decreased the target from 68.7 in 2015 to 59.0 in 2016.<sup>109</sup> The 2014 actual is 29.8 compared to a 2014 target of 64.2 CCM.
- With respect to Cost Effectiveness, the average cost per CCM (2016 to 2020) is 5.5 cents per CCM.

Low Income	\$/CCM					
	2015 \$/CCM	2016 \$/CCM	2017 \$/CCM	2018 \$/CCM	2019 \$/CCM	2020 \$/CCM
New Construction	N/A	\$223,450	\$171,333	\$164,667	\$178,000	\$273,200
Multi-Family Homes - Part 3	0.0321	0.0556	0.0551	0.0547	0.0543	0.0540
Single Family Homes - Part 9	0.1931	0.1992	0.2058	0.2119	0.2183	0.2248

*2015 Cost Effectiveness based on 2015 Roll Over submission for budgets and targets*

- VECC notes the program is becoming less cost effective in 2016 compared to 2015, The cost per CCM has increased over 70% from 2015 (0.0321) to 2016 (0.0556). In VECC's view, higher participation levels are needed.
- The TRC-Plus Ratio is 1.87.
- VECC supports this program, subject to the comments above, given its ability to reduce overall energy consumption, potentially contribute to housing affordability and contribute to healthier and more comfortable living environments for low-income customers including seniors.
- Low Income New Construction (new)**

<sup>108</sup> CCM: 60% social assisted housing; 40% private rental Ex I.T2.EGDI.EP.20

<sup>109</sup> Ex B T1 S4 Page 19

- The goal of Enbridge’s new Low Income New Construction offer is to promote the adoption of energy efficiency features and practices among developers and builders of new affordable housing to a level that is above the current building code.
- The offer provides financial incentives and technical support to assist affordable housing builders in exceeding Ontario Building Code requirements by at least 15%.<sup>110</sup> For Part 3 multi-residential developments, tiered financial incentives are available depending on modelled savings achievement. For Part 9 Residential developments that build an Energy Star Home, a prescriptive incentive of up to \$3,000 is provided per home.<sup>111</sup>
- The 2016 to 2020 proposed budget is \$6.61 million.<sup>112</sup> As provided in the table above the unit costs are substantial.
- A new metric has been added to the Low-Income scorecard for this offer. i.e. # of project applications with a weight of 10%. The targets are as follows:<sup>113</sup>

	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Lower Band</b>	4	6	7	6	4
<b>Middle Band</b>	5	7	9	8	5
<b>Upper Band</b>	8	11	13	12	8

- The participant target breakdown between Part 9 and Part 3 is as follows:<sup>114</sup>

---

<sup>110</sup> In 2017 a change to the OBC is expected

<sup>111</sup> Ex B T2 S1 Page 48

<sup>112</sup> Ex B T1 S4 Page 19

<sup>113</sup> Ex B T1 S4 Page 19-21

<sup>114</sup> Ex I.T5.EGDI.LIEN.2

Year	Target Number of Participants	Part 9 – Single Family Homes	% of Total	Part 3 – MR	% of Total
2016	5	3	60.0%	2	40.0%
2017	7	4	57.1%	3	42.9%
2018	9	5	55.6%	4	44.4%
2019	8	4	50.0%	4	50.0%
2020	5	3	60.0%	2	40.0%

- VECC supports this offering due to the benefits of increasing building efficiency and decreasing the ongoing energy costs of low income consumers over the long term. VECC submits this offer is consistent with the key priorities identified in the Long Term energy Plan and Conservation Directive to develop new and innovative programs, as well as the Board’s expectations that gas utilities will develop innovative DSM programs over the course of the new DSM framework.
- In VECC’s view the targets should be more aggressive given the overall budget which represents 12% of the total Low Income budget. The targets for 2019 and 2020, although preliminary pending reconsideration at the mid-term review, show a declining trend. VECC submits the # of project applications should be increasing over the DSM plan.
- Aboriginal Offering
- Union’s Low-Income program includes an Aboriginal offering. VECC supports Synapse’s recommendation that if Enbridge has Aboriginal groups in its service territory it should consider offering this program. <sup>115</sup>

---

115

## 6B. Union’s Low-Income Programs

- The Table below compares Union’s Low-Income offerings in terms of TRC Plus, budget allocation and CCM targets.

Union Low-Income Programs	TRC Plus	Participation <sup>116</sup>	2016-2020 Program Budget \$ <sup>117</sup>	% Budget	2016-2020 LI CCM (million) @ 100%	% of Total 2016-2020 CCM Goal (6,158 million) <sup>118</sup>
Home Weatherization (Single Family Part 9)	1.81	6,599	\$36.2	63%	174.5 (62%)	3%
Multi Res Affordable Housing (Part 3)	0.44 custom	1,436 (social) 98 (market)	\$15.6	27%	70.2 <u>24.3</u> 94.5 (33%)	3%
Aboriginal (new)		418	1.8	3%	5.8 (2%)	< 1%
Furnace End-of-Life	0.37	2,956	\$4.3	7%	6.9 (2%)	< 1%
<b>Total Low-Income</b>			<b>\$57.9</b>	<b>100%</b>	<b>282</b>	<b>4.6%</b>

- Consistent with Enbridge, Home Weatherization (single family Part 9) is the largest share of Union’s Low-Income Budget (63%) followed by Multi-Residential Affordable Housing (Part 3) (27%).
- Union has increased its total Low Income budget by 66% from \$6.84 million in 2015 to \$11.4 million in 2016, ramping up to \$14.95 million by 2020.
- The 2016 to 2020 CCM target for the Low-Income program is 282 CCM which represents 4.6% of Union’s 2016 to 2020 CCM goal of 6,158 million:<sup>119 120</sup> Enbridge’s Low-Income program represents 9% of its CCM goal.

<sup>116</sup> Ex A T3 Appendix A Page 88 Table 28

<sup>117</sup> Ex A T3 Appendix A Page 87

<sup>118</sup> Ex A T3 Page 12 Table 3

<sup>119</sup> Ex.B.T2.Union.VECC.7 (2014-2015)

<sup>120</sup> Ex A T3 Page 12 Table 3

CCM	2014	2015	2016	2017	2018	2019	2020	Total 2016- 2020
Low Income	60	44	51	53	56	60	61	282

- GEC’s analysis concluded that Union’s proposed low income spending per unit of savings is projected to increase substantially – by an average of 60% – relative to 2014. GEC made the point that Union’s Low Income metrics require further scrutiny.<sup>121</sup>
- GEC recommended that Union’s 2015 low income performance metrics be increased by 50% unless additional evidence supporting lower values is presented in the hearing.<sup>122</sup> Below, VECC has reviewed each low-income offering with respect to the proposed metrics.
- Union proposes to expand the delivery of offerings across the province and has prioritized the need and allocated budget to support Northern expansion<sup>123</sup> to 30 new areas.
- Union’s low-income rate is 22% amongst 1.15 million single family homes<sup>124</sup> which totals 253,000 homes. VECC submits, like Enbridge, a high proportion of low income customers are seniors on fixed incomes.
- In representing seniors, VECC is aware that as a growing number of customers reach a senior age, their income can change. This can be due to being over-housed, or becoming a widow or widowers and because of no longer being in receipt of a full income, they may fall out of an income class to an entirely different income class and they may be totally unaware of DSM programs they may qualify for. Many seniors do not have contact with social agencies or the kinds of outreach that are originally intended for low income customers.
- To address the issue of being qualified but not being aware or having sufficient access to Union’s Low-income programs, VECC submits that similar to VECC’s submissions under Enbridge’s Low-Income program, 15 % of Union’s promotion budget should be directed at Low-income seniors in order to increase their access and uptake of Low-income programs.
- Union’s Low-Income promotion budget is \$13.265 million over five years. VECC submits approximately \$2 million of this budget should be dedicated to targeted communication strategies for low-income seniors who are an important subset of vulnerable low-income customers that may not be aware these offers exist and who would benefit by increasing the energy efficiency of their homes and having comfort and some health and safety matters within their homes addressed as well. VECC submits it is

---

<sup>121</sup> Ex L.GEC.1

<sup>122</sup> Ex L.GEC.1 Page 46

<sup>123</sup> Ex A, T3, Page 5

<sup>124</sup> Ex B.T3.Union.GEC.38

important that seniors are not simply targeted as part of the overall low-income customer segment.

- Union's proposed Low-Income program budget (excluding inflation), participation, lifetime natural gas savings and 2016 scorecard from the evidence are shown below. With respect to targets, Union is proposing a fixed cumulative natural gas savings target in 2016 rather than the same formula as in 2017 to 2020 that were used in the 2012 to 2014 plan as well as 2015.
- Union indicates the targets are fixed in 2016 to account for the considerable changes in programs, offerings and budgets from the 2012 to 2014 plan and setting targets based on 2015 actuals would not represent the program and offering mix for 2016.<sup>125</sup>
- Home Weatherization Program (Expansion)
- Unions' Home Weatherization offer is a direct install offer at no cost to the participant. The offer includes a free initial and final home energy audit and weatherization services (i.e. attic, wall & basement insulation and draft-proofing). In addition, a free carbon monoxide monitor is provided as needed for self-installation.
- If the participant qualifies for a Furnace End-of-Life upgrade, information is left behind for future reference. As discussed below under Union's Furnace End-of-Life offering, VECC submits Union should move this program within its low-income offerings. VECC estimates a potential savings of \$530,000 in promotion costs.<sup>126</sup>
- The offer includes free installation of up to two energy efficient showerheads, two metres of pipe wrap and a programmable thermostat.
- Kitchen and bathroom aerators are left behind for self-installation. Kitchen and bathroom aerators have not been included as part of the direct install due to the cost of the liability insurance that delivery agents would need to obtain to install these measures. Union later found that incremental liability insurance is not required as the delivery agent's current insurance will suffice covering any costs that may arise from the installation.<sup>127</sup> The cost-effectiveness of the Low-Income program does not materially change if program costs are added for the installation of aerators.<sup>128</sup> On this basis, VECC submits Union should include direct install as part of the program offering. Should the Board discontinue Union's ESK Offering, VECC submits the funds could be redirected in part to cover the installation of kitchen and bathroom aerators under this program.

---

<sup>125</sup> Ex B.T2.Union.LPMA.7

<sup>126</sup> Ex B.T3.VECC.28

<sup>127</sup> JT2.4

<sup>128</sup> J1.8

- Union expanded its Home Weatherization offering to new and smaller geographic areas to ensure it is accessible to low income customers across the Province at increased costs due to delivery within non-urban areas. VECC submits this approach is consistent with the Board’s DSM Guiding Principles to ensure low-income programs are accessible across the province and further supports VECC’s position that many seniors reside in isolated areas.
- From 2015 to 2016 the budget is increasing from \$4.442 million to \$6.285 million (42%).<sup>129</sup>
- The historical participation rate is as follows:

<b>Participation</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Home Weatherization	1,755	1,974	1,628	976	1,350

- VECC notes that despite expanding the program and increasing the budget, Union’s proposed participation level in 2016 is 17% below 2014 actuals.
- The cumulative natural gas savings from 2016 to 2020 are 174.5 million<sup>130</sup> (Table 31 above):

<b>Home Weatherization</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2016-2020</b>
<b>CCM Target</b>	<b>26</b>	<b>32.8</b>	<b>32.1</b>	<b>34.4</b>	<b>37.1</b>	<b>38.5</b>	<b>174.5</b>

- The 2016 target is 32.8 million in 2016 compared to 26 million proposed in 2015<sup>131</sup>, an increase of 26%, with a budget increase of 42%.
- In the years 2012, 2014 and 2014 (pre-audit), the cumulative natural gas savings are 44.0 million, 40.2 million and 36.1 million, respectively.<sup>132</sup>
- VECC submits the (100%) metric target for 2016 is too low.
- VECC notes the measures under Union’s Residential Home Reno Rebate offering are the same measures provided in its Low-income Home Weatherization offering except for two measures. Windows and water heaters are included in the Home Reno Rebate program but are not included in the Low-Income Home Weatherization. Union explained that covering the full cost of window replacement under Home Weatherization is not cost effective. VECC accepts this explanation. However, VECC recommends that

<sup>129</sup> Ex B.T3.VECC.28

<sup>130</sup> Ex A T3 Appendix A Page 89 Table 31

<sup>131</sup> E B.T5.Union.VECC.32

<sup>132</sup> Ex B.T5.Union.VECC.32

Low-income customers in need of window replacements be directed to Union’s Residential Home Reno Rebate program, where a \$40 rebate per window is available. VECC submits low-income customers should have access to this funding.

- With respect to water heaters, VECC submits this measure which is included under the Home Reno Rebate offering, should also be included as a measure under the Home Weatherization program.
- Synapse recommends that other early replacement measures be added to its Home Weatherization program such as heating equipment repairs, boilers, water heaters including tankless and solar hot water, windows, duct sealing, duct insulation, and boiler reset control measures. VECC supports this recommendation, provided the measures are cost-effective.

Multi-Family Offering (Extension)

- Union proposes to extend this offering to a new customer segment: market\_rate multi-family buildings to ensure that low income customers across Union’s franchise area benefit from DSM offerings.
- The 2016 to 2020 CCM target for the Multi-Family program is 94.5 CCM:<sup>133</sup> (Table 31 above)

CCM	2015	2016	2017	2018	2019	2020	Total 2016- 2020
Social	17.6	14.7	14.4	13.7	13.7	13.7	70.2
CCM	2015	2016	2017	2018	2019	2020	Total 2016- 2020
Market		2.5	4.6	4.6	6.3	6.3	24.3

- The 2015 CCM target for Multi-Family is 17.6 compared to 17.2 for 2016.
- In the years 2012, 2014 and 2014 (pre-audit), the cumulative natural gas savings are 11.9 million, 15.3 million and 23.5 million, respectively.<sup>134</sup>
- VECC submits the 2016 target is too low.
- The TRC-Plus Ratio for the multi-family custom offering is 0.44.<sup>135</sup>

<sup>133</sup> Ex A T3 Appendix A Page 89

<sup>134</sup> Ex B.T5.Union.VECC.32

<sup>135</sup> Ex A T3 Appendix A Page 96 Table 32

### Aboriginal Offering (new)

- Union's Aboriginal Offering is a new offering to a unique market to promote and deliver the Home Weatherization and Furnace End-of-Life upgrade offerings. To date on-reserve customers have not participated in Union's Low-Income offerings.
- VECC estimates the cost per participant at approximately \$4,300.
- The CCM for the Aboriginal offering is 5.82 million.<sup>136</sup>
- VECC supports Union's new Aboriginal program offering.
- As discussed above, VECC supports Synapse's recommendation that if Enbridge has on-reserve customers that have not participated in its Low-Income offerings, it should consider offering this program.<sup>137</sup>

### Furnace End-of-Life Upgrades (new)

- The Furnace End-of-Life Offering is a stand-alone offering to provide social and assisted providers and private market customers with an incentive (50% of incremental cost) to upgrade their end-of-life furnace to a 95% or greater energy efficiency rating (AFUE). The offer is available to all low income single family customers regardless of whether they are a Home Weatherization participant.
- Union's evidence is that this offer helps ensure that Union is addressing all deep saving opportunities and is also minimizing lost opportunities.
- The CCM for the Furnace End-of-Life offering is 6.9 million<sup>138</sup>, less than 1% of Union's 2016-2020 CCM goal of 6,158 million.
- VECC calculates the cost per participant at approximately \$1,455.<sup>139</sup>
- Although the overall Low-Income program has a TRC-Plus Ratio of 1.0, the TRC-Plus ratio for the Furnace End-of-Life Offering is 0.37.<sup>140</sup>
- VECC submits an argument could be made to redirect these funds to a low-income offering with a TRC-Plus ratio of least 0.70. However, VECC submits many low-income private market customers such as

---

<sup>136</sup> Ex A T3 Appendix A Page 89

<sup>137</sup>

<sup>138</sup> Ex A T3 Appendix A Page 89

<sup>139</sup> \$4.3 million/2,956 participants

<sup>140</sup>

seniors described on page c cannot afford a furnace upgrade and this offering helps to remove that barrier. VECC also notes that this offering achieves non-energy benefits such as customer comforts. On this basis, VECC supports the offering.

- Synapse recommends that Union consider moving this program within the core low-income offerings.<sup>141</sup> VECC supports this recommendation as it increases the potential for other measures to be undertaken at the same time. VECC notes that Enbridge follows this model as it proposes a furnace replacement component under its Home Winterproofing program.
- Enbridge's Low-Income program includes a new Low Income New Construction offering. The goal of the offer is to promote the adoption of energy efficiency features and practices among developers and builders of affordable housing. Enbridge proposes to begin this offer as a pilot in 2015 and roll it out for full scale deployment in 2016.<sup>142</sup>
- Union's Low-income portfolio does not include a similar program.
- Synapse made the recommendation that a comprehensive suite of low income offerings should include a Low Income New Construction program along with Union's Low-income Single Family and Low-Income Multi-Family offerings<sup>143</sup>. VECC supports Synapses' recommendation.

## 7. Market Transformation and Energy Management (MTEM) Program

- Enbridge's MTEM program (23% of DSM budget) includes three residential offers: A Residential Savings By Design (SBD) offer; My Home Health Record (OPower); and a Home Rating offer that impact Residential customers and are of interest to VECC.
- The cost of the three offers is \$53.96 million over five years which represents 74% of the total \$72.55 million MTEM budget.<sup>144</sup>
- Enbridge's SBD Residential and Home Rating offers have evolved whereas My Home Health Record (OPower) is a new offering.
- Savings By Design – Residential

---

<sup>141</sup> L.OEBStaff.1.A12

<sup>142</sup> Ex B T2 S1 Page 46

<sup>143</sup> L.OEB.Staff.A10

<sup>144</sup> Ex B T1 S4 Page 27 Table 21

- The budget for the SBD program is \$16.46 million over 5 years<sup>145</sup>, 23% of total MTEM budget of \$72.55 million.
- The target market is builders of new Part 9 residential houses. The performance incentives are:
  - First time builders- \$2,000 per home completed to SBD standard (up to 50 homes)
  - Second time builders - \$1,000 per home completed to SBD standard (up to 100 homes)
  - Third time builders - \$500 per home completed to SBD standard (up to 200 homes)
- For 2016, the budget is increasing from \$2,445 million in 2015<sup>146</sup> to \$3.25 million<sup>147</sup>, an increase of 33%. VECC notes that the actual spend in 2014 was \$1,334 million.<sup>148</sup>
- The MTEM Scorecard includes two metrics for this offer: Builder Enrolments (weight = 10%) and Homes Built (weight = 15%). Historical and forecast targets are shown below.

<b>MTEM Scorecard</b>		<b>SBD Res</b>							
B.T1.S3 P10 (2015)									
B.T1.S4.P29-33		2014 A	2014	2015	2016	2017	2018	2019	2020
<b>Buildings Enrolled</b>		23							
Lower			12	13	23	15	17	17	19
Middle			16	18	30	20	22	23	25
Upper			20	22	45	30	33	35	28
		2014 A			2016	2017	2018	2019	2020
<b>Completed Units</b>		1059							
Lower			750	883	1875	1688	1721	1756	1791
Middle			1000	1111	2501	2250	2295	2341	2388
Upper			1250	1389	3751	3375	3443	3512	3582

- The participation targets for 2016 are 30 builders enrolled and 2,501 completed units. The 3 year average is 2,501.<sup>149</sup> In VECC's view the number of completed units should be above the 3 year average, given the proposed increase in budget and actual spend information related to units completed. VECC submits the participation levels for this offering are too low and should be increased.
- Overall VECC supports this program, subject to the comments above, and its goal to change the residential new construction marketplace by incenting builders to build more energy efficient homes to the benefit of Residential customers.

<sup>145</sup> Ex B T1 S4 Page 27 Table 21

<sup>146</sup> Ex I.T3.EGDI.EP.2

<sup>147</sup> Ex B T1 S4 Page 27 Table 21

<sup>148</sup> Ex I.T3.EGDI.EP.2

<sup>149</sup> Ex I.T3.EGDI.EP.2

- **My Home Health Record (OPower)**

- Enbridge’s My Home Health Record offering provides home energy consumption reports and a web portal that compare residential consumer’s natural gas usage over time, benchmarking against like customers and cross-marketing other DSM offers.
- The budget for My Home Health Record is \$32 million over 5 years (44% of the overall MTEM budget).
- The TRC Plus Ratio for the offering is 1.14.
- The cost effectiveness for My Home Health Record 2016-2020 is \$0.46.<sup>150</sup> VECC notes this offering is similar to Union’s Behaviour Offering discussed above, however the cost effectiveness of Enbridge’s offer is significantly greater. The planned number of customers in Enbridge’s offering is 6.05 million compared to 1.5 million for Union.
- My Home Health Record has a CCM metric on the MTEM scorecard with a weight of 5% as follows.

**Home Health Report**

<b>CCM</b>	<b>5%</b>	2016	2017	2018	2019	2020
Lower	14.6	18.8	14.8	13.5	10.7	57.8
<b>Middle</b>	<b>19.5</b>	<b>25.0</b>	<b>19.8</b>	<b>18.0</b>	<b>14.3</b>	<b>96.6</b>
Upper	29.3	37.5	29.7	27.0	21.4	144.9

- The offering contributes 96.6 CCM towards Enbridge’s 5,580 million goal or less than 1%.
- Although this offering is aligned with the Board’s DSM Framework “to benchmark energy usage to enable detailed data analysis and compare usage with other customers”<sup>151</sup> and “provide a greater level of customer-specific educational information and data to help customers use natural gas more efficiently”<sup>152</sup> in VECC’s view the offering is not affordable as designed. VECC is not convinced residential customers will respond as required to make this offering successful. VECC does not support this offering.
- **Home Rating**
- The goal of this offer is to achieve voluntary adoption of a home rating system that becomes standard practice in the resale home market, similar to a home inspection. Encouraging a mandatory labeling is the end goal.

---

<sup>150</sup> J8.17

<sup>151</sup> DSM Filing Guidelines Page 6

<sup>152</sup> DSM Filing Guidelines Page 6

- The 2016-2020 budget is \$5.5 million<sup>153</sup> (7.5% of MTEM budget). The budget is based on an energy audit paid for by Enbridge.
- The Home Rating offer has a Ratings Completed metric with a weighting of 5%.

<b>Home Rating - Ratings Completed</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Lower	447	606	736	846	939
Middle	496	808	982	1128	1252
Upper	894	1211	1473	1691	1878

- VECC supports this program and believes it has value in driving behavioural changes.
- In VECC’s view the 2016 target appears to be low in relation to the annual budget spend in 2016 compared to 2017 of \$1.10 million in each year.<sup>154</sup>
- **Low Income Accounting Treatment**
- In accordance with past practice, Enbridge and Union propose to allocate the Low Income budget such that it is funded from all rate classes. VECC submits this continues to be appropriate.

## 8. On-bill Financing

- At section 6.2 of the DSM Framework, the OEB stated that utilities should strive towards the “development of new and innovative programs, including flexibility to allow for on-bill financing options.”
- Union’s research indicated a preference from customers for rebates and incentives over on-bill financing.
- Union does not believe on-bill financing will be as cost effective as rebates based on its research results. Only 14% of residential customers indicated access to financing options was extremely valuable, and 49% indicate that such an offering would “not be valuable at all”.<sup>155</sup> Union has not performed an analysis of the costs and benefits of establishing a residential on-bill financing pilot and does not believe such an analysis would be a prudent use of ratepayer funds.<sup>156</sup>

---

<sup>153</sup> Ex B T1 S4 Page 27 Table 21

<sup>154</sup> Ex B T1 S4 Page 27 Table 21

<sup>155</sup> Ex B.T5.Union.ED.16

<sup>156</sup> Ex B.T5.Union.ED.17

- Union believes that making an additional borrowing vehicle available through an on-bill financing program, with additional costs required to establish that vehicle, will not alter the customer’s willingness to take on debt for energy efficiency improvements”. Union does not believe that a pilot program is a good use of ratepayer DSM funding for a program that consumers have indicated would not address the key barrier to energy efficiency upgrades. A pilot program would require the same amount of effort and expense as an on-bill financing program to integrate on-bill financing options into Union’s customer billing system. 157
- VECC acknowledges Union’s findings to date but submits more work is need on this issue in advance of the Mid-term review.

## 9. Mid-Term Review

- The DSM Framework indicates the mid-term review will allow the Board to assess the gas utilities’ performance, and the appropriateness of the long-term DSM targets. The review will examine annual metrics, budget levels, impact on customer rates and shareholder incentives. The mid-term review will ensure that the DSM framework is reasonable and contributing to effective natural gas conservation programs to Ontario customers, while achieving annual and long-term targets for reduced consumption.<sup>158</sup>
- The mid-term review will be informed by a study of achievable potential for natural gas efficiency in Ontario to be completed by June 1, 2016.
- Enbridge and Union have identified areas of further exploration. VECC has indicated in its submissions areas that could be considered as part of the Board’s mid-term review.
- In addition, VECC notes the following for consideration at the Mid-Term Review:
  - Consideration of other future market transformation programs (T5.BOMA.25)
  - The upstream incentive model offers potential for achieving market penetration rates at a lower cost per unit. Consideration of Upstream Incentive Model (pilot) to identify opportunities where this incentive is most effective in the supply chain, assess the technologies that are most suited to this type of incentive model as well as customers with low adoption that would benefit from this incentive model in Union’s franchise area.
  - Further assessment of Energy Leaders and School Competition Program
  - Report back on delivery of ESKs with municipalities and LDCs

---

<sup>157</sup> Ex B.T1,Union.Satff.1

<sup>158</sup> DSM Framework Page 3

- Broadened Evaluation Advisory Forum (EAF) and Audit Committee Technical Evaluation Committee to include CDM (T6.BOMA.15)
- Potential impacts on programs of government cap and trade revenues toward energy efficiency (T13.GEC.3)

## 10. Integration & Coordination of Natural Gas DSM and Electricity CDM Programs

- A key priority identified in the LTEP and Conservation Directive is to increase collaboration and integration of natural gas DSM programs and electricity CDM programs.<sup>159</sup>
- Guiding principle #3 of the DSM framework is: “Where appropriate, coordinate and integrate DSM and electricity CDM efforts to achieve efficiencies.”
- The Board expects natural gas utilities to pursue coordinated and integrated programs with electricity distributors and/or the OPA to achieve efficiencies and convenient, integrated programs for customers. The Board expects that coordinated and integrated energy conservation and energy efficiency programs are a primary consideration when the gas utilities are designing and developing all program offerings. The Board expects that the gas utilities will provide specific evidence showing how the elements of each of their proposed programs can be integrated with electricity CDM programs and coordinated with electricity distributors and/or the OPA.
- In Enbridge’s franchise area there are 26 LDCs<sup>160</sup> electric utilities in Enbridge’s franchise area and in Union’s franchise area there are 65.<sup>161</sup>
- VECC agrees with Synapse’s<sup>162</sup> conclusions regarding the gas utilities’ program coordination activities with electric distribution companies’ CDM programs, that the gas utilities are currently engaged in collaborative efforts with the electric utilities, but these efforts are limited, and not streamlined at present. This ad hoc approach to identifying suitable programs and offerings for coordination is likely to lead to inefficient and inconsistent coordination efforts.
- VECC agrees that Enbridge and Union should take a more proactive role to lead the way for more electricity and gas DSM coordination that would include (a) coordinating among themselves; (b) identifying those programs and offerings that are most suited to electricity and gas coordination; and (c) offering standard program design templates that electric utilities could select from in order to achieve a more consistent, transparent, and efficient approach.

## 11. Collaboration between Enbridge and Union

---

<sup>159</sup> DSM Framework Page

<sup>160</sup> BOMA IR#54

<sup>161</sup> VECC IR#5

<sup>162</sup> L.OEBStaff.1

- VECC also submits that collaboration efforts may be further enhanced by creating staff secondment opportunities between Enbridge and Union to share resources and the wealth of knowledge each organization has with respect to development and delivery of its DSM programs.