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RE: Clean Air Council Submissions on the Post-2020 Demand Side Management (DSM) Framework for Natural Gas Distributors Board File Number: EB-2019-0003

The Clean Air Council (CAC) is a network of 28[1] municipalities and health units from across the Greater Toronto, Hamilton and Southwestern Ontario region. CAC members work collaboratively on the development and implementation of energy conservation, clean air, and climate change mitigation and adaptation actions. Municipal staff representatives on the Clean Air Council (CAC) were consulted in the preparation of this submission to reflect the priorities and directions of the member municipalities, but direct endorsement of this document by municipal councils was not sought due to the limited time frame of consultations. CAC representatives are the municipal change agents within leading energy conservation municipalities and have been working collaboratively across the region for almost 20 years to support and enable progress on energy conservation, clean air and climate change actions.

The consultations were facilitated by the Clean Air Partnership (CAP). CAP is a charitable environmental organization whose mission is to collaborate with municipal governments and their stakeholders in order to enable communities to reduce their greenhouse gas emissions (GHGs) and air pollution, increase their resiliency to extreme weather, and make advancements towards a low carbon economy. CAP serves as the secretariat for the Clean Air Council.

The Clean Air Council and Clean Air Partnership recommends that in order to ensure continuity and momentum of DSM program benefits in Ontario that the OEB set a timeline to finalize the post 2020 Framework and then enable review and approval of a DSM plan prior to the end of 2020.

The Clean Air Council and Clean Air Partnership would also like to provide the feedback below to the questions posed by the post 2020 Natural Gas DSM Framework consultation.

Principles

[1] [1] CAC Municipal and Public Health Unit members include: Ajax, Aurora, Brampton, Burlington, Caledon, Clarington, Durham Region, East Gwillimbury, Halton Region, Halton Hills, Hamilton, King, London, Markham, Mississauga, Newmarket, Oakville, Peel Region, Pickering, Richmond Hill, Simcoe-Muskoka District Health Unit, Toronto, Vaughan, Whitby, Windsor, York Region.

Do the guiding principles from the 2015-2020 DSM Framework remain appropriate? If not, what principles are needed and why?

1. **Invest in DSM where the cost is equal to or lower than capital investments and/or the purchase of natural gas.**
2. **Achieve all cost-effective DSM that result in a reasonable rate impact.**

We recommend merging Principle 1 and 2 together to simply state "**Achieve all cost-effective DSM".**

In addition to the cost-effectiveness calculations, there is also the need to align greenhouse gas reductions goals with the DSM Targets. The cost-effectiveness calculation methodology should capture costs and benefits at levels beyond the utility scale, including the real value of the environmental benefits of GHG and air pollution reductions. These include impacts on rate-payers, participants, low-income segments, and impacts to health, and environment. The methodology should also include economic co-benefits, such as the number of job hours created. While quantifying these costs and benefits can be challenging, other recognized methodologies provide the structure to do so. For example, the Total Resource Cost Test (TRC) methodology factors in costs and benefits experienced by the utility system as well as program participants, and the Societal Cost Test (SC) takes into account the real costs and benefits experienced by all members of society. Finally, it is imperative to increase the transparency of the cost-effectiveness calculations, regardless of which test is used, so that which factors are included in the tests are understood.

Different cost-effectiveness ranges will be needed for different programs (ex. deeper reduction and market transformation programs); sectors (low income, industrial, residential, etc); and geographies (rural, northern, etc). In addition, the cost-effectiveness framework should prioritize the impacts on customer energy bills and not simply on rate impacts to more adequately reflect the value of programs to customers.

The Clean Air Council recommends that consultations across stakeholder groups occurs regarding the Cost-Effectiveness Framework.

3. **Where appropriate, coordinate and integrate DSM and electricity CDM efforts to achieve efficiencies.**

Significant opportunities remain to further advance this principle to serve the energy and financial needs of Ontario utility customers. Our goal of meeting Ontarians' energy needs is undermined by the siloed approach of electricity and natural gas planning. Potential benefits of increasing the coordination and integration of natural gas DSM programs and electricity CDM programs include: lower program costs, enhanced reach, greater clarity in the market, and lower transaction costs for consumers. Coordination and/or integration are most important for programs that target market transformation, mass markets, and multi-measure, whole-building retrofits – key areas that the upcoming Framework should prioritize for future program development.

Principle # 3 could be merged with **Principle # 10: Ensure DSM is considered in gas utility infrastructure planning at the regional and local levels.**
Increasing alignment between natural gas DSM, electricity CDM, and local energy programs and infrastructure energy planning should be a key priority in the Post-2020 Framework.

Clean Air Partnership and QUEST worked together with natural gas, electricity utilities, the IESO and local governments to identify alignment opportunities and actions that could be undertaken to advance this Principle. Our recommendations can be found in this report: https://cleanairpartnership.org/cac/wp-content/uploads/2019/06/Toward-Planning-Alignment-Report-Online.pdf.

An energy transformation is on the horizon and approaching quickly in Ontario. Therefore, it is critical to develop an **Energy Transition Decision Making Matrix** that provides a framework for prioritizing a way to meet the energy needs of Ontarians' in a manner that is both cost-effective and minimizes environmental and social impacts. Distributed energy opportunities need to be considered alongside more traditional centralized energy systems. Reducing the need for infrastructure investments should be factored into the cost effectiveness calculations. This is vital in areas of new growth where the process should be able to compare different options for meeting the community's energy needs. CAC members would like to work with provincial and utility partners to develop, test and analyze the following:

1. Identify potential futures: Accessing ever deeper energy efficiency opportunities (Conservation First principle); business as usual (centralized system with infrastructure/pipeline investments); decentralized generation (community level); individual generation (not connected to any other grid simply at the building level) and how these scenarios impact or support each other.
2. Identification of the various pros and cons; costs and benefits associated with each of the scenarios, and development of a decision matrix to compare them.
3. Review of tvarious scenarios from a variety of different lenses: provincial system, local/community system; resilience; climate; economics and economic development; social, short-term, longer-term, market transformation, etc.

At present, there is no consistent methodology that enables various stakeholders to determine how to meet the specific energy needs of their community using economic, social and environmental parameters. As more cost-effective opportunities become available for communities to meet their energy needs at a more localized level, being able to compare options for meeting those energy needs in a consistent and transparent way will be critical to ensuring prudent decision making for Ontarians.

Back up power generation is another area that would benefit from increased coordination and alignment between natural gas and electricity utilities and has the potential to deliver significant service efficiencies for customers and Ontario's energy system.

For example there is an abundance of natural gas back-up power generators throughout the province that are used at very low capacity factors due to emission limits set out in Certificates

of Approvals. As back up generators require replacement, a program to incentivize the installation of clean Distributed Energy Resources (DERs), likely in the form of battery power storage, could provide a host of benefits for the customer, natural gas distribution company, and Independent Electricity System Operator (IESO).

Potential Benefits

- **Gas Distribution Company:** Global adjustment, and Class A customers chasing peak demand events, can influence when natural gas backup generators are fired up for their monthly testing. With a Certificate of Approval limiting the run time of back-up generators, intelligent Class A customers will try to time this permitted testing duration during a peak event. With the large amount of electricity load Class A customers are trying to curtail during events, it is suspected that this can result in peak natural gas demand. This in turn might lead to poor gas load factors and over-investment in infrastructure to reliably service peak gas demand events. With fewer natural gas generators in operation, and the ability of Class A customers to curtail load with the use of stored electricity via a battery bank and DER management system, it is hypothesized that distribution infrastructure costs can be reduced.
- **Independent Electricity System Operator:** More DERs can be leveraged and enrolled to participate in provincial demand response programs. Battery banks can be charged during off-peak times, and used to level peaks during on-peak times. Significant amounts of stored energy can increase competition and lower costs for the rate payer when generators are submitting bids to produce electricity.
- **Ratepayer:** A clean DER is an asset that can take advantage of the Hourly Ontario Electricity Price (HOEP). For the Class A customer, they can leverage this asset to reduce peak demand during events which determine their global adjustment rates. Minimizing a ratepayer's power demand during times of provincial peak demand can reduce greenhouse gas (GHG) emissions if electricity generation fuel sources are accounted for hourly.

4. Gas utilities will be able to recover costs and lost revenues from DSM programs.

Principle # 4 and Principle # 9: Shareholder incentives will be commensurate with performance and efficient use of funds can be merged together.

If gas utilities are to pursue all cost effective DSM, they must be able to recover the costs of doing so.

With respect to Principle 9, principle utility shareholder incentives should be large enough to engage senior management, attract good staff to work on DSM, and to make the pursuit of all cost-effective efficiency at least as profitable for the utility as not promoting efficiency would be (along with lost revenue adjustments and other policies). It would also be valuable to align

the incentives with GHG reduction targets to achieve synergies between natural gas DSM and GHG reduction targets. The incentives should be only as large as necessary to accomplish those objectives, so that customer cost efficiencies are not undermined.

With those objectives in mind, it may be useful to benchmark Ontario's gas incentives against those available in other jurisdictions. One commonly used benchmark is the size of the incentives in comparison to DSM budgets. However, that benchmark is only relevant if the DSM budgets of the comparison jurisdictions are also comparable to those in Ontario. In the past DSM framework, Ontario's gas DSM spending has been much lower than spending in other leading jurisdictions. For example, when expressed as a percent of DSM budget, Ontario utilities' maximum shareholder incentive is more than twice that of the Michigan utilities and nearly ten times that of the Massachusetts. However, when normalized to each jurisdiction's annual gas sales, Ontario's is fairly similar to both jurisdictions. This suggests that shareholder incentives could be held to current levels, or perhaps increased modestly, even if future budgets and spending are increased fairly dramatically.

5. Design programs so that they achieve high customer participation levels.

The above principle should remain important in the upcoming Framework, but should be strengthened so that it ensures high customer participation rates across various sectors. The past framework prioritized the industrial sector (and to a lesser extent the commercial/institutional sector) due to their ability to provide more cost effective reductions. As such, there has been a tendency for the residential sector to subsidize the DSM programs for those sectors. This cross-subsidization should be factored into the cost-effectiveness calculations to ensure equity and fairness across the sectors as well as across geographies. In order to ensure equity across stakeholder groups, it may be required to set different cost-effective criteria across the sectors. For example, it will be very difficult to achieve as high a level of cost effectiveness and customer participation in the residential sector as it would be in the industrial sector. There is the need to balance out cost-effectiveness with equity across the different sectors. It is also important that participation levels are considered as part of a portfolio rather that at the individual program level. It would also be preferable that program design and evaluation also take into consideration not just initial customer participation but sustaining customer participation over time.

In addition, there is the need for the post-2020 Framework to place a greater emphasis on education on the personal as well as societal value of DSM program and opportunities. More educational messaging and programming has occurred in the electricity sector than has occurred in the natural gas sector and that may be one of the factors that have resulted in less uptake on natural gas programs in comparison to electricity programs. Strengthening the communications related to the connection between climate change, Ontario's GHG reductions targets and natural gas use would likely increase customer participation rates, particularly in the harder to reach residential and commercial sectors.

Substantial customer participation level increases can occur through the use of technology engagement tools and capacity building programs. For example, the embedded and roving energy managers supported by the IESO and electrical utilities have played a significant part in

increasing uptake of the electricity (as well as DSM) programs available across a variety of sectors. This program increased capacity across sectors thereby resulting in increased program uptake and results over the longer term.

6. Minimize lost opportunities when implementing energy efficient upgrades.

The current cost-effectiveness calculations used to determine program/measure selection tends to favour reductions that have very short payback periods. This has created a situation where achieving deeper energy reductions will become even less cost effective over time. As such, this results in the need for a different cost-effectiveness calculation to be developed to ensure future programs are better able to bundle those lower cost measures with higher cost (but deeper reduction) measures. It is likely that future DSM programs will need to include financing as well as incentives to be able to ensure that measures with both shorter and longer payback periods are bundled together better. In addition, there will likely be the need to factor in market transformation programs in order to ensure that lost opportunities are not further exacerbated by simply focusing on short-term payback actions and programs.

Lost opportunities should be a key consideration for new construction. At the construction stage, the greatest opportunities exist to apply the Decision Making Metrix mentioned in Principle 3.

7. Ensure low-income programs are accessible across the province.

This principle is one where significant improvements are needed. The low income and energy poverty sector program offerings and opportunities should be significantly increased in the post-2020 DSM Framework.

Energy poverty (defined as spending more than 6% of income on energy costs) is a major concern that should be addressed in any DSM Framework. However, many of the incentives and rebate programs being delivered cannot be accessed by low-income households due to the requirements for up-front capital to match contributions from the participant. Low-income programs that do not have any cost matching elements are being delivered, but they often do not capture the whole energy reductions opportunities available or reduce energy poverty in a meaningful way.

Deeper energy saving programs with financing opportunities can address the gap between potential energy savings and long-term energy costs. Energy poverty can only be addressed by achieving deep energy reductions (30% or more) rather than the 5% often achieved via existing low income DSM programs. Ontario should adopt the best practices from effective low-income programs offered by other leading jurisdictions.

8. Programs should be designed to pursue long-term energy savings.

Similar to Principle #6 there has been a tendency for existing DSM programs to focus on the lower cost/higher payback measures. The post-2020 DSM Framework should address ways to achieve deeper energy savings (30% or more) as well as opportunities for market

transformation. Across other jurisdictions, best practices include different cost-effectiveness calculations for programs that achieve deeper energy savings, and separate cost-effectiveness calculations for programs that address market transformation issues. The present DSM Framework does not address these significant objectives.

Additional Principle that should be added into post 2020 DSM Framework

DSM and GHG Reduction Target Alignment

At a minimum, the post-2020 DSM Framework target should align with the Province of Ontario's Environment Plan GHG reduction targets. The new 2030 target committed to in Ontario's Environment Plan requires a total of 18 Mt of reduction in annual emissions from current levels, with 18% of that reduction coming from enhanced natural gas DSM. This committed reduction equates to 3.24Mt reduction in annual emissions from natural gas DSM.

The GHG reduction targets outlined by the IPCC (a 30 - 45% reduction from 2010 levels by 2030; and an 80% reduction to net zero by 2050) should also be recognized. IPCC notes that global average increases must be kept below the 1.5 degree Celsius increase in order to avoid triggering catastrophic feedback loops. The post-2020 Framework should align its required natural gas reductions with those science-based targets and provide a corresponding budget for the time frame of the post-2020 Framework. In addition, deeper energy reductions and market transformation should be outlined to set a course for those required 2030 and 2050 targets. While Canada's emissions account for 1.6% of global emissions, it is critical that Canada and Ontario's climate commitments remain aggressive. Only 8 countries have a higher contribution to total global greenhouse gas emissions (China @ 25.9%; United States @ 14.75%; India @ 6.43%; Russia @ 4.86%; Japan @ 3%; Brazil @ 2.25%; Germany @ 1.98%; and Indonesia @ 1.64%). It is only by all countries and provinces advancing towards the targets set out by the IPCC that we will be able to ensure that the global community meets the climate challenge ahead of us.

There are many reasons for Ontario to invest in a low carbon economy. There are real business advantages in energy cost savings in addition to being necessary for addressing climate change. The International Energy Agency (IEA) estimates that an investment of $10.5 trillion is needed globally in low-carbon energy technologies and energy efficiency by 2030. This estimate is across all sectors, including power, transport, residential and commercial building equipment, and industrial sectors. This is a significant growth opportunity for Ontario's economy as it relates to electric and autonomous vehicles, and building energy efficiency renovations (which create lasting, local well-paying jobs). Lastly, it provides the opportunity for Ontario to participate as a key player in the emerging low carbon economy while making our communities better places to live.

Scope: Should the OEB undertake major revisions to the 2015-2020 DSM Framework or focus on specific updates that are more minor in nature?

The Clean Air Council and Clean Air Partnership believes that the post-2020 DSM Framework's Principles can be improved and strengthened by incorporating the above recommendations. By doing so, we will ensure that Ontario is better positioned to meet the energy saving opportunities available as well as the upcoming energy transformation headed our way. Over the course of the present DSM Framework time period significant lessons were learned by Ontario's natural gas utilities as well those in other jurisdictions, and by other stakeholders actively involved in reducing energy use and energy infrastructure investments. It is in the best interests of Ontarians that Ontario's Post 2020 DSM Framework ensures those best practices and benefits are advanced to the greatest extent possible.

Data Accessibility and Reducing Costs Associated with Data Accessibility

Regarding energy data, the OEB, the Utilities, the Ministry of Energy, Northern Development and Mines and municipalities must work together to improve access to energy use data to better inform how energy is used in Ontario communities. Municipalities have had to allocate a significant amount of time and staff resources to gathering energy use data for their Climate and Energy Plans. This data collection effort has reduced the resources available for implementation and is highly inefficient. In addition, utilities have had to deal with data requests from a large number of individual municipalities. A further consistent and aggregated method for accessing community utility data is needed.

It is the hope of the Clean Air Council member municipalities that the Ontario Energy Board will amend its Reporting and Record Keeping Requirements (RRR) to include municipal-level energy volume data for natural gas distributors (ideally for electricity suppliers too but recognizing this submission speaks to the natural gas DSM Framework). In addition, access to that data separated by sector (residential, industrial, commercial, institutional) would be of most use for energy planning.

By requiring the reporting of city-specific energy volume data, municipalities can regularly produce local GHG inventories and develop strategic, effective climate action plans, community energy plans, and policies and programs that address their specific situations. While some cities are able to access these data from their electric and gas utilities, many communities report ongoing challenges, ranging from extensive delays, to significant cost outlays and in some cases complete inability to access the data. According to a survey conducted by The Atmospheric Fund of municipalities in the Greater Toronto and Hamilton Area (GTHA), data access is the single largest barrier to developing/updating local GHG inventories, with 85% of cities reporting data access challenges.

Renewable Natural Gas

It will be important to be able to look at Renewable Natural Gas (RNG) and the role that municipal sewage and compost can play in increasing RNG supply. Advancing synergies between the upcoming federal Clean Fuel Standard and Ontario's DSM Framework would be of

significant value. Offsets may also play a role in creating RNG opportunities. The province, utilities and municipalities should work together to further develop the business case for RNG.

Goals and objectives: What should be the primary goal(s) and objective(s) of the post-2020 DSM Framework?

i. **Assist consumers in managing their energy bills through the reduction of natural gas consumption and other related costs.** Customers who participate in the DSM programs should see a decrease in their energy bills.

ii. **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.

iii. **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 avoid or defer future infrastructure costs.

It is highly recommended that the objectives of the post 2020 DSM Framework incorporate GHG reduction targets and the associated program portfolios (deeper reduction, market transformation and fuel switching programs) that would be required to achieve the GHG reduction targets. Integrating the GHG reduction goals/objectives into the post 2020 DSM Framework will help to ensure that Ontario is better positioned to be an active player in the emerging low carbon economy.

The Clean Air Council and Clean Air Partnership would like to thank the Ontario Energy Board (OEB) for considering this input and extends an invitation to the OEB to discuss these recommendations in more detail. We would be pleased to facilitate a consultation between the OEB, the Ministry of Energy, Mines and Northern Development and municipalities to explore ways to collaborate on creating the energy efficient, low carbon, livable, resilient, and competitive communities that Ontarians desire.

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