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Our File No. 174118

VIA RESS, EMAIL AND COURIER

Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, Ontario
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Attention: Kirsten Walli,
Board Secretary

Dear Ms. Walli:

**Re: EB-2017-0127/0128: Union Gas Limited and Enbridge Gas Distribution Inc.,
DSM Mid-Term Review**

Pursuant to the Board's correspondence dated June 20, 2017, please find enclosed BOMA's comments.

Yours truly,

FOGLER, RUBINOFF LLP

Thomas Brett

TB/dd

cc: All Parties (*via email*)

Ontario Energy Board

DSM Mid-Term Review

**Submission from
Building Owners and Managers Association, Greater Toronto ("BOMA")**

August 29, 2017

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Introduction

As part of the Mid-Term Review of the Natural Gas DSM Framework, the Board is undertaking a limited review of the overall 2015-2020 DSM Framework in the context of the Cap & Trade (C&T) program.

The Board has identified two specific issues that relate to the Board-approved ratepayer-funded DSM plans and the C&T program on which the Board seeks comments from interested parties, namely:

1. Consideration of the relationship between the current suite of DSM programs and actual C&T activities of customers with their own compliance obligations
2. Consideration of the attribution of costs and savings to ratepayer-funded DSM programs where natural gas utilities offer carbon abatement programs in the market

BOMA believes that it is unfortunate that, to date, the Ontario government has treated natural gas DSM and the natural gas utilities' role in the Ontario C&T program as silos and so welcomes the Board's invitation to respond to these two issues.

To enable a full understanding of our views on these two issues, BOMA has provided the following context for our discussion. After stating our responses to the two issues, BOMA has suggested how our responses could be implemented.

Context

Ontario's Climate Change Strategy highlights five areas of transformation:¹

- A prosperous low-carbon economy with world-leading innovation, science and technology
- Government collaboration and leadership
- A resource-efficient, high-productivity society
- Reducing greenhouse gas emissions across sectors
- Adapting and thriving in a changing climate

The Board's DSM Framework requires that ratepayer funded DSM programs should focus on the following goals:²

- Assist consumers in managing their energy bills through the reduction of natural gas consumption. Customers who participate in the DSM programs should see a decrease in their energy bills.
- Promote energy conservation and energy efficiency to create a culture of conservation. DSM programs should advance conservation and energy efficiency, beyond the program participants, to the broader public in Ontario.
- Avoid costs related to future natural gas infrastructure investment, including improving the load factor of natural gas systems. Gas utilities are expected to consider DSM initiatives in the context of infrastructure planning so that reducing demand for natural gas also helps

¹ <https://www.ontario.ca/page/climate-change-strategy>

² https://www.Board.ca/sites/default/files/uploads/Report_Demand_Side_Management_Framework_20141222.pdf

avoid or defer future infrastructure costs. This is consistent with the government policy of “Conservation First.”

The objectives of natural gas DSM and Ontario’s C&T program (including the initiatives to be financed by the Green Ontario Fund) are in total harmony. Both are designed to reduce the energy intensity of the Ontario economy and reduce the carbon intensity of energy use by transforming Ontario’s energy system to a low carbon system.

The Board’s DSM Framework has evolved to include program cost recovery, a lost revenue adjustment mechanism and shareholder incentives – three key elements that have led to strong utility commitment to DSM success. The C&T program includes only program cost recovery.

These differences are further complicated by different institutional and regulatory treatments of electricity conservation and demand management (CDM). What is common between DSM and CDM is that both use “input assumptions and engineering estimates” based processes for evaluation, measurement, and verification of results of energy savings programs.

If the Board had not implemented DSM in 1993, it would have to be “invented “now as part of Ontario’s climate change strategy and the C&T program. Yet, to date, the frameworks are essentially in silos. This has the potential for customer confusion, complicated and expensive accounting and accountability processes for the utilities and customers as well as inconsistent treatment in the evaluation, measurement, verification and cost effectiveness within each silo.

One solution to the two issues identified by the Board should begin by examining them as if DSM was at “ground zero”. Adding on new elements to the existing framework will only complicate matters. Taking a ground zero approach within the context described here will simplify regulation, and implementation and take advantage of relatively new government regulations such as O Reg. 397-11 and O Reg. 20-17 and their contribution to improved energy data, providing the basis for intensity based conservation programs.

Approaches have been developed for determining the reduction of energy intensity in buildings, the most substantive being Ontario Regulation 397-11 requiring public agencies to report annually to the Ministry of Energy (ENERGY) on their energy use and greenhouse gas (GHG) emissions and publish the reports on their websites. These data have been publicly available for the past five years but have not yet been used in the *DSM Technical Resource Manual* or been accepted by program evaluators in the evaluations managed by the utilities and now Board Staff.

Ontario has also developed the soon to be implemented Ontario Regulation 20-17: *Ontario's Reporting of Energy Consumption and Water Use* to expand the population of Ontario buildings to report this type of data. BOMA was very active in this process and is anxious that its members and all building owners in Ontario are not burdened with competing processes for reporting energy and carbon intensity with those of DSM/CDM programs.

Ontario’s traditional DSM/CDM evaluation approaches are based on California Standard Practice first developed in the mid-1980s. The Standard Practice has not evolved to make use of such reporting, or even to make use of this valuable information as the basis for conservation potential studies and the determination of the cost effectiveness of conservation programs and other carbon reduction initiatives. It is still unclear how the initiatives funded by the Green Ontario Fund will be measured and verified, but BOMA suggests that a common intensity based approach will be less expensive, more consistent, more dependable and more empowering for customers.

In July, the *Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emissions Effective July 2017* was released³. This guideline is solidly based on measuring carbon intensity reductions.

BOMA Toronto suggests that the Board could go a long way toward clarifying and harmonizing the fundamental measurement and evaluation of impacts of both DSM and C&T programs by finally changing the measurement and verification of DSM from an “input assumptions and engineering estimates” of equipment efficiencies to an energy intensity, performance-based approach based on the data resulting from the two related regulations. The Ontario government could extend this approach to electrical CDM as well as the initiatives funded by the Green Ontario Fund.

These changes would make the answers to the two issues identified by the Board much simpler, easier to understand and based on common ground.

BOMA’s Response to the Board’s Issues

1. Relationship between the current suite of DSM programs and actual C&T activities of customers with their own compliance obligations

BOMA understands this issue to address the relationship of DSM programs targeted to customers who are also large final emitters (LFEs) who are required to report on their own performance.

The experience and value added of the utilities in working with their larger customers on DSM projects should continue to be recognized by the DSM framework and be seen to be part of the LFEs’ broader compliance program. The customer service value of maintaining the current suite of DSM programs will continue, and the gas system and the utility companies will continue to see the integrated resource planning benefits of those conservation related activities.

Conservation is just one tool that LFEs can employ to meet their compliance obligations and it also generates energy bill savings. However, LFEs may seek to meet their greenhouse gas emission reductions through investments outside of Ontario which would lessen the impact of Ontario’s Climate Change Strategy with respect to two of its key objectives:

- a prosperous low-carbon economy with world-leading innovation, science and technology and
- a resource-efficient, high-productivity society.

Many LFEs already use energy intensity and carbon intensity measurements in their corporate reporting.

BOMA suggests the following changes to the DSM Framework:

- Reporting the contribution of utility programs in terms of the reduction in carbon and energy intensity measured at the meter should replace the current input assumptions process of measurement and verification.

³ http://files.ontario.ca/guideline_for_quantification_reporting_and_verification_of_greenhouse_gas_emissions_july_2017.pdf

- For the shareholder incentive determination, a new set of scorecard metrics based on helping to reduce carbon and energy intensity for LFEs would replace the current costly and subjective approach to measurement and verification.
- The costs of LRAM and shareholder incentives could be funded from utility revenues from those customer classes as is the current process.
- Program costs would be limited to the services of the utility energy consultants: expert advice on conservation, information on new technologies, provision of energy use data including sub-metering and facilitation of conservation projects.
- Incentives for new energy efficient equipment would no longer be paid for by the utility as the economic and financial incentive for such investments should be higher under the LFEs C&T compliance obligations. This would have the added benefit of removing the longstanding concern of the Industrial Gas Users Association with respect to intercompany competition.

2. Attribution of costs and savings to ratepayer-funded DSM programs where natural gas utilities offer carbon abatement programs in the market

BOMA understands this issue to address the customers on whose behalf the utilities are collecting carbon fees and managing the C&T program.

BOMA believes that their members and all utility customers should not be paying twice for carbon abatement programs. As natural gas DSM programs are also carbon abatement programs this is the current situation - customers paying twice.

BOMA suggests the following changes to the DSM Framework:

- DSM programs for non LFEs should be paid for out of the customers' payments under the cap and trade program.
- Lost revenue adjustments should continue and be paid for in the same way.
- Shareholder incentives should continue but based on new metrics related to reducing carbon and energy intensity, and be paid from utility revenues from those customer classes.
- Programs for these customers could also include fuel switching programs, including geothermal heat pumps and solar thermal water heating on a subdivision scale or financing/rentals of individual heat pumps or solar thermal water heating for business and homes.

BOMA would prefer that geothermal heat pumps on a subdivision scale be included in the utilities' rate bases. After all, the pipes associated with moving natural gas have been included in rate base forever. It would be an important signal to a new business model for the natural gas utilities if their transportation of renewable energy such as geothermal and solar thermal water heating was treated the same.

Additional Information on Measuring Energy Intensity

The Toronto & Region Conservation Authority has been using energy intensity measurements for its programs such as Sustainable Schools, Greening Health Care and the Mayors' Megawatt Challenge for almost a decade. CivicAction's Race to Reduce followed the same approach. Each

of these programs has achieved world-class results for their respective sectors in terms of empowering substantial, real savings measured at the meter. Measurement includes both energy intensity reductions and utility cost savings as well as the impact on greenhouse gas emissions. The description of the process and application of energy intensity measurement is described below.⁴

2017 Top Energy Performing School Boards Report

Toronto & Region Conservation is pleased to announce the top twenty most energy efficient school boards in Ontario, based on reported data for the September 2014 – August 2015 school year.

The report uses analysis of energy use and building information for Ontario's 5,000 schools and board administration buildings, as publicly reported by the 72 school boards. Energy targets are set for every building based on top quartile (good practice) standards, normalized for building type and area, weather differences and many site-specific variables. The energy savings potential is determined for each building as the difference between actual energy use and the target, and the energy efficiency of the school board is determined by rolling up results for all their buildings. For the white paper outlining the methodology, visit www.sustainableschools.ca.

The Top Twenty School Boards: The savings potential across all boards ranges from a little over 10% for the most efficient to more than 40%. The top twenty boards with the least savings potential are recognized below, along with their rankings in the 2016 report, and their remaining potential for energy, utility cost and greenhouse gas emissions savings.

The total energy savings potential across all boards is 29.8%, worth over \$70 million annually at 2015 utility rates, accounting for 294,000 tonnes of avoidable greenhouse gas emissions. Natural gas has a bigger percentage savings potential than electricity, and offers the larger share of emissions reductions.

Every school board, even the top-performers, has individual buildings with high savings potential which are identified through this analysis. The best way to achieve the greatest energy, economic and environmental returns is to focus resources on these high-potential buildings. Across all of Ontario's boards, 41% of buildings (1,987 facilities) have annual utility cost savings potential of \$10,000 or more, and account for 83% of total utility cost savings and 72% of greenhouse gas emissions reductions.

A major benefit of shifting to measurement and verification of energy savings based on metered data rather than assumptions and calculations is that it enables whole sector reporting, rather than just the buildings which made use of utility company DSM programs. It is likely that most buildings which received incentive payments under DSM programs achieved savings (the amount of which can now be readily verified through the Green Energy Act data). However, other

⁴ <http://sustainableschools.ca/wp-content/uploads/2017/06/2017-SUS-Top-Energy-Performing-Boards-report-1.pdf>

buildings had increases for operational and maintenance reasons, resulting (for example) in a net increase in weather-normalized gas consumption and emissions for the schools’ sector in 2014-15 compared against 2013-14 (as reported in the 2017 Sustainable Schools report). Such absolute, whole sector reporting of natural gas use and emissions is essential for verifying compliance with Ontario’s greenhouse gas emissions reduction targets.

Intensity-based Performance Metrics for Shareholders’ Incentives

Currently, shareholder incentives are based on scorecards which are a mixture of estimated savings (m³), participation targets and activity based counts. Changing to intensity-based performance metrics can readily be implemented by embracing performance based conservation in which the results are measured by metered data, not estimates and assumptions.

Metrics could be developed that reward utilities for helping the lowest quartile of customers (with the greatest savings potential) achieve energy intensity equal to or better than the top quartile of customers, or to help any customers below the median achieve a given percentage of improvement. In any event, the utilities should be targeting the most energy intensive buildings first.

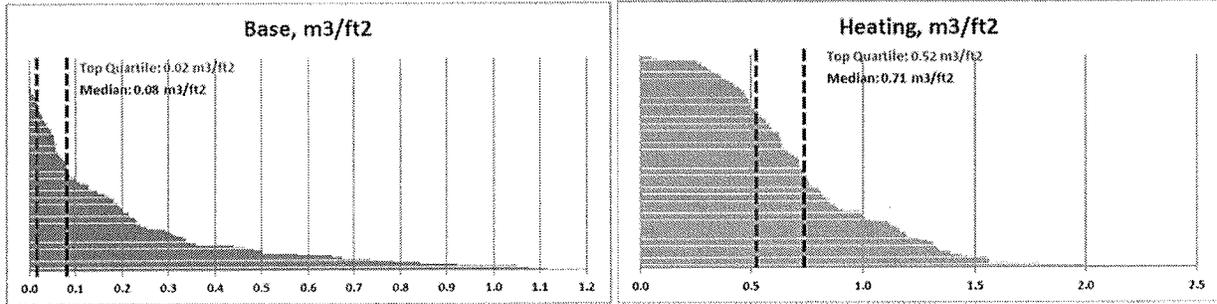
The evidence cited below illustrates the distribution of a typical cohort of customers in the commercial sector in terms of energy intensity.

Sector: Office Buildings

Number of buildings: 123
 Total building area, ft2: 42,000,827

Gas usage	Savings potential, % at the attainment of	
	Median	Top Quartile
Base	65%	87%
Heating	23%	39%
Total	29%	46%

Based on 2010 data weather-normalized to Toronto. Data centres have been excluded.



In 2013, Environmental Defense submitted evidence to proceeding EB-2012-0451 — Enbridge Gas Distribution Inc. (“Enbridge”) which suggested how this can be done.⁵

Performance Based Conservation

Performance based conservation begins with identifying high energy intensity buildings through benchmarking, and then works systematically towards identifying and fixing the inefficiencies causing the high use in each individual

⁵ EB-2012-0451, EB-2012-0433, EB-2013-0074, Filed: 2013-06-28, Exhibit L.EGD.ED.1

building. The nature of the inefficiencies runs the range of errors in design and construction, through equipment deterioration over time, to changes in use and operation of the building, and poor performance of controls and automation systems. It is the compound effect of these problems that leads to gas use levels in some buildings which are 3 to 5 times (emphasis added) what is needed and already achieved by comparable, more efficient buildings.

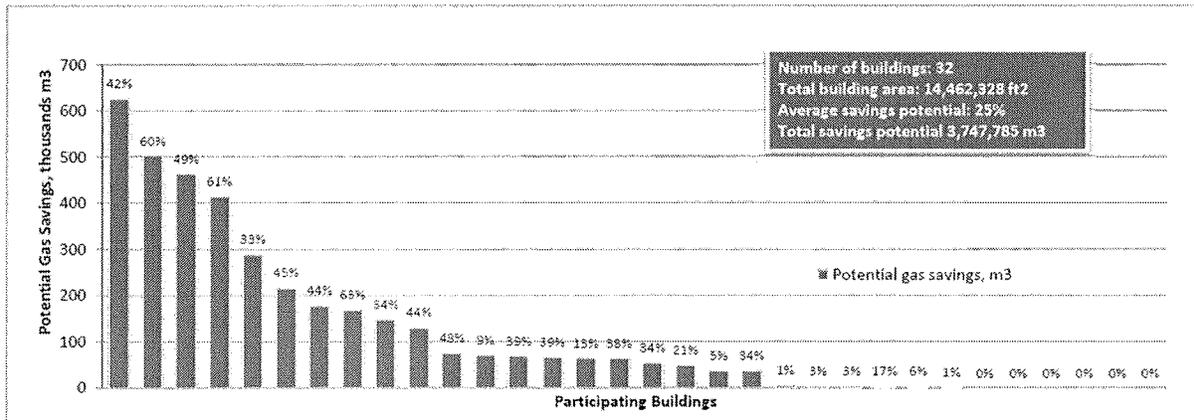
Fixing these problems requires a systematic methodology. The work involved in equipment repairs and replacement, right-sizing and rebalancing, refurbishment and re-programming, typically provides relatively short payback periods.

Performance-based conservation begins with identification of buildings with the greatest potential for savings. Enerlife piloted this approach in 2012 on behalf of Enbridge, through a workshop provided to Race to Reduce participants that addressed 31 commercial office buildings with a total area of over 14 million square feet.

Benchmarking and target-setting identified the range of gas savings potential shown in the chart below. The analysis for each building was provided to the participant in a standardized energy assessment report. A facilitated workshop then provided training in which specific measures were indicated to achieve the targeted savings in each building, enabling each participant to produce their own customized gas conservation action plan, and enabling Enbridge Energy Solutions Consultants to follow up with technical and incentive support to deliver the savings.

Race to Reduce - Gas Conservation Action Plan Workshop Results

December 2012



This illustrates the importance of identifying buildings in each sector with the greatest potential gas savings. In contrast to the premise of current DSM programs, with performance-based conservation all buildings are NOT equal. Some have considerable gas reduction potential while others have little or none. Applying this performance-based approach across each building sector will enable Enbridge to focus its efforts on customers and buildings with the greatest DSM potential, and help them identify the specific actions and measures which will achieve the greatest savings results.

If this approach was applied to the GTA project influence area, using Enbridge's derived 2012 Customer Counts and the Performance-based model forecast of savings, 70,041 customers (including 40,334 residential) would provide 48% of savings.

Identifying and addressing inefficiencies requires a savings focused approach to DSM. Trained people with skill sets of energy analysts, commissioning agents and energy efficiency engineers, focused on getting to energy savings as quickly as possible, are needed to work with building operations staff to deliver the savings in every high potential building, thereby contributing to the greatest extent possible to meeting Ontario's emissions reduction targets. Such outcomes-based strategies and incentives prioritize scheduling optimization, maintenance and control improvements and other savings opportunities that use lower cost technology to achieve the biggest saving, can be implemented quickly and have the best economic returns on investment.