Sector Briefing Note

To: Stakeholder Advisory Committee

From: Ersilia Serafini – Environmental Sector

Date: June 3, 2009

Subject: GREEN ENERGY ACT

Item for table discussion

Each Stakeholder Advisory Committee member has been asked to provide this briefing note to address two questions:

a. How do you see the Green Energy Act impacting your sector?

A) Increased use of renewable energy made possible through the use of energy storage technologies **B)** Increased use of renewable energy made possible through the transmission investment required to facilitate distributed generation **C)** Future decisions related to nuclear power generation.

A) The Green Energy Act identifies 'energy storage' technologies within the Bill, but does not clearly indicate the manner in which these technologies will be integrated and encouraged as critical components of our energy infrastructure.

Distributed energy storage systems store cooling energy at night, when electricity generation is cleaner, less expensive and more abundant, by freezing water within an insulated storage tank to create and store cooling capacity for the next day. As daytime temperatures rise and the building requires cooling, cooling is provided to a building by ice melt and a low-wattage fan, instead of air conditioning.

In addition to addressing peak demand, since renewable energy technologies are often variable or not always on-peak when power is most valuable, energy storage plays a critical role in helping renewables succeed by maximizing their value and ensuring optimal integration into the power grid. However, there are still a number of outstanding issues that need to be addressed to enable the deployment of this technology.

B) Renewable energy is distributed by nature, and needs a support network to make the investment viable for generators. A sufficient investment must be made in the transmission system to enable distributed generation to be a viable alternative to centralized, large scale generation.

C) In an ideal scenario the increased use of renewable energy combined with energy storage technology made possible through the Green Energy Act would result in decisions being made regarding decreasing reliance on nuclear power generation.

b. Are there specific actions the IESO should consider to assist your sector in Green Energy Act implementation?

A) Smart Grid Implementation **B)** Pricing Systems

A) In order to effectively and efficiently see the roll-out of many aspects of the Green Energy Act, the implementation of a Smart Grid is necessary. IESO can assist by maintaining momentum on work already completed by the Smart Grid Forum.

B) Pricing systems that are cost based and better reflect the true cost of generation including environmental impacts, capital costs and societal costs both during peak and off-peak hours will assist in increasing the implementation of renewable energy technology. The IESO can assist by continuing to assess pricing systems through its Market Pricing Working Group.