

Rachel Thompson

Ministry of Energy, Northern Development and Mines, Strategic Network and
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RE: **ERO number** 019-3007 – Long Term Energy Planning

Dear Ms. Thompson,

I am writing to you in response to the above posting on the Environmental Registry of Ontario.

I am a Professor of Environmental and Urban Change at York University, and Co-Chair of the Faculty of Environmental and Urban Change's [Sustainable Energy Initiative](#). I have published extensively on energy, electricity and climate change matters in Ontario over the past two decades. I have led or participated in major research projects related energy efficiency,¹ energy storage,² smart grids,³ distributed energy resources,⁴ and community energy planning,⁵ as well as energy sustainability,⁶ energy system assessment and planning,⁷ and climate change.⁸

With the cancellation of the planned 2021 Long-Term Energy Plan, the province currently has no meaningful planning frameworks around energy, electricity or climate change. All three elements are potentially related, as electrification, particularly around space heating and transportation, is likely to play

¹ Winfield, M., Love, P., Gaede, J., and Harbinson, S., [Unpacking the Climate Potential of Energy Efficiency: Effective and Resilient Governance for Energy Efficiency in Low-Carbon Sustainable Energy Transitions](#) (Toronto: Sustainable Energy Initiative, York University, 2020) .

² Winfield, M., Shokrzadeh, S., and Jones, A., "Energy Policy Regime Change and Advanced Energy Storage: A Comparative Analysis," *Energy Policy*, [Volume 115](#), April 2018, Pages 572-583.

³ Winfield, M., and Weiler, S., "Institutional diversity, policy niches, and smart grids: A review of the evolution of Smart Grid policy and practice in Ontario, Canada," *Renewable and Sustainable Energy Reviews vol. 82(P2)*, pages 1931-1938. (2018)

⁴ Winfield, M., and Gelfant G., "Distributed Energy Resource Development in Ontario: A socio-technical transition in progress?" *Energy Regulation Quarterly*, January 2020 - [Volume 7](#), Issue 4, 2019.

⁵ Winfield, M., Wyse, Susan M., and Harbinson, S., "Enabling community energy planning? Polycentricity, governance frameworks, and community energy planning in Canada," *Canadian Planning and Policy Journal* – in press.

⁶ Winfield, M., Gibson, R., Markvart, T., Gaudreau, K. and Taylor, J., "Implications of Sustainability Assessment for Electricity System Design: The case of the Ontario Power Authority's Integrated Power System Plan," *Energy Policy*, 38 (2010) 4115-4126.

⁷ Winfield, M., "Electricity Planning and Sustainability Assessment: The Ontario Experience," for R.B. Gibson, ed., *Sustainability Assessment: Applications*, (London: Earthscan, 2016)

⁸ D.Macdonald and M.Winfield "Federalism and Canadian Climate Change Policy" for G.Skogstad and H.Bakvis, eds., *Canadian Federalism (4th ed)* (Toronto: Oxford University Press 2020).



a significant role in decarbonizing the province's energy systems, and advancing Canada and Ontario's climate change goals and commitments. An energy systems integration approach⁹ will be necessary to achieve significant greenhouse gas emission reductions, while advancing the environmental and economic sustainability of the province's energy systems.

It is important to recognize how unusual Ontario's current situation is with respect to energy, and particularly electricity system, planning and regulation. The process has become subject to direct political management to a degree seen virtually nowhere else in North America, with minimal and highly constrained regulatory oversight from an economic perspective, and virtually none in environmental terms.¹⁰

I will focus my comments primarily on the planning process electricity, as this is the one area where there have been efforts at systems planning in the past, and as noted above, is likely to be a focal point for decarbonization efforts.

The experience of the past two decades indicates that the province needs a planning framework for its electricity and wider energy systems. Given the current pace of technological change in the energy sector, and wider structural economic change, major integrative system plans need to be produced at not more than 5-year intervals with annual updates/reviews in between. Entirely market-based models for energy system planning have failed and are unable to deal with the pace of change or provide for the required security or reliability of supply. Market mechanisms may have some useful roles to play in the overall process, particularly around the procurement of specific resources when needs are identified.

The direction for system plans needs to be set through legislation. The current practice of political micromanagement of the system through directives, an approach which has emerged in part due to the lack of an effective planning framework and process, needs to be curtailed. The province should speak through policy and legislation, and not intervene around the ongoing management of the system, except in exceptional circumstances.

The overall goals for energy system planning, set through legislation, should reflect sustainability principles as they apply to energy. These principles, derived from a range of different sources,¹¹ should include the following:

⁹ O'Malley, Mark J., et al. "Multicarrier Energy Systems: Shaping Our Energy Future." *Proceedings of the IEEE* 108, no. 9 (September 2020): 1437–56. <https://doi.org/10.1109/jproc.2020.2992251>.

¹⁰ MacWhirter, R., and M. Winfield, "The Search for Sustainability in Ontario Electricity Policy." in G. Albo and R. MacDermid eds., *Divided Province: Ontario Politics in the Age of Neoliberalism* (Kingston/Montreal: Queens-McGill University Press 2019)

¹¹ Gibson, R.B. ed. *Sustainability Assessment: Criteria and Processes* (London: Earthscan 2005); Gibson, R.B. ed. *Sustainability Assessment: Applications*. (London: Earthscan 2016); Jaccard, M. *Sustainable Fossil Fuels* (New York: Cambridge UP. 2006); ¹¹ B.K Sovacool and M.Dworkin, Energy Justice: Conceptual Insights and Practical Applications *Applied Energy* 142 (2015) 435–444; J.C. Stephens *Diversifying Power: Why we need antiracist, feminist leadership on climate and energy* (Washington D.C. Island Press, 2020); J. Cornthassel, "Our Ways Will Continue On; Indigenous Approaches to Sustainability" in *The Internationalization of Indigenous Rights: UNDRIP in the Canadian Context* (Waterloo: Centre for International Governance Innovation, 2014). 65-72.

- Reduce greenhouse gas emissions and other environmental and health impacts associated with electricity and natural gas supply-side options;
- Avoid intergenerational transfers of risks and costs;
- Address energy poverty
- Advance reconciliation with Indigenous peoples;
- Exercise precaution and avoid geopolitical and catastrophic event risks;
- Improve energy system efficiency and resiliency; all technically feasible, achievable and cost-effective efficiency improvements across fuel types, should be pursued prior to the development or refurbishment of energy supply.
- Respect uncertainty; enhance system adaptive capacity, while avoiding technological lock-in and path dependence;
- Minimize long-term, full life-cycle, energy costs to consumers;
- Provide better customer-level integration of electricity and natural gas conservation programs and services.
- Facilitate innovation, including the development and integration of low-carbon distributed energy resources (DERs),
- Support municipal-level climate change and energy planning.

A directive mechanism may be retained in some way, but should not be the foundation of decision-making and system planning. Any directives issued under such a mechanism would need to fit within (i.e. “be consistent with”) the broad principles laid out at the level of legislation and be subject to a public notice and comment process through the Environmental Registry prior to their implementation. Directives might be issued at the beginning of each major planning cycle. However, these need to speak to context-specific high-level goals and objectives, and avoid the technologically prescriptive character of the previous Supply Mix Directive model.

It may make sense to separate the energy system planning function from IESO as the latter has more of an operational focus. A new entity may need to be established for the purposes of long-term planning and energy and climate change policy integration. Planning related to energy efficiency should be carried out by another entity. The Sustainable Energy Initiative has proposed, for example, the creation of Energy Efficiency Ontario,¹² for this purpose

Any system plans developed should be subject to an independent, public, external review process prior to their approval and implementation. This should be a meaningful public regulatory process, with formal hearings through which intervenors and parties are able to examine witnesses presenting on behalf of the

¹² See Gaede, Harbinson, Haley, Love, and Winfield, *Building Resilient Governance for Energy Efficiency: A Blueprint for Energy Efficiency and Conservation in a Low-Carbon Sustainable Energy Transition for Canada*, Appendix 1.

planning agencies, and lead new evidence. The regulator should be able to approve, reject or approve with conditions any plan presented by the planning agencies. The lessons of Site C in British Columbia and Muskrat Falls in Newfoundland and Labrador highlight the risk by-passing effective review and assessment processes.¹³ The IESO and Energy Efficiency Ontario could be envisioned as intervenors or expert advisors to the process.

The OEB may or may not be the appropriate agency to undertake the review of energy system plans. The board's current expertise and focus is narrowly economic and technical. A wider, and more strategic and integrative perspective is needed, particularly given the lack of a meaningful provincial environmental assessment processes at either the planning or project levels,¹⁴ and the weak to non-existent integration of energy and climate change policy.¹⁵

Commercial-scale procurement, once needs are identified and approved, should occur on a technologically neutral full-life-cycle cost competitive/RFP basis. There may be targeted procurements of specific technologies or needs. Attention should be given to the needs of marginalized communities, including Indigenous peoples and low-income communities, and consideration given to the impact of energy policy decisions on these communities.

The overall process needs to be open, dynamic, responsive and forward-looking, be able to accommodate and encourage innovation, and not favour incumbent actors and technologies, while also paying attention to marginalized constituencies.

As part the overall planning framework, separate annual reporting mandates for Environmental Commission of Ontario/Auditor General of Ontario on Climate Change and on Energy Efficiency, should be established.

I would be pleased to respond to any questions that you or your colleagues may have regarding my views on these matters.

Yours sincerely,

Mark S. Winfield, Ph.D.
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Senator, York University Senate
2020-21 York-Massey Visiting Scholar
Co-Chair, Sustainable Energy Initiative

¹³ Winfield., M., "The pitfalls of short-circuited project reviews," *Policy Options*, January 10, 2018.

¹⁴ R.Lindgren, "Concerns raised about Ontario's environmental assessment changes," *The Lawyers' Daily*, , August 19, 2020.

¹⁵ Winfield, M., and Kaiser, K., "Ontario and Climate Change," for J. Onusko and D. Anastakis, eds., *Ontario Since Confederation: A Reader* (Toronto: University of Toronto Press for publication 2021).