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RE: Clean Air Council Submissions on the update to Ontario’s Long Term Energy Plan via the Planning Ontario’s Energy Future Discussion Guide and EBR Posting 012-8840.

The Clean Air Council would like to commend the Province of Ontario for undertaking a consultation process as part of its update to the Long Term Energy Plan as well as for the efforts the Province has undertaken in seeking public feedback as it proceeds in updating various Plans and Acts (Land Use Plan, Municipal and City of Toronto Act, Climate Change Action Plan, etc.). What follows is a summary of feedback received by the Clean Air Council membership as part of a consultation process guided by questions identified in the Planning Ontario’s Energy Future Discussion Guide and facilitated by Clean Air Partnership (secretariat for the Clean Air Council). The Clean Air Council¹ (CAC) is a network of 27 municipalities and health units from across the Greater Toronto, Hamilton, and South-Western Ontario Area. CAC members work collaboratively on the development and implementation of clean air and climate change mitigation and adaptation actions. More information on the Clean Air Council is available [here](#).

The Clean Air Council would also like to acknowledge and thank the Province of Ontario for:

- being the first north American jurisdiction to phase out coal fired electricity generation and the resulting reductions in air pollution and health impacts and costs that phase out has resulted in;
- setting Conservation Demand Management targets for Ontario electric and gas utilities that have been able to increase energy efficiency within Ontario communities;
- passing the Green Energy Act that has enabled Ontario to increase its share of electricity generated via solar, wind and bioenergy from less than 1% in 2006 to 9% in 2015 and the role it has played in building local renewable energy capacity and manufacturing in Ontario;
- supporting municipalities in the development of Community Energy Plans (CEPs);
- passing the Climate Change Mitigation and Low-Carbon Economy Act and the subsequent adoption of the Climate Change Action Plan; and
- Considering all energy sources (and not just electricity) within the update of this LTEP.

It is well received by Clean Air Council members that efforts are being made to align the upcoming Long Term Energy Plan and Climate Change Action Plan, and to support their respective implementation.

The need to increase alignment between Community Energy Plans (CEPs) and Provincial Energy Plans and decision making remains a priority for Clean Air Council members. As such CAC members have a strong desire to work in greater partnership with the various ministries (ex. Energy, Environment and

¹ Municipal staff representatives on the Clean Air Council (CAC) were consulted in the preparation of this submission to reflect the feedback of member municipalities but direct endorsement of this submission by municipal councils was not sought as many municipalities are preparing their own independent submissions. CAC representatives are the municipal change agents within leading climate action municipalities and have been working collaboratively across the region for the last 15 years to support and enable progress on clean air and climate change actions. The consultation undertaken were facilitated and are endorsed by the Clean Air Partnership, a charitable environmental organization that serves as the secretariat for the Clean Air Council.

Climate Change, Municipal Affairs) and agencies (ex. IESO, Utilities, OEB) to ensure Ontario can take maximum advantage of existing energy investments while also ensuring our participation in the rapidly emerging field of distributed energy. It is by finding the right balance and alignment between our existing energy system and our future energy systems that Ontario can best position itself to meet its economic, environmental and resiliency goals.

Feedback from CAC on Select Discussion Guide Questions

Q 1: How can local energy plans integrate with broader planning? How do we ensure that we better integrate fuels and electricity planning with broader community planning? What critical research areas will help us better understand intra-municipal capacity in CEPs? What do we need to know to understand how we can improve and increase the capacity within municipalities to enable the implementation of community energy?

- **Increase Energy Literacy:** Community Energy Planning was referenced within the Climate Action Plan, however in order to better integrate it with the Long Term Energy Plan there is the need to increase energy literacy for municipalities and the public. As such, there is the need to increase understanding of the provincial electrical system and the factors affecting it. There is also the need to consider both electricity and natural gas in a more integrated fashion. Increased municipal leadership in the development of CEPs plays a significant role in increasing that energy literacy, not just at the municipal level but also at the community level. However more effort needs to be made by all levels of government to increase the energy literacy of Ontarians.
- **Improve the ability of Municipalities and their Stakeholders to Implement CEPs:** While CEPs are challenging to develop, their implementation is an even greater challenge. There are significant regulatory, bureaucratic, institutional and financial barriers associated with advancing community energy projects. Initial barriers identified by municipalities include, but are not limited to: A) The role that utilities can and cannot play in community energy within their regulated utility and the administration associated with setting up an unregulated arm to the utility. B) How community energy projects can be financed: Ontario's centralized energy system investments can be paid for by the rate base while community energy projects are ineligible to mobilize capital through the same base, thereby placing it at a significant financial disadvantage.
- **District energy systems can play a substantially larger role in enabling communities to meet their electricity and thermal needs in a more efficient and cost effective manner.** However in order for district energy to generate greenhouse gas reduction and resilience opportunities, the Province must review the business model related to district energy and how it is currently supported or undermined. Possibly the CCAP's Challenge Fund may be able to help augment the district energy business case and serve as a means to further district energy's low carbon potential.
- **Green Development Standards/Climate Change by-laws may be able to support community energy implementation but only if municipal authority in this area extends to the building level.** The Clean Air Council network commends the Province on recent proposed amendments to the Municipal Act and City of Toronto Act providing greater clarity on the ability of municipalities to enact by-laws to address their environmental priorities and looks forward to working with the Ministry of Municipal Affairs on updates to the Ontario Building Code to bring the Code into alignment with the Province's Climate Change Action Plan. For example, expanding the net metering program and coupling it with deep energy retrofits (for existing

building stock) and higher energy efficiency standards (for new building stock) as well as widespread emerging local storage opportunities at the building and community level will advance efforts towards the achievement of net zero energy/carbon communities.

- **There is the Need to Develop an Energy Transition Road Map and Decision Making Matrix.** The province, municipalities and utilities need to work together to develop and navigate a road map for the transition to a more decentralized energy system. Suggestions that CAC members would like to work with provincial and utility partners to develop and test include analysis of the following:
 1. Identify potential futures: Accessing ever deeper energy efficiency opportunities (Conservation First principle); business as usual generation (centralized system); decentralized generation (community with or without micro grid); individual generation (not connected up 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 among them.
 3. Review of the various 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.

Q # 2: What are the significant challenges facing utilities and what can government do to meet them?

- **There are regulatory limitations for utilities to engage in Community Energy Planning based in applying rate-based financing.** Some utilities have created subsidiaries to their regulated utility to address this barrier; however financing community energy projects remains challenging. Community energy projects cannot access rate based financing and municipalities have been unable to mandate energy connections to ensure a long-term customer base for community energy projects. To address the regulatory framework in which community energy projects exist, the Province and Municipalities must work together.
- **In order to increase alignment between land use planning and energy planning, municipal planners and utility planners should be more proactive in identifying energy demand from new developments.** It is important to recognize energy limitations and where community energy may be best able to address local energy demand. Increased communication earlier in the process by the necessary stakeholders may also address the challenges distributed energy projects face when connecting to the existing grid and how targeted conservation and distributed renewables can best reduce need for new transmission and distribution infrastructure. This consideration should also be applied to the IESO's Regional Energy Planning exercise through incorporation of a lens for decentralized electricity systems as an alternative to, or complement to, future investments in electrical transmission and distribution infrastructure.

Q # 3: What are the most important benefits of a modern grid? Increased reliability? Greater information on your energy usage?

- It is imperative that as investments are undertaken to improve Ontario's electricity grid that the improvements made are able to serve Ontario well into the future. A modern and "smarter" grid would best position Ontario communities to increase their ability to participate in the rapidly emerging distributed and flexible energy system by enabling buildings and householders to

move towards being able to track and understand their energy decisions. Possibly enabling them to switch between different energy uses (electricity, gas, storage, etc) in real-time based on prices or carbon content of the energy source. To leverage such flexibility and control will however, require a smart grid, a smart building and smart appliances as well as increased energy literacy and relationships between consumers, utilities and other decision makers. No matter what our future energy system evolves into, Ontario's grid needs to be modernized so that it does not become a limiting factor in enabling increased flexibility and ability of new and emerging energy opportunities.

- Regarding energy data, the Ministry of Energy and CAC members need to work together much more in order to improve access to energy use data to help understand how energy is used in Ontario communities. From past experience, municipalities have had to allocate a significant amount of time and staff resources to gathering energy use data for their CEPs. This increased time and staff resources for data collection has reduced the resources available for implementation and is highly inefficient. Improving access to community energy use as well as analysis was identified as part of the province's Climate Change Action Plan and references to furthering that goal should also be addressed in the upcoming Long Term Energy Plan.

Q # 4: What additional policies should the government consider to expand access to natural gas? What actions could the government take to support the adoption of alternative fuels?

- Prior to expanding the natural gas distribution system it is important to compare scenarios for meeting the energy heating needs via natural gas expansion or through energy efficiency, district energy and/or heat pump use. Considerations for expansion of natural gas need to be reviewed through various perspectives (economic, greenhouse gas, resilience, new technologies and efficiency opportunities) to understand the various pros and cons of different options. Hence the need yet again for the above mentioned **Energy Transition Road Map and Decision Making Matrix**.
- In order to address natural gas use within the existing building stock, deep energy efficiency improvements are required over a greater scale. Reducing the thermal requirements of our existing building stock is imperative in building the economic case for fuel switching.
- **The Clean Air Council network strongly encourages the Province to bring natural gas CDM targets into alignment with the Climate Change Action Plan greenhouse gas reduction targets.**
- **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.** Offsets may also create RNG opportunities. There is a need for the province, utilities and municipalities to work together to further develop the business case for RNG. In addition, the province should set RNG targets.

Q # 5: How can Ontario further support innovative energy storage technologies that leverage our existing natural gas infrastructure assets and take advantage of our clean electricity system? What role do you foresee for natural gas to supplement and complement the province's existing electricity storage options?

- Storage is integral to managing renewable and distributed energy opportunities. Many more storage projects (both electrical and thermal) need to be undertaken to ensure that all energy stakeholders in Ontario understand how storage can support distributed and renewable energy and associated policy goals. More information is needed on potential safety issues. There is an

increased need to ensure that accurate information is shared and communicated. Resilience is another lens that needs to be applied towards storage considerations.

- More research and capacity-building are needed regarding the use of gas as a storage option and in reducing peak electricity needs.

Q # 6: What are the best uses of microgrids in Ontario? Are there any barriers preventing the use of microgrids?

- Micro grids are important in the technological advancement of our communities' energy systems. A greater understanding of micro grid projects being undertaken is needed to identify the opportunities and challenges of moving away from our traditional grids. The Clean Air Council looks forward to learning more from the IESO and utilities on micro grid projects being tested in Ontario.

Q # 7: Is the current "user pay" model an effective way to meet Ontario's needs? Does it appropriately balance the goals of economic development and protecting taxpayers?

- It is important for energy costs to be allocated to energy users as accurately as possible rather than being subsidized through the general tax base. However, it is also important that energy costs are transparent and clearly articulated to Ontarians. To do this, energy literacy needs to be significantly increased; especially as it relates to electricity pricing. It is often misconceived that green energy projects have been the main reason for electricity price increases. Ontarians need to understand that within the 2015 Global Adjustment (GA) calculations while green energy investments did account for approximately 27% of the GA (12% Wind; 13% Solar; and 2% Bioenergy), nuclear refurbishments accounted for 39%; Gas/Oil for 17%; Hydro for 13% and Conservation for 4% of the GA.ⁱ In addition, few Ontarians realize that while electricity prices were capped in the early to mid 2000s at 4.3 cents/kWh the difference between the electricity costs paid by the user and the amount that had to be paid to the generator resulted in about an additional \$730 million payment per year from the Ontario tax baseⁱⁱ.
- Having acknowledged the value and principle of the "user pay" approach, there is a need to ensure that those most vulnerable to energy price increases are provided with programs and support to address energy poverty. As such, lower income energy efficiency programs need to be scaled up. Toronto's Tower Renewal program provides an example of a program that could address those most vulnerable to energy costs if it were scaled up.
- Additionally, programs and policies need to be developed to address energy poverty and the challenge of addressing the split incentive problem (where tenants can't make upgrades to reduce their energy use but landlords have no incentive to invest in energy efficiency as they do not face the financial costs of energy use). For example, increased requirements on the part of landlords to publicly report on energy costs of their rental units may be able to increase the market for energy efficient rental units.

Q # 8: Should Ontario set provincial conservation targets for other fuel types such as natural gas, oil and propane? To meet the province's climate change objectives, how can existing or new conservation and

energy efficiency programs be enhanced in the near and longer term? How can we continue to inform and engage energy consumers?

- Despite Ontario's low carbon electricity supply, Ontario's energy sources as a whole are over 80% fossil fuel based and account for over 70% of Ontario's GHG emissionsⁱⁱⁱ. **In order for Ontario's LTEP to not conflict with Ontario's CCAP targets, it will need to provide proportional GHG reductions from fossil fuel energy sources. As such there is a very strong need for:**
 - Much greater emphasis on natural gas conservation. Ontario spends five times more on electricity conservation than natural gas conservation.
 - Much better integration between natural gas and electricity conservation incentives, and now provincial incentives under CCAP.
 - Conservation programs that support deep energy retrofits – currently, most conservation is shallow, picking low hanging fruit, which can actually impede potential to achieve deep energy retrofit savings over time. Deep retrofits across Ontario's building stock are required in order to achieve our GHG targets; therefore conservation programs need to encourage and support this level of ambition and thereby build industry capacity to deliver deep retrofits.
 - Incentives for fuel switching to electricity (heat pumps) for gas heated buildings. Presently there are no incentives and due to the significant price differential between electricity and natural gas costs, absent substantial incentives the electrification required for meeting GHG targets will not occur.
 - Increasing transportation options for Ontarians via increased electric vehicle use, transit use, carpooling, etc. Transportation is the largest sources of greenhouse gas emissions in Ontario and its contribution share increases with each passing year.
- Adopting and advancing policies such as Energy Reporting and Benchmarking and Home Energy Ratings and Disclosure will be critical to increasing energy literacy and informing and engaging energy consumers; but it is also critical that these policies are supported and accompanied by training and education.

The Clean Air Council would like to thank the Province for considering this input and extends an invitation to the Province and its Ministries to discuss these recommendations in more detail. Please contact Gabriella Kalapos at gkalapos@cleanairpartnership.org to identify a future Clean Air Council meeting where provincial staff and Clean Air Council representatives can further explore and collaborate on advancing Ontario's efforts to create the efficient, low carbon, livable, resilient and competitive communities Ontarians desire.

ⁱ IESO 2015 Global Adjustment by Fuel Source (Nuclear 39%; Hydro 13%; Gas/Oil 17%; Wind 12%; Solar 13%; Bioenergy 2%; and Conservation 4%)

ⁱⁱ Trebilcock, M & Hrab, R. What Will Keep Lights on in Ontario. C.D Howe Institute. November 2003, No. 191 available at:

https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/commentary_191.pdf

ⁱⁱⁱ Environmental Commissioner of Ontario. Developing the 2017 Long-Term Energy Plan. December 2016. Available at: <https://eco.on.ca/developing-the-2017-long-term-energy-plan/>