PUBLIC INTEREST ADVOCACY CENTRE
LE CENTRE POUR LA DÉFENSE DE L'INTÉRÊT PUBLIC

May 31, 2018

VIA E-MAIL

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge St.
Toronto, ON
M4P 1E4

Dear Ms. Walli:

Re: EB-2017-0024, EB-2017-0255, EB-2017-0275
Enbridge Gas Distribution Inc., Union Gas Limited, EPCOR Natural Gas Limited Partnership - 2018 Cap and Trade Compliance Plans
Final Submissions of Vulnerable Energy Consumers Coalition (VECC)

Attached please find VECC's submissions in the above proceeding.

Yours truly,

Ben Segel-Brown

Counsel for VECC

EB-2017-0224
EB-2017-0255
EB-2017-0275

Enbridge Gas Distribution Inc.
Union Gas Limited
EPCOR Natural Gas Limited Partnership

Applications for approval of the cost consequences of 2018 cap and trade compliance plans

VECC Final Submissions

Summary

The Gas Utilities' 2018 Cap and Trade Compliance Plans are not fully optimized because the Gas Utilities have excluded cost-effective incremental customer abatement activities. By not including incremental energy efficiency in their Compliance Plans, Enbridge and Union have increased costs to customers and lost efficiency opportunities that will persist well beyond 2018. The combined cost of the Gas Utilities 2018 Compliance Plans is over $665 million. The Board should impose a 5% penalty on each Utilities' requested cap and trade costs to be recovered in rates.

Currently, only a small percentage of eligible ratepayers participate in energy efficiency programs. This is certainly the case for the vulnerable consumers represented by the Vulnerable Energy Consumers Coalition (VECC).

The gas utilities do not provide an adequate analysis of the cost-efficiency of programs intended to improve adoption of abatement technologies. As a result, the Gas Utilities Compliance Plans do not reflect a diverse portfolio of compliance options. The Marginal Abatement Cost Curve ("MACC") analyzed the cost effectiveness of various abatement technologies assuming a Business-as-Usual level of subsidy and did not provide a sufficient basis for assessing the cost effectiveness of incremental measures to promote adoption of those technologies.

VECC believes that there are cost-effective options to improve adoption of existing energy efficiency programs among low-income tenants and seniors by addressing these barriers to their adoption of energy efficiency technologies. VECC submits the Abatement Construct should include barriers to adoption as a key factor in evaluating new initiatives.

Although Union's analysis identified an incremental cost-effective abatement opportunity in the Residential sector, Union opted to assess the opportunity through the DSM Framework. Enbridge takes the same position that incremental abatement should be pursued through the DSM Framework. VECC disagrees with this approach and submits opportunities to better optimize their Plans through customer abatement were deliberately missed. By transferring existing abatement initiatives from the DSM program to the Cap and Trade Compliance Plans, the gas utilities could have substantially reduced their compliance costs.

The OEB's role is to assess the cost consequences of the Compliance Plans of each of the Gas Utilities and the subsequent recovery of those costs in rates. With respect to the Cap and Trade Administrative Costs of Enbridge and Union, VECC submits the OEB should determine they are too high and a reduction of 20% is appropriate and reasonable given the potential for additional synergies and savings described under Section C. This reduction is in addition to VECC's proposed $525,000 reduction to Enbridge's Administration budget and $270,000 reduction to Union's Administration budget to reflect updated staffing cost information. Similarly, VECC submits that the forecast $2 million Low Carbon Initiative Fund (LCIF) budget for Enbridge and Union is too high and should be reduced by $400,000 (20%) to $1.6 million each to reflect additional potential synergies.

VECC's submissions address Issues 1, 1.4, 1.10 and 4.[1]

[1] Focussed on Enbridge and Union

Contents

Introduction

Enbridge Gas Distribution Inc. (Enbridge), Union Gas Limited (Union) and EPCOR Natural Gas Limited Partnership (EPCOR) each filed an application with the Ontario Energy Board (OEB) seeking approval of the forecast costs arising from their Cap and Trade Compliance Plan for the January 1 - December 31, 2018 time period.

The OEB assigned the following file numbers to the applications: EB-2017-0224 (Enbridge), EB-2017-0255 (Union) and EB-2017-0275 (EPCOR).

The 2018 Cap and Trade Compliance Plan is the second Plan to be filed by the Gas Utilities. The OEB found the cost consequences of the first Cap and Trade Compliance Plans in 2017 to be reasonable.[2] Consistent with the OEB Cap and Trade Framework, the Gas Utilities propose to file a third Compliance Plan in 2019 to cover the remaining two years of the compliance period, 2019 to 2020.

The OEB assesses the Gas Utilities' Compliance Plans for cost-effectiveness, reasonableness and optimization[3]. Specifically, the OEB reviews the Plans for prudence in meeting Cap and Trade obligations with a view to determining the appropriate cap and trade costs to be recovered from natural gas customers in rates.[4] The OEB does not approve the Gas Utilities' Compliance Plans. The Gas Utilities are responsible for deciding on the exact makeup of activities to be included in their Compliance Plans: activity mix; priority and pacing of investments; and how and when to participate in the market.[5]

The Gas Utilities' Compliance Plans include compliance activities to meet GHG compliance obligations with costs associated with customer and facility related obligations and incremental administration and program costs. Customer-related and facility-related obligation costs are incurred for emissions units procurement and for GHG abatement programs. The table below shows the Gas Utilities' forecast total 2018 Compliance Plan costs:

Table 1: 2018 Compliance Plan Costs

	Enbridge	Union	EPCOR
2017 Customer-Related Obligation Cost	$377,052,000	$274,210,000	$1,081,439
2017 Facility-Related Obligation Cost	$4,604,000	$8,584,000	$30,858
	$381,656,000	$282,794,000	$1,112,297
Administrative Costs	$3,251,000	$4,004,000	$157,500
LCIF	$2,000,000	$2,000,000	

[2] EB-2016-0296 Decision and Order dated September 21, 2017 Page 3
[3] OEB Report, "Regulatory Framework for the Assessment of Costs of Natural Gas Utilities' Cap and Trade Activities, dated September 26, 2016, EB-2015-0363 Page 1
[4] Framework Page 7
[5] Framework Page 7

The Gas Utilities seek a determination from the OEB that the cost consequences of their 2018 Compliance Plans are just and reasonable. In making this determination the OEB is informed by the following six guiding principles:[6]

1. Cost-effectiveness: cap and trade activities are optimized for economic efficiency and risk management
2. Rate Predictability: customers have just and reasonable, and predictable rates resulting from the impact of the Utilities' cap and trade activities
3. Cost Recovery: prudently incurred costs related to cap and trade activities are recovered from customers as a cost pass-through
4. Transparency: cap and trade activities and costs related to them are transparent and well documented to inform the OEB's assessment, while maintaining market integrity
5. Flexibility: cap and trade strategies are flexible and can adapt to changing market conditions and utility-specific characteristics; the Regulatory Framework may evolve as the market matures and experience is gained
6. Continuous Improvement: Utilities demonstrate continuous improvement in the processes and practices they use to meet their compliance obligations cost effectively

The OEB's framework sets our more specific considerations, flowing from the above principles, that it will use to determine whether the cost consequences of the Utilities' Compliance Plans are cost-effective, optimized and reasonable:

1. whether a Utility has engaged in strategic decision-making and risk mitigation, resulting in a Compliance Plan that is as cost-effective as possible in reducing its facility-related and customer-related GHG emissions, and whether the Utility has considered a diversity (portfolio) of compliance options;
2. whether a Utility has selected GHG abatement activities and investments that, to the extent possible, align with other broad investment requirements and priorities of the Utility in order to extract the maximum value from the activity or investment; and,
3. whether the Compliance Plans are sufficiently flexible to adapt to variability in volume, changes in market prices, market dynamics and other sources of risk thereby providing for greater rate predictability as well as mitigating the risk to customers of changes in the Cap and Trade market.

VECC's concerns related primarily to whether the gas utilities have considered a diversity of compliance options to develop a cost-effective plan regarding customer-related GHG abatement.

Overall Optimization Strategy

The OEB's framework requires utilities to provide an overview of their strategy, and the rationale behind the selection of compliance actions and activities. The OEB indicated that it will "use the information

[6] Framework Page 8

provided by the Utilities to assess whether Compliance Plans reflect optimized and strategic decision-making, including consideration of a diversity of compliance instruments."[7]

The gas utilities' optimization strategies do not indicate that they have appropriately considered a diversity of compliance instruments, particularly in relation to customer abatement options.

As part of their Compliance Plans, Enbridge and Union jointly created an Abatement Construct (AC) to evaluate potential customer, facility and provincial abatement opportunities. The AC includes the following three elements:

- Abatement program selection and screening criteria
- A four-phased "Initiative Funnel"
- A Low Carbon Initiative Fund ("LCIF")

Abatement Construct

The AC includes five Guiding Principles as follows:

1. Ability to draw on funding;
2. Timely advancement of technology;
3. Support government targets;
4. Efficient and rational development; and
5. Respect applicable regulatory constructs.

VECC has concerns regarding the AC baseline criteria and believes an additional screening criterion is needed.

First, the guideline principles do not seem to place an appropriate priority of cost efficiency, which should have been the primary guiding principle for the development of compliance plans.

Second, the guiding principles do not take into account any impacts on consumers, including impacts on vulnerable consumers. This is reflected in the measure supported, which include measures involving conversions to electric heat which would raise costs for consumers, as well as the development of a variety of technologies unaffordable for most low-income consumers. There is an additional weight given to low-income programs in the DSM. VECC submits a similar weight should apply in setting out compliance plans recognizing the lowest- cost options may not necessarily be the best option from the perspective of the public interest / ratepayers.

Third, the guiding principles place an excessive priority on the advancement of technology. A risk exists that the Gas Utilities could make investments in technologies that duplicate the commercialization work of others (private sector/government) that will not directly benefit customers. Moreover, if these projects are cost-effective, it is unclear why they are receiving public funding, particularly given the research may support unregulated activities which financially benefit the gas utilities:

[7] Framework Page 22

MR. RUBENSTEIN: So ratepayers are being asked as part of the LCIF, they could potentially be paying for research activities, in phases 1 and 2 that ultimately become an unregulated activity, correct?

MR. McGILL: There is some potential for that.[8]

The Board is not approving the AC, but the AC does play a role in assessing whether the utilities' compliance plans are reasonable. VECC believes they are not. Instead, of the timely advancement of technology per se, the AC should have focused on "Recognition and integration of the work of others to commercialize technologies".

The AC also should have included a distinct focus on improving adoption of existing technologies. Abatement technologies are already available which could substantially reduce customers emissions and bills. A cost-effective compliance plans should focus squarely on addressing this adoption challenge.

Initiative Funnel

The Initiative Funnel reflects a process to identify, develop and implement abatement ideas over time, noting not all ideas will come to fruition. The AC Initiative Funnel consists of four process stages:

- Conceptualize;
- Formulate;
- Propose; and
- Implementation.

As initiatives move through the funnel factors such as technical feasibility, cost, commercial viability, available funding, customer acceptance, and market signals[9] are considered. As discussed further under Section A, Enbridge and Union have not established an appropriate process to identify and address barriers to the adoption of energy-efficiency programs as part of its evaluation of compliance options. VECC submits the AC should include barriers to adoption as a key factor in assessing initiatives.

The AC should also consider the potential to obtain matching government funding to make a project viable. VECC notes that the viability of renewable natural gas projects being undertaken by the Gas Utilities depends on government matching funding to be viable. Enbridge should have sought matching funding to make other initiatives viable. Because abatement activities would otherwise occur largely in California if credits are purchased, creating savings for California consumers and jobs for California workers, Canadian governments should be requests for matching funding, particularly given they have set aside large sums for abatement programs.

For the reasons discussed under section A below, VECC's position is Enbridge and Union's, (the Gas Utilities) 2018 Compliance Plans are not fully optimized due to the lack of detailed analysis and

[8] Oral hearing, Volume 4, 27 April 2018
[9] Union B.BOMA.1

inclusion of selected cost-effective incremental customer abatement measures to meet their compliance obligations.

A) Issue 1.4: Has the gas utility reasonably and appropriately conducted its Compliance Plan option analysis and optimization and decision making.

Issue 1.10: Are the gas utility's proposed greenhouse gas abatement activities reasonable and appropriate?

In reviewing the reasonableness of the Gas Utilities' Compliance Plans, the Board must give due regard to protecting the interests of low-income consumers. Under the *Ontario Energy Board Act*, the OEB is guided by a list of objectives which include:

> 2. To protect the interests of consumers with respect to prices and the reliability and quality of gas service.
>
> 5. To promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.[10]

These specifically require the Board to give regard to the consumer's economic circumstances in promoting energy conservation and efficiency programs.

As noted by Enbridge, uptake of existing energy efficiency programs has been low – "only a small percentage of ratepayers participate in such programs. This means that the majority of ratepayers pay for the cost of such programs and receive no or very little benefit."[11] As such, it is particularly concerning when such programs are designed to benefit industrial, commercial, and high-income residential ratepayers over the residential ratepayers most in need of relief.

There are a number of compliance options Gas Utilities can use to meet their obligations under the Cap and Trade Program. In addition to procuring cap and trade emission units including allowances and offset credits, Gas Utilities can undertake GHG abatement measures to meet their compliance obligations including customer, facility and Provincial abatement opportunities.[12] There is an expectation the Gas Utilities will give due consideration to abatement measures.

The Framework states "For abatement programs, each of the Utilities will likely develop targeted programs for their residential, commercial and industrial customers. The Utilities will also develop programs for reducing emissions from their own facilities."[13]

The Gas Utilities 2017 Compliance Plans did not include incremental customer or facility abatement programs. In the Board's Decision regarding the Gas Utilities' 2017 Cap and Trade Compliance Plans, the OEB determined the Gas Utilities' approaches to abatement (and longer-term

[10] Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Sched. B, s 2.
[11] Enbridge, Argument-In-Chief at para 77
[12] Framework Pages 5-6
[13] Framework Page 29

investments and new business activities) were reasonable and appropriate given the nascence of the cap and trade program at that time. The OEB further determined that the Gas Utilities were encouraged to give further consideration to abatement options for inclusion in future Compliance Plans and with the benefit of time, availability of the MACC and LTCPF, as well as new information and regulations/policies regarding other options such as offsets.[14]

Despite this expectation, Enbridge, Union and EPCOR did not include incremental customer abatement[15] or facility abatement programs for 2018. Rather, in developing their 2018 Compliance Plans, Enbridge and Union both determined there are currently no-cost effective incremental customer or facility abatement measures to be implemented in 2018.[16] EPCOR indicates it was not in a position to consider abatement opportunities outlined in the OEB MACC at the time of developing its 2018 Compliance Plan. Thus, the make-up of the 2018 Compliance Plans is similar to the 2017 Plans and primarily reflects the procurement of allowances and offset credits, with recognition of existing DSM and GIF as emission forecast reductions, but no incremental GHG abatement measures.

Enbridge and Union have not established appropriate processes to identify and address barriers to the adoption of energy-efficiency programs as part of it evaluation of compliance options. Enbridge and Union's "Abatement Construct" does not consider the impact of proposed measures on consumers, or the distribution of that impact. As a result, it fails to give due regard to customers' economic circumstances and how they will be impacted by the proposed energy efficiency programs.[17] The Gas Utilities' Initiative Funnel and Low Carbon Initiative Fund are focused on the "identification and development of GHG reducing technologies" to the exclusion of the more pressing and immediate challenge of improving adoption among existing technologies.[18]

VECC is concerned about the Gas Utilities' lack of incremental customer abatement opportunities in 2018, particularly for tenants and low-income homeowners noting a high proportion of low income customers are seniors on fixed incomes. VECC's interest in incremental customer abatement opportunities supports further adoption of technologies to reduce overall energy consumption in order to potentially contribute to housing affordability and healthier and more comfortable living environments. Energy conservation is a critical area that can help vulnerable energy consumers better manage their bills.

VECC takes the position that Enbridge and Union's 2018 Compliance Plans are not fully optimized, and the Board should impose a 5% penalty on each Utilities' requested cap and trade costs to be recovered in rates.

[14] EB-2016-0296/0300/0330 Decision Page 27
[15] The customer-related GHG abatement activities must be incremental to the Utilities' 2015-2020 multi-year DSM plans (EB-2015-0029/EB-2015-0049).
[16] Ex 3 T4 P2
[17] Enbridge Application, Exhibit C, Tab 5, Schedule 1, Page 4-6.
[18] Enbridge Application, Exhibit C, Tab 5, Schedule 1, Page 7-11.

Enbridge - Customer Abatement

Enbridge's AIC states that it is required to meet its Cap and Trade obligations by procuring Cap and Trade Emission Units. Enbridge then states it has been encouraged through the Framework to consider GHG abatement measures.[19] VECC does not agree with Enbridge's characterization of the order of importance of the available compliance options. On page 19 of the Framework the OEB recognizes that abatement programs are a key part of reducing Ontario's GHG emissions.

Enbridge's approach to consider broader customer abatement measures was to review the MACC in comparison to existing DSM activity.[20] The only customer abatement program with an incremental impact on emissions in 2018 is the Home Energy Retrofit Program funded by the GIF. Using the MACC, Enbridge determined that its current DSM Plan delivers results that are more than what the MACC study would otherwise indicate is cost-effective under a Mid-Range LTCPF scenario. Enbridge concludes additional DSM programs would not be cost-effective.[21]

In VECC's view, Enbridge's conclusion that additional DSM programs would not be cost-effective is flawed for the following reasons.

MACC was the only tool used

In developing its 2018 Compliance Plan, Enbridge used the MACC as the only tool to assess whether it would be cost effective to propose additional energy efficiency programs pointing to the Framework which states the OEB will rely on the OEB MACC as its principal tool for assessing utility selection of compliance options and resulting cost consequences.[22] Enbridge did not perform any other analysis.

VECC submits there is nothing in the Framework that precludes Enbridge from considering other inputs in its analysis such as the Conservation Potential Study. The Framework acknowledges that a Utility may chose to develop its own, company specific MACC to inform the development of its compliance plan.[23] The CPS and GEC/ED's evidence shows that there is a significant amount of cost effective incremental efficiency available.

Enbridge compared its planned DSM savings to the MACC but did not compare its planned DSM savings to the CPS savings. GEC/ED's evidence did this and concludes that based on the CPS, under the most constrained scenario (current budget levels), Enbridge could acquire nearly 50% greater savings than planned under its current 2018 to 2020 DSM plan and 132% more without budget constraints.[24] The cost-effective savings potential would be even higher if the Utility Cost Test (UCT) was applied rather than the TRC Plus test used in the CPS.

In response to Board Staff IR#24, Enbridge provided its analysis of the CPS using the same approach as Union. Enbridge compared the increase in efficiency program costs to the increase in carbon emission reduction between constrained and semi-constrained scenarios in the CPS and concluded that the

[19] Enbridge AIC Page 25
[20] Enbridge AIC Page 26
[21] Ex C Tab 5 Schedule 1 Page 15
[22] Framework Page 20
[23] Framework Page 20
[24] GEC/ED evidence Page 16

incremental cost of carbon emission reduction ($60/tonne) was higher than the LTCPF through 2028.[25] VECC supports GEC/ED's evidence that the $60/tonne is incorrect and highly misleading and does not account for incremental gas commodity savings and gas bill savings for customers.[26]

When GEC/ED added the incremental avoided gas costs, GEC/ED found that net cost per tonne of CO^2 avoided was -$31/tonne rather than $60/tonne under the CPS constrained to semi-constrained scenario of additional efficiency, and below the mid-range LTCPF estimates for large additional increments of efficiency (constrained to unconstrained).[27]

GEC/ED's expert Mr. Neme corrected the utilities incorrect and misleading $60 and $119/tonne calculations and concluded that between the CPS constrained to semi-constrained scenarios, costs per tonne of abatement are negative. Between the semi-constrained to unconstrained scenarios the costs per tonne of abatement for the Residential and Commercial sectors are negative.

Table 2: 2018-2020 Incremental Cost per Tonne Carbon Emission Reduction
(CPS Scenario Incremental Impacts, Excluding Large Volume Industrial Customers)

Utility/Sector	Annual Savings (million m3)	Budget (millions $)	Lifetime Carbon Avoided (tonnes)	Avoided Gas Costs (millions $)	Net Cost (millions $)	Net cost per Tonne Carbon
Constrained to Semi-Constrained						
Res	15	$63	848,397	$63	$1	$1
Com	20	$36	656,828	$52	($16)	($24)
Ind	13	$19	440,483	$72	($52)	($119)
Total	48	$119	1,945,708	$186	($67)	($34)
Semi-Constrained to Unconstrained						
Res	135	$627	7,053,474	$649	($22)	($3)
Com	65	$108	1,167,971	$134	($26)	($22)
Ind	15	$275	436,651	$44	$231	$529
Total	215	$1,011	8,658,096	$828	$183	$21

VECC agrees with GEC/ED's evidence that the CPS suggests there is significantly more savings Enbridge could acquire and as such, Enbridge's analysis was too limited to rule out investment in additional abatement measures to achieve additional energy savings. GEC/ED's evidence estimates the level of increase in energy savings would produce cost savings to customers on the order of $36 million to the two utilities' customers (combined) and therefore about $18 million could have been realized by Enbridge.[28] GEC/ED's evidence further notes this represents conservatively low estimates of additional savings potential and economic net benefits.

[25] Between the semi-constrained and unconstrained scenarios - incremental cost of carbon emission reduction = $134/tonne

[26] GEC/ED Evidence Page 16
[27] GEC/ED Evidence Page 32 Table 1
[28] Exhibit L Page 34

MACC assumed adoption rates for Business as Usual Case Only

Secondly, as pointed out in the GEC/ED evidence, the MACC assumed adoption rates for all efficiency measures for "Business as Usual" (BAU) case incentive levels and analyzed only the savings potential possible with BAU levels[29], whereas the CPS looked at the adoption rates under BAU case and an aggressive case.[30] The MACC results do not represent the maximum possible abatement that could be achieved through customer abatement, nor the maximum possible costs.[31]

Currently, only a small percentage of eligible ratepayers participate in energy efficiency programs. This is certainly the case for the vulnerable consumers represented by the Vulnerable Energy Consumers Coalition (VECC). The key barriers to participation in energy efficiency programs for low-income tenants are:

- the transitory nature of their residence – if a tenant does not expect to stay in the residence for the life of the efficiency investment, they are only capturing a portion of the benefits of that investment
- the need for their landlord's permission for renovations – landlords are rarely willing to give permission for investments needed to support energy efficiency
- the disruption caused by renovations – it may only be practical to renovate the unit between tenants, but landlord have little incentive to do so when they do not pay the utility bills
- difficulties financing up-front costs - high upfront costs are prohibitive for low-income persons.

Seniors also face particular barriers to the adoption of energy efficiency programs. Many seniors have been taken advantage of by unsolicited door-to-door sales of overpriced energy efficiency products, leaving Ontario seniors very skeptical of such offers. Some energy efficiency programs threaten substantial harm to seniors who installed electric heating many decades ago as a cleaner alternative to natural gas, as home energy efficiency audits threaten to devalue their homes and they are unable to afford the upfront costs or bear the disruption of programs which might help them. To add insult to injury, low-income persons are still being asked to pay for the costs of these programs which they cannot access through proceedings like this.

Assuming a business-as-usual level of subsidies also misses some opportunities create by existing subsidies to improve adoption through additional subsidies. For example, additional subsidies/loans to landlords for technologies which are already subsidized under the DSM or government programs may provide incremental cost-effective savings. Enbridge's Plan did not include this analysis. Enbridge's Plan did not include data on market penetration rates. At a minimum, programs with low penetration rates could be enhanced with increased financial incentives or increased marketing. Furthermore, if some groups have lower adoption rates, this can provide a more accurate estimate of "natural adoption" or "free ridership" which would have occurred in the absence of the subsidy.

For measures where existing DSM and/or other abatement programs are already in place, the average costs presented in the MACCs do not represent what the next incremental unit of savings will cost. This limits the applicability of these cost estimates for the utilities when assessing expansion of existing or

[29] MACC Page 7
[30] CPS Page 11
[31] MACC Page 6

new DSM programs.[32] It is VECC's understanding the MACC reflects the constrained scenario (current levels of DSM funding), whereas the CPS included the constrained, semi-constrained and unconstrained scenarios for each sector. In some circumstances, the semi-constrained or unconstrained version of some technologies may be more cost-effective than the constrained version of others and lower than the price of carbon. This analysis was not undertaken.

The risks of incentive programs are much lower because Incentives are only paid if customers do in fact participate.

Limited Analysis Undertaken

Enbridge's analysis was at a high level, comparing MACC potential to DSM Plans, but it did not look at specific opportunities. Enbridge's analysis should have been looking the cost efficiency of particular programs rather than at aggregate levels of abatement activities and should have at least compared aggregate residential abatement to aggregate cost-efficiency residential abatement.

As noted above, the cost-effectiveness of a technology is not the same thing as the cost-effectiveness of an abatement program promoting that technology. The gas utilities' compliance plans should have assessed the cost-effectiveness of incremental abatement programs targeting barriers to adoption of already-subsidised technologies. It also should have considered the incremental impact of its programs where a technology is already supported by another program. This may result in a more cost-effective program than the overall cost-effectiveness of the technology would suggest.

Double Counting of Free Ridership

Enbridge inappropriately adjusted the potential savings in the MACC to account for free ridership when the MACC already accounts for naturally-occurring conservation.[33] Enbridge applied an adjustment of 15% for Residential, 16% for Commercial and 50% for Industrial.

Enbridge adjusted the for free ridership to account for government funding through the Climate Change Action Plan although Enbridge did not provide any evidence to support its free ridership adjustments.

VECC notes that free ridership is probably much lower for low-income consumers because they are less able to naturally adopt conservation measures. VECC would argue that even if applying free ridership was appropriate (which it is not because of double counting) a lower-evidence based estimate of free-ridership should have been used.

VECC wishes to point out the 15% free ridership adjustment has an impact in the Residential sector. Enbridge's analysis of the MACC Potential versus the DSM Plan shows that there is no potential for incremental efficiency in the residential customer segment within Enbridge's franchise area. In reaching this result, Enbridge adjusted the MACC residential results down by a net-to-gross factor (NTG) of 15% to account for free ridership. When the 15% NTG factor is removed, there is now some

[32] MACC Page 18
[33] MACC Page 6

potential in the residential sector.[34] increases accordingly. VECC submits this additional potential (MACC potential exceeds DSM Plan) should have been pursued in the assessment of 2018 compliance options.

Insufficient Insight into the MACC

Fifthly, Enbridge admits that it does not have sufficient insight into the underlying analysis of the MACC study to fully understand what is driving the clear difference between the MACC study results, the Conservation Potential Study results and the Utilities' DSM Plans.[35] At the oral hearing Enbridge confirmed it did not follow-up on the MACC to seek clarification of its limited understanding of the MACC. VECC submits this reflects a large oversight on the part of Enbridge. VECC submits further analysis is required and it is not reasonable or appropriate to conclude additional DSM programs would not be cost-effective without fully understanding the MACC.

VECC's Position

The Framework states "As part of its assessment of cost-effectiveness and reasonableness, the OEB will assess whether the Utilities effectively used the OEB MACC, their forecasts, and any other inputs to prioritize and select the compliance instruments and activities they have decided to include in their Compliance Portfolio. The OEB will use the information provided by the Utilities to assess whether Compliance Plans reflect optimized and strategic decision-making, including consideration of a diversity of compliance instruments.[36]

Since the 2017 Compliance Plan filing, the OEB released two inputs for consideration: the Long-Term Carbon Price Forecast (LTCPF) on May 31, 2017 (updated on July 19, 2017), and the Marginal Abatement Cost Curve (MACC)[37] report on July 20, 2017. The MACC is for the 2018 to 2020 period and incorporates the LTCPF.

VECC submits Enbridge should have considered more than just the MACC in assessing the extent to which additional cost-effective abatement measures could be implemented to meet its compliance obligations. The OEB stated it will want to see information from the utilities that demonstrates they have undertaken a detailed analysis which supports their choice of compliance options.[38] The CPS, GEC/ED's evidence and Enbridge's lack of insight into the MACC demonstrates that Enbridge's analysis was limited, not detailed and suggests a more complete analysis would have identified selected incremental customer abatement opportunities in 2018. In VECC's view these are significant oversights given that Enbridge's 2018 Compliance Plan costs are close to $400 million.

In considering the above concerns, VECC submits greater rigour on the part of Enbridge was required to protect customers from undue costs. GHG abatement activities reduce overall emissions and undertaking abatement means the utility has to purchase fewer emissions. In VECC's view, Enbridge's

[34] 3,915,325 m^3
[35] Ex C Tab 5 Schedule 2 Page 25
[36] Framework Page 22
[37] MACC – Marginal Abatement Cost Curve July 20, 2017
[38] Framework Page 22

lack of abatement measures in meeting its compliance obligations results in a 2018 Compliance Plan that is sub-optimal. VECC submits the OEB should find that Enbridge's 2018 Compliance Plan is not cost-effective or optimized and thus the Board should impose a 5% penalty on Enbridge's requested cap and trade costs to be recovered in rates.

Union – Customer Abatement

To assess the cost-effectiveness of incremental abatement opportunities Union applied the OEB's LTCPF and two data sets: first the MACC as the principal tool and then the CPS as the secondary tool.[39] Union wanted to determine whether investing additional budget into growing and/or expanding existing energy efficiency/DSM programs would be more cost effective than purchasing compliance instruments. Applying the MACC and CPS, Union concludes there are no cost-effective incremental DSM that is prudent to pursue in 2018 beyond Union's 2015-2020 DSM Plan Programs.[40]

Although Union has chosen to not include incremental DSM in its Plan, Union's analysis of the MACC and CPS identifies that there is incremental, cost-effective abatement opportunity potential for the Residential sector.

As shown in the table below, Union identified cost-effective abatement opportunities in the residential sector in all carbon price forecast scenarios compared to the Residential DSM Plan. At the minimum and mid-range LTCPF, Union is planning to achieve only 60%[41] of the residential savings in its DSM Plan the MACC suggested were cost effective.[42] At the maximum LTCPF, Union is planning to achieve only 51% of the residential savings the MACC suggested were cost effective.

The 20 million m^3 in annual savings related to the Residential DSM Plan includes Low-Income offerings (4.8 million m^3 savings) and the Residential Home Reno Rebate Offering (15.6 million m^3 savings). Even though an additional 40 to 50% in annual savings is available, Union has not put pursued any residential or low-income DSM offerings via the 2018 Compliance Plan. Instead, Union Union believes any incremental opportunities should be pursued within the DSM Framework. VECC disagrees. Failure to target additional cost-effective efficiency under Cap and Trade can result in more expensive 2018 compliance options and increased costs to customers.

[39]

[40] Exhibit 3 Tab 4 Appendix A Page 1

[41] 20/35 = Residential DSM Plan/MACC LTCPF

[42] 59% at the Minimum LTCPF; 51% at the Maximum LTCPF

Annual Savings Realized During the 2020 Year (million m³) *(Includes savings from 2018 and 2019 that persist into the 2020 year)*				
	MACC (Minimum LTCPF)	**MACC (Mid-Range LTCPF)**	**MACC (Maximum LTCPF)**	**Residential DSM Plan**
Residential	34	35	39	20

Union states it is unable to determine the measure mix from the incremental opportunity since the MACC report does not provide the underlying analysis. Union then turned to the CPS and confirmed that incremental abatement does exist.[43]

In Board Staff IR#31, Union lists many energy conservation measures (behaviour measures, adaptive thermostats, measures assessed and not prioritized) that were identified in the MACC but not currently included within Union's DSM programs. Union's position is that any reassessment of these measures should be done within the DSM Framework.[44] VECC disagrees. By postponing the reassessment, Union missed an opportunity to potentially reduce costs for customers in its 2018 Compliance Plan.

The Framework states the OEB will require robust and detailed information in support of Utility requests for recovery of costs associated with their compliance activities. Specifically, the OEB will want to see information from the Utilities that demonstrates they have undertaken a detailed analysis which supports their choice of compliance options.[45] VECC submits to be consistent with the Framework Union should have undertaken an analysis of the above identified conservation measures as part of its review of 2018 Compliance Plan options to determine if additional savings could be acquired at a lower cost to customers than purchasing emission units. In VECC's view, Union has not applied the rigour necessary to protect customers from undue costs.

With respect to the CPS, Union undertook the same limited analysis as Enbridge and concluded that the incremental cost of carbon emission reduction, $60/tonne and $119/tonne, between the constrained and semi-constrained scenarios and constrained and unconstrained scenarios, respectively, was higher than the LTCPF through 2028.[46] Consistent with VECC's view of Enbridge's CPS analysis, VECC supports GEC/ED's evidence that when incremental avoided gas costs are included, the net cost per tonne of CO^2 avoided is -$31/tonne rather than $60/tonne under the CPS constrained to semi-constrained scenario of additional efficiency, and the net cost per tonne of CO^2 avoided is below the mid-range LTCPF estimates for large additional increments of efficiency (constrained to unconstrained).[47] Using a cost per tonne of CO^2 avoided that is more realistic and incorporates additional benefits demonstrates that potential exists to invest in incremental abatement that is cost-

[43] Ex T4 Appendix A P6-7
[44] Board Staff IR#31 (a) Page 4
[45] Framework Page 22
[46] Exhibit 3, Tab 4, Schedule 1
[47] GEC/ED Evidence Page 32 Table 1

effective. This approach is better aligned with the Utility Cost Test (UCT) used in the MACC. VECC agrees with GEC/ED that Union's CPS analysis was far too cursory.[48]

Like Enbridge, Union did not compare its planned DSM savings to the CPS savings. This analysis was undertaken in GEC/ED's evidence and shows that Union could acquire 25% more savings from its non-Large Volume customers than it is currently planning for 2018 through 2020 and more than 75% without budget constraints.[49] It is important to note the CPS only captured savings potential that was cost-effective under the TRC Plus Test. GEC/ED makes the point this savings potential increases if the UCT used in the Cap and Trade Framework is applied.[50]

As is the case with Enbridge, VECC submits Union's analysis of potential abatement opportunities should have included a review of its existing measures and/or programs to identify modest market penetration rates to identify further where to focus efforts to increase uptake through increased financial incentives, increased marketing or other means.

Union submits that its DSM program and proposed changes to the 2015-2020 DSM Framework are outside the scope of this proceeding.[51] The Framework states "The introduction of the Cap and Trade program requires Utilities to meet emissions reduction obligations, which creates the potential for significant overlap between existing DSM programs and future Compliance Plans.[52] VECC submits the OEB needs to consider the DSM Framework in assessing the Gas Utilities' Compliance Plans given the relationship between the two Frameworks.

VECC's Position

In considering the above, VECC submits Union could have substantially cost-effectively increased its planned efficiency program savings. Union's lack of abatement measures in meeting its compliance obligations results in a 2018 Compliance Plan that is sub-optimal. Union failed to consider and select a diverse portfolio of compliance options. VECC submits the OEB should find that Union's 2018 Compliance Plan is not cost-effective, reasonable or optimized and should impose a 5% penalty on Union's requested cap and trade costs to be recovered in rates.

DSM Mid-Term Review

VECC made submissions on May 11, 2018 that supported the request of ED that the OEB invite Enbridge and Union to file plans for incremental conservation measures as part of the DSM Mid-Term Review. On May 30, 2018 the OEB responded it will be discussing the elements of ED's letter as part of the upcoming stakeholder meeting on the DSM Mid-Term Review. Although Enbridge and Union believe incremental DSM should be considered under the DSM Framework neither utility specifically proposed incremental Cap and Trade conservation in their Mid-Term reviews.

[48] GEC/ED Evidence Page 19
[49] GEC/ED Evidence Page 21
[50] GEC/ED Evidence Page 25
[51] Union AIC Page 5
[52] Framework Page 28

The DSM Mid-Term Review provides an opportunity to transfer cost-effective abatement programs to the gas utilities Cap & Trade compliance plans. The most-cost effective abatement opportunities should be pursued under the Cap and Trade Compliance plan to reduce compliance costs. The potential for a transfer of existing abatement programs is contemplated in the Commission's Cap and Trade Framework, which states:

> The introduction of the Cap and Trade program requires Utilities to meet emissions reduction obligations, which creates the potential for significant overlap between existing DSM programs and future Compliance Plans.
>
> Several stakeholders argued that customer-funded DSM has now been supplanted by the Cap and Trade program and therefore customer-funded DSM should be discontinued. The OEB is confident that any potential overlap can be appropriately addressed through the robust EM&V process of the DSM framework. The DSM framework also includes a mid-term review provision (to be completed by June 1, 2018) that will provide an appropriate opportunity to assess the DSM framework in light of the Cap and Trade program.

Given the failure of the Gas Utilities' to pursue these opportunities, VECC submits ED's approach remedies the situation at the nearest opportunity.

In the DSM Framework, the OEB determined that for DSM activities between 2015 and 2020, the gas utilities' annual DSM budgets for a typical residential customer of each gas utility should be no greater than approximately $2.00/month.[53]

Enbridge makes the point that in addition to the approximate $2 per month impact of DSM Programs, there is an additional $7 to $8 per month bill impact due to the Cap and Trade Program,[54] resulting in an overall combined impact of $9 to $10 per month. VECC submits that if incremental DSM is captured under the Cap and Trade Framework, the additional $6 to $7 per month could be reduced as cost-effective customer abatement is less costly than purchasing emission units (allowances, offsets, credits). This approach appropriately responds to the OEB's statutory obligation to appropriately consider the consumer's economic circumstances.

2018 Administrative Costs

Administrative costs relate to the activities that the Gas Utilities undertake to meet their compliance obligations. These costs are recorded in the GGEIDA. Enbridge and Union will seek disposition of actual 2018 GGEIDA costs as part of the 2019 filing. Table 2 below summarizes these costs.[55]

[53] DSM Framework December 22, 2014 Page 17
[54] Enbridge AIC Page 27
[55] Enbridge (Ex D T1 S1 Page 2), Union (Ex 3 T5 S2), EPCOR (P22)

2018 Forecasted Cap & Trade GGEIDA Costs				
	Enbridge	Union	Total	EPCOR
Forecast Administrative Costs				
Salaries & Wages	$1,500,000	$2,598,000	$4,098,000	$28,000
Consulting	$400,000	$670,000	$1,070,000	$76,500
Bad Debts related to Cap & Trade	$960,000	$425,000	$1,385,000	
Revenue Requirement on capital costs (billing system)	$191,000	$193,000	$384,000	
OEB Costs	$100,000	$50,000	$150,000	
Incremental C&T related GHG Reporting and Verification Audit	$40,000		$40,000	$7,000
Other	$60,000	$68,000	$128,000	$8,000
Legal				$12,000
Communications & Marketing				$2,500
Software Maintenance and Development				$23,500
Sub-total	$3,251,000	$4,004,000	$7,255,000	$157,500
Low Carbon Initiative Fund Costs	$2,000,000	$2,000,000	$4,000,000	
Total Forecasted Cap & Trade GGEIDA Costs	**$5,251,000**	**$6,004,000**	**$11,255,000**	**$157,500**
Budgeted FTEs	**8.0**	**12.5**	**20.5**	**0.3**

Figure 1: 2018 Gas Utility Administrative Costs

Relevance of MAADs Application

Enbridge and Union have applied to the OEB to amalgamate to form a single natural gas distribution, transportation and storage company effective January 1, 2019.[56] The rates that Enbridge and Union Gas Limited currently charge customers are set using two separate frameworks that expire at the end of 2018. Enbridge and Union Gas have asked the OEB to defer its full review of their costs for 10 years and have proposed a methodology for setting rates from 2019 to the end of 2028 using a formula. A detailed integration plan will be developed one a decision is made to proceed with the amalgamation.

Union's position is that any issues concerning the application filed by Enbridge and Union requesting approval to amalgamate effective January 1, 2019 is out of scope.[57] VECC disagrees. Given that the two entities could become one entity by the end of the year, the OEB needs to take the merger into consideration in determining if the cost consequences of Enbridge and Union's Compliance Plans are just and reasonable.

Moreover, because the entitles are already common ownership, there is already potential for synergies to be realized and duplication eliminated.

Enbridge – Administrative Costs

Enbridge estimates its total 2018 administrative costs to be $5.251 million which includes $2 million for the LCIF. The LCIF is proposed to enable the identification and development of GHG reducing technologies to progress into future abatement opportunities.

[56] MAADs Application
[57] Union AIC Page 5

Enbridge budgets $1.5 million[58] for eight full-time equivalents (FTE) in 2018. Enbridge seeks approval of the cost for two additional employee resources (Abatement Initiative Identification, Development and Reporting Specialists) to support the LCIF. Enbridge estimates the 2018 cost associated with the two additional FTEs will be approximately $350,000.

In addition to the two LCIF FTEs, Enbridge has an additional vacant position (Carbon Market Financial/Offset Instrument Procurement Specialist)[59] worth $175,000 and estimates the total amount for the three vacant positions to be $525,000. Enbridge indicates it is awaiting the determination on the Enbridge and Union MAAD decision to make resourcing decisions and look at everything in whole.

Enbridge's budget for 2018 assumes that all eight positions are filled for the full year.[60]VECC submits it is unlikely these three positions will be filled in 2018 given the pending MAADs Decision. VECC submits Enbridge's forecast 2018 Administrative budget should be reduced accordingly by $525,000 (16%).

Union – Administrative Costs

Union estimates its total 2018 administrative costs to be $6,004 million which includes $2 million for the LCIF. Union's updated salary budget is $2.328 million for 11.25 FTES[61], $270,000 lower than the as filed budget of $2.598 million for 12.5 FTEs.[62] At the oral hearing Union confirmed that currently all 11.25 FTEs are filled.[63] VECC submits Union's forecast 2018 Administrative budget should be reduced by $270,000 (7%) to reflect this change.

Enbridge indicates it did not contemplate anything around Union's organization in determining its 2018 resource requirements. Union has three positions that support the assessment of emerging technologies, [64] Enbridge has two for a total of five positions. VECC submits it is reasonable to conclude that post merger (if approved) the need to fill the two vacant positions or maintain all five positions may no longer be required pending the outcome of a detailed integration plan and a review of potential synergies and merger savings related to the delivery of Cap and Trade programs. Consulting costs is another area where there may be overlap and duplication between Enbridge and Union and further synergies could be realized. The actual costs incurred in 2016 and forecasted 2018 costs for market intelligence and consulting support are similar between the two companies.[65] Regardless of the decision on the pending merger, as affiliates Enbridge and Union should be working together, sharing resources and continuously looking for ways to delivery cap and trade program more efficiently and cost-effectively to reduce the cost impact on customers. VECC submits potential exists between Enbridge and Union to achieve cost savings between the two administrative budgets.

In 2017, Enbridge spent $2,273,702 or 22% less than its forecast Administrative costs of $2,917,100.[66]

[58] Fully allocated – includes pension, benefits and overheads
[59] Enbridge Exhibit D T1 S1 Page 5
[60] Transcript Volume 3 Pages 126 to 128
[61] Manager, Cap and Trade & 25% of Manager, Distribution Business Development not included
[62] J1.1
[63] Transcript Volume 2 Pages 1 to 2
[64] Union Exhibit 3 T5 Page 7
[65] Union Exhibit B.Sec.15
[66] Enbridge Staff.12

In considering the above noted budget reductions and the additional potential for synergies and savings, VECC submits the OEB should determine that the forecast administrative cost consequences of Enbridge and Union's 2018 Compliance Plans are too high and should be reduced by an additional 20%.

Low Carbon Initiative Funds (LCIF)

Enbridge and Union each propose to establish a $2 million LCIF to support the development of new technologies for a total of $4 million. Enbridge and Union anticipate that the LCIF amount would be funded annually. The LCIF will be used to finance future expenditures specific to research, development, demonstration, and commercialization of new technologies aimed at reducing GHG emissions.[67] Enbridge and Union seek to include the cost consequences of the LCIF in the GGEIDA, with only actual costs recorded in the GGEIDA. Union expects that these amounts will not be subject to further review unless there is a change in circumstances that warrants review as determined by the OEB when they are filed for disposition.[68]

Union has not explored obtaining funding from the government to support the LCIF instead of it being recovered through customers.[69] VECC notes that the Federal Government is currently allocating $500 million in funding through its Low Carbon Economy Challenge to support ambitious innovative projects to reduce emissions and generate clean growth.[70]

Many of the projects and emerging technologies to be funded under Enbridge's LCIF are also included for funding under Union's LCIF. With the merger of Enbridge and Union, these expenditures are duplicative.

> MR. RUBENSTEIN: Why is that appropriate? Why shouldn't two regulated entities of this Board who are affiliates not share resources with respect to their cap-and-trade administrative costs?
>
> MS. OLIVER-GLASFORD: I certainly can see how you're asking this question. However, I think we need to take a step back and remember the timing as to which we filed the plans.
>
> When we filed these plans in November of 2017, the with two organizations were actually prohibited by law. There was a special clause in the cap-and-trade regulation which prohibited us sharing any commercially -- not commercially, sorry, market or auction confidential-type information with one another. So we did recognize that very, very strict prohibition.
>
> However, we did try and collaborate where we could, and that is evident in the development of the abatement construct.
>
> MR. RUBENSTEIN: Am I correct that that prohibition is no longer in force?

[67] B.OSEA.10
[68] B.SEC.11
[69] B.OSEA.10
[70] https://www.canada.ca/en/environment-climate-change/news/2018/04/low-carbon-economy-leadership-fund.html

MS. OLIVER-GLASFORD: That is correct. However, the two entities still are operating as separate entities until a MAADs decision.[71]

There is only one new technology measure directed at low income customers, Building Skins, which will benefit low-income consumers and/or address adoption. Many projects appear most likely to benefit high-income consumers, including ground source pumps (which are expensive to install and operate), net zero energy ready homes (which benefit individuals purchasing new homes) and micro generation (which benefits homeowners with free capital to invest).

Rather than focusing on future technologies, Enbridge and Union should focus on the present and pressing challenge of improving adoption of existing technologies. The gains from programs targeting adoption are more certain and more directly benefit ratepayers. Increasing adoption is not simply a matter of increasing the subsidy – although this is one tactic that may be worth pursuing, particularly for groups whose adoption may otherwise be low. It is also about advertising, financing, managing risk, and sharing benefits.

Enbridge and Union should also be focused on areas where they have a competitive advantage in delivering abatement programs. For example, on-bill charges can be used to recover the unsubsidized share of costs associated with energy efficiency programs by tenants. Enbridge and Union are also extending service to new areas, which will require in home renovations, which provide an opportunity to adopt more efficient technologies.

Enbridge and Union should also be focused on leveraging government support. The federal Low Carbon Economy Leadership Fund is providing $420 million to support climate change projects. If Enbridge and Union are able to secure matching government funding for cost-ineffective natural gas projects, surely it is reasonable to expect them to seek government funding to make consumer abatement projects cost-effective.

In 2017, Union spent $248,500 on the advancement of new technologies.[72] Of the $2 million LCIF forecast, Union has currently identified $1,159,000 in LCIF spending[73] and $107,509 has been spent as of April 16, 2018.[74] In 2017, Enbridge spent $130,000 on the advancement of new technologies.[75]

Given the overlap in 2018 projects being reviewed by both Enbridge and Union and the pending merger and potential for integration and synergies between the two organizations related to Cap and Trade, VECC submits the 2018 LCIF budget of $2 million for each utility is too high and a reduction of $400,000 (20%) is appropriate and reasonable. This would result in a total LCIF budget of $3.2 million for the two utilities.

All of which is respectfully submitted this 31st day of May, 2018.

[71] Oral hearing, Volume 4, page 20
[72] Union B.Staff.21 Page 3
[73] Union B.Staff.21 Pages 4 to 5
[74] JT1.17
[75] Enbridge Staff.23