



**CANADIAN ENVIRONMENTAL
LAW ASSOCIATION**
L'ASSOCIATION CANADIENNE DU DROIT
DE L'ENVIRONNEMENT



Pembina Institute
for Appropriate Development

July 21, 2005

Mr. Jan Carr
Chief Executive Officer
Ontario Power Authority
Supply Mix Submissions
175 Bloor St. E., North Tower, Suite 606
Toronto, ON
M4W 3R8

Delivered via E-mail and Regular Mail: supplymixsubmissions@powerauthority.on.ca

Dear Mr. Carr:

Re: Call for Written Submissions for Ontario Supply Mix Directives

Canadian Environmental Law Association and Pembina Institute for Appropriate Development are pleased to respond to the OPA's Call for Written Submissions for the Ontario Supply Mix Directives.

The Pembina Institute is an independent, not for profit environmental policy research and education organization, specializing in the fields of sustainable energy, community sustainability, climate change and corporate environmental management. For more information on the Institute's work, please visit our web site at www.pembina.org.

The Canadian Environmental Law Association (CELA) is a public interest law group founded in 1970 for the purpose of using and improving laws to protect the environment and public health and safety. CELA lawyers represent individuals and citizens' groups in the courts, and before tribunals on a wide variety of environmental protection and resource management matters. In addition, CELA staff members are involved in a range of initiatives related to law reform, public education, and community organization. www.cela.ca

We hereby submit our report, "Power for the Future: Towards a Sustainable Electricity System for Ontario" dated May 2004, by Mark S. Winfield, Matt Horne, Theresa McClenaghan and Roger Peters, as our submission in response to the call for submissions pertaining to the advice you are developing for the Minister of Energy regarding issuance of supply directives under section 25.30 of the Electricity Act.

payback energy efficiency and renewable energy improvements in buildings. The concept could have a huge impact in Ontario, but before it can be used in the Province, directives allowing the use of LICs for this purpose need to be sent to municipalities from the Ministry of Municipal Affairs.

Another area that should be more closely analyzed is the potential role that distributed solar PV and water heating could play in summer peak demand reduction. While not delivering a high annual kWh output per dollar invested, solar PV delivers maximum output when the cost of power to the system is at its highest. Solar PV has an important role to play in both supply mix and resource acquisition.

In summary, therefore, we believe that energy efficiency can play a much larger role in the supply mix of Ontario than is currently being proposed, and that this can be achieved through direct acquisition of guaranteed efficiency and distributed energy by utilities, and long term market transformation of the entire end use sector through a new administrative structure similar to the those successfully used in the US. Pembina is planning to undertake a more detailed review of these administrative options and looks forward to sharing these results with the OPA later this year.

Renewable Energy

Similarly our work suggested significantly higher potential for low impact renewable energy sources than contained in the province's current targets of 5% by 2007 and 10% by 2010. In fact, the most consistent criticism we have heard of "Power for the Future" was that it significantly underestimated the potential contributions from low-impact renewable energy sources. We note that when the Ontario government issued a call for proposals for renewable power in 2004, seeking 350 MW, it received 10 times that much in bids for renewable power. Another 1000 MW call for renewable power is in progress by the Ministry of Energy at present, plus 200 MW of small and medium renewables under 20 MW each.

Subsequent to our study, for example, the David Suzuki Foundation issued its report, "Smart Generation - Powering Ontario with Renewable Energy" (2004). The David Suzuki Foundation report elaborated on the renewable power opportunities, and estimated that Ontario has technically achievable wind resources in southern Ontario of 58% of current consumption and could install 8000 MW of that by 2012. This would amount to 10% of current consumption. The David Suzuki Foundation report also estimated that there is an additional potential for 2450 MW of generation from various biomass sources available in Ontario. The potential contribution from solar photovoltaic was estimated at 1263 MW. The David Suzuki Foundation study also noted that solar hot water systems, pool heaters, passive heating in new homes, and improved air ventilation systems could significantly reduce the grid power demand.

However, the achievement of these outcomes would require different decisions with respect to electricity supply from those of the recent past. In particular, it would require significant policy initiatives to promote end-use efficiency as well as demand response, and to promote the rapid development of low-impact renewable energy sources in Ontario through renewable portfolio standards and advance renewable tariffs used so successfully in Europe. Some additional natural

gas powered gas load would also be required. The phase out of coal fired generation should be implemented as planned. On the basis of our findings regarding the potential for demand side measures and low impact renewable energy sources, we see no need for further investment in the refurbishment of nuclear generating capacity, or the development of new nuclear capacity. More attention also needs to be paid to optimization of the power grid to maximize renewable energy contribution. Work at the University of Calgary has shown that by optimum use of power plant, location (to maximize resource availability) and integration (wind/hydro or wind/gas), contributions of greater than 50% power delivered from low impact renewable electricity can be achieved without jeopardizing grid integrity or stability.² Detailed breakdowns of conservation potential and the required contributions from low-impact renewable energy sources and more conventional sources, particularly natural gas, for the 2005-2020 time period are provided in "Power for the Future." The projections assume a phase out coal-fired generation and run-down of existing nuclear facilities as they reach the end of the normal operating lifetimes, resulting in a more environmentally and economically sustainable electricity system for Ontario. We believe that these projections should strongly inform the OPA's advice to the Ontario government on the province's future electricity supply mix.

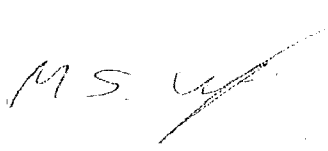
We thank you for the opportunity to provide these submissions while at the same time we feel compelled to note that the summer time frame for OPA's call for submissions for such a complex and weighty set of issues as the future supply mix for Ontario is extremely problematic for the public. Unless organizations like ours have already done this type of analysis, the time frame provided will not prove sufficient for the consideration and response to these issues that their importance demands. We would urge you to extend the deadline for submissions by another 60 days and to do so very soon so that the public and organizations can determine that they do in fact have time to engage in responding to the call for submissions.

Yours very truly,

**CANADIAN ENVIRONMENTAL LAW ASSOCIATION
PEMBINA INSTITUTE FOR APPROPRIATE DEVELOPMENT**



Theresa McClenaghan
Counsel



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cc. Mr. Neil Freeman
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Power System Planning
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Encl.

² Personal Communication - Results to be published shortly.