



Direct Dial: 416 862 4830  
File: 6706

By Electronic Mail & RESS Filing

August 12, 2015

Ontario Energy Board  
P.O. Box. 2319  
2300 Yonge Street, 27<sup>th</sup> Floor  
Toronto, ON M4P 1E4

Attention: Kristen Walli, Board Secretary

Dear Ms. Walli:

**Re: Ontario Sustainable Energy Association's ("OSEA") Interrogatory Responses  
Board File No. EB-2015-0029/EB-2015-0049**

---

Please find enclosed OSEA's Response to Interrogatories from

- ♦ Enbridge
- ♦ OGVG
- ♦ APPrO
- ♦ GEC
- ♦ VECC

Yours truly,

Joanna Vince

Encl.

cc. Nicole Risse, Executive Director, OSEA  
Intervenors

Document #: 880136

OSEA Response to GEC Interrogatories

**Question #1**

Ref: combined heat & power plants

Do the authors agree that while CHP improves energy efficiency compared to separate gas use and centralized electricity generation, it can require increased gas consumption depending upon what electricity generation it is displacing and therefore, in considering the nature and extent of any possible efforts to foster CHP, the Board should have regard to the net impact on greenhouse gas emissions as well as the net economic implications?

**Response**

Net economic and environmental effects should be a paramount consideration in any energy decision, including the selection of all technologies, applications and efficiencies with respect to DSM.

In order to make a fulsome comparison, a detailed analysis of the thermal load of the host facility is required, however in general:

- a) a CHP system designed to follow the existing thermal load (heating and cooling) of a building may result in an incremental increase in consumption of 10% of the fuel currently purchased to heat or cool that building
- b) on-site electricity generation at the building level has the added benefit of avoiding approximately 6% in electricity transmission and distribution losses
- c) displacement of electricity from central power plants avoids wasted thermal energy at those plants which in the case of nuclear can be as high as 65% of the energy produced
- d) CHP does not necessarily require natural gas as there are alternative fuel strategies that are either in use or development and are shown to reduce environmental impacts of natural gas consumption for heating, such as
  - i. power to gas – hydrogen injected to the natural gas network
  - ii. biomass – CHP driven by biomass
  - iii. anaerobic digestion either for on-site CHP or added to the natural gas network
  - iv. wind/solar power