



ONTARIO
CLEAN AIR
ALLIANCE

Memo to: The Chair and Members of the City of Toronto's Works Committee
From: Jack Gibbons, Chair, Ontario Clean Air Alliance
Re: April 27, 2005 Works Committee Meeting Agenda Item #28: Portlands Energy Centre
Date: April 25, 2005

The Portlands Energy Centre will reduce air pollution and increase Toronto's security of supply

The Ontario Clean Air Alliance (OCAA) is a strong supporter of the proposed Portlands Energy Centre (PEC) for the following reasons.

1. The construction of high-efficiency natural gas-fired power plants, like PEC, are a prerequisite for phasing-out Ontario's dirty coal-fired power plants and are a necessary bridging technology to the development of a future energy system that combines renewable power with aggressive conservation and efficiency measures.
2. Switching from dirty coal to cleaner-burning natural gas for power generation will lead to a 60% reductions in greenhouse gas emissions per kilowatt-hour of electricity produced. Smog-causing nitrogen oxide emissions will be reduced by more than 90%; smog-causing sulphur dioxide emissions will be reduced by 99.5%; mercury and lead emissions (potent neurotoxins) will be reduced by 100%; and cancer-causing emissions (e.g., arsenic, cadmium and chromium) will also be reduced by 100%.
3. Currently, only approximately 2% of Toronto's electricity is generated within the City's borders. The remaining 98% is imported from outside Toronto via just two high-voltage transmission corridors. The construction and operation of a natural gas-fired power plant in central Toronto will greatly increase Toronto's security of supply.

In addition, we would like to reiterate a number of important points made by the Acting Commissioner, Works and Emergency Services, David C. Kaufman, in his April 12, 2005 report to the Works Committee re: the PEC.

1. Setting aside the air pollution benefits of Portlands in terms of phasing-out Ontario's coal-fired power plants, the maximum "ground level concentrations of NOx resulting from the PEC stack are predicted to be the same as the ground level concentrations resulting from the emissions of NOx from nine detached homes in the same area, if heated with individual natural gas furnaces."

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2. "The PEC indicated that the revised design has a co-generation capability for hot water-based district heating...which could be used to heat approximately 3.2 million square feet of living space, equivalent to approximately 2,000 residences."
3. "Residential and commercial buildings are normally heated by individual natural gas furnaces, and produce air emissions at or near ground level. However, if such buildings use steam or hot water from a district heating system, the local emissions from building furnaces and their impacts on the community can be eliminated. This is significant because on a tonne to tonne comparative basis, air emissions at ground level have a greater impact on the community air quality than those from a facility with a stack, such as the PEC. The height of the PEC stack and the effects of dispersion moderate the impact of its emissions at ground level."

Conclusion

In order to maximize the public health and environmental benefits of the Portlands Energy Centre, its surplus hot water and steam should be used for a hot water-based district energy system for the new Toronto waterfront community. Such a system could dramatically increase the sustainability of this new community and make it a model development when combined with state-of-the-art building practices to reduce energy consumption and emissions.

Recommendation

The Works Committee should request that Enwave Energy Corporation and/or Toronto Hydro develop a preliminary proposal(s) for a hot water-based district energy system for the new Toronto waterfront community.

A handwritten signature in black ink that reads "Josh Gibbons". The signature is written in a cursive style with a large, looping initial "J".