Reducing electricity demand by 31% and saving billions

According to new report prepared for Ontario’s Independent Electricity System Operator (IESO), energy conservation investments can cost-effectively reduce the province’s total electricity consumption by 31% by 2035.¹ The report also finds that if Ontario pursues all of these cost-effective energy efficiency investment opportunities, we will realize a $1.4 billion net reduction in our electricity bills.²

On the other hand, if the IESO’s annual energy efficiency savings procurement budget remains at its current planned levels, Ontario’s electricity consumption will be reduced by only 12% by 2035 and our net bill reductions will be only $649 million.³

Figure 1 shows Ontario’s forecast electricity consumption under the following three scenarios: 1) the IESO cancels its energy conservation programs; 2) the IESO continues its energy conservation programs until 2035 with its status quo annual conservation budget; and 3) Ontario pursues all of its cost-effective energy efficiency opportunities.

Figure 1: Ontario Electricity Demand⁴

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Figure 2 shows the IESO’s costs of procuring energy savings versus the cost of re-building the Darlington Nuclear Station.

Figure 2: IESO’s Cost of Procuring Electricity Savings versus Cost of Re-Building the Darlington Nuclear Station

In December 2013, the Government of Ontario adopted the Conservation First principle for energy planning, meaning Ontario’s goal is to procure all energy conservation and efficiency resources that can keep our lights on at a cost that is less than or equal to the cost of new supply. As a consequence, the IESO should be willing to pay up to the same amount to save a kWh as it is willing to pay for new supply. As Figure 2 reveals, the cost of electricity from a re-built Darlington Nuclear Station will be 8 to 15 cents per kWh. Therefore the IESO should be willing to pay up to at least 8 cents per kWh for electricity savings.

Recommendations

1. The Minister of Energy should direct the IESO to pay up to at least 8 cents per kWh for electricity savings that can help to defer and/or eliminate the need to re-build our aging nuclear reactors.

2. The Minister of Energy should direct the IESO to establish a competitive procurement process to obtain electricity savings from municipalities, co-ops (e.g., Green Communities Canada), First Nations communities, electric and gas utilities, district energy companies (e.g., Enwave, Markham District Energy), energy-efficient appliance and equipment manufacturers and distributors, and other corporations (e.g., Brookfield Global Energy Solutions, Rodan Energy Solutions).

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