



Ontario's Electricity Future ► *Responding to the Ontario Power Authority's Questionable Advice*

Ontario's electricity system is at a crossroads. All of our dirty coal plants will be phased-out by 2009. In addition, most of our nuclear generating stations will come to the end of their service lives by 2020.

These circumstances open the door to a complete rethinking of Ontario's approach to electricity: We can dramatically increase our electricity efficiency and start moving towards a 100% renewable electricity system or we can follow the advice of the Ontario Power Authority (OPA - an agency of the Government of Ontario) to obtain 60-80% of our incremental electricity supply needs from high-cost, high-risk nuclear power plants.

The Government of Ontario will be hosting open houses and town hall meetings in 12 Ontario communities on February 13, 15th and 17th to obtain feedback on the OPA's recommendations. (Go to www.gocleanandgreen.org for meeting locations and times.)

In March 2006, the Government is expected to issue directives to the OPA that will lead to either a major re-investment in nuclear power or set us on the path to a clean and green renewable electricity future.

Questions to ask

Here are some suggested questions for the Government of Ontario about the OPA's report.

1. Ontario's electricity consumption per person is amongst the highest in the world (e.g., our electricity consumption per person is 60% higher than New York State's). As a result, Premier McGuinty has repeatedly called for the creation of a "conservation culture" in Ontario. The Premier says he wants Ontario to be a North American leader in energy efficiency. Therefore, why is the OPA proposing a electricity strategy that will *increase* Ontario's total electricity consumption by 20% over the next 20 years?
2. Toronto Hydro is planning to *reduce* its customers' peak-day demands by 5% by 2007. Why isn't the OPA proposing a similar target for the entire province?
3. New York State's electricity productivity (GDP per kWh) is 2.3 times greater than Ontario's. If Ontario could achieve New York State's level of electricity productivity by 2025, we could *reduce* our total electricity consumption by 20% while raising our GDP by 75%. Why isn't the OPA proposing a strategy to *reduce* our electricity consumption by 20% by 2025?
4. The OPA is proposing an electricity supply and conservation capital budget of approximately \$70 billion to meet Ontario's electricity needs over the next 20 years. According to the OPA, approximately \$62 billion of this \$70 billion budget should be spent on new supply and only approximately \$8 billion on energy efficiency investments. That is, the OPA is recommending that for every \$1 that is invested in energy efficiency, \$7.75 should be invested in new supply. Why is the OPA proposing such an unbalanced approach?
5. According to a report commissioned by the OPA, Ontario has over 13,000 megawatts (MW) of wind power potential within 20 km of our electricity distribution network. According to

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the Ontario Waterpower Association, Ontario has about 6,600 MW of Made-in-Ontario water power potential that is “probable, committed or practical.” According to the BIOCAP Canada Foundation at Queen’s University, our biomass power potential is 7,400 MW. We also have the potential to import 5,000 MW of water power from Manitoba and 945 MW of waterpower from Labrador. Nevertheless, the OPA is recommending that we obtain only an extra 6,720 MW of renewable power over the next 20 years. Why?

6. Most homes, buildings and factories in Ontario use natural gas for heating. However, it is much more efficient to use natural gas to simultaneously produce two services, namely heat and power (electricity). Natural gas-fired combined heat and power plants can have energy efficiencies of 80-90% compared to the 30% energy efficiency of a nuclear reactor and the 34% efficiency of a coal plant. According to the OPA, Canada has 77 years of natural gas supplies at the 2002 level of production, making gas a reasonable transition fuel to use as we work toward a renewable electricity future. Furthermore, according to an Ontario Ministry of Energy report, Ontario’s total combined heat and power potential will be 16,500 MW in 2020. Nevertheless, the OPA is recommending that Ontario obtain no more than an additional 1,500 MW of gas-fired generation. Why?
7. The capital cost of the last nuclear station to be built in Ontario, Darlington, was \$4,058 per kW. Reactor restart projects at the Pickering and Bruce Nuclear Plants have run hugely over budget. Nevertheless, the OPA’s economic analysis assumes that a new nuclear reactor can be built for only \$2,845 per kW. How can the OPA justify this highly optimistic low cost estimate?
8. Ontario’s fleet of nuclear reactors have never been able to achieve an 85% annual average capacity utilization rate during any of the last 25 years. In 2003 the average capacity utilization rate of Ontario’s nuclear reactors was only 51%. Nevertheless, the OPA’s economic analysis assumes that a new nuclear reactor will be able to operate at an 85% annual capacity utilization rate for 30 years. On what basis?
9. Electric space and water heating is responsible for 33% of Ontario’s residential electricity consumption. Hybrid solar/electric water heaters can cost-effectively reduce a home’s use of electricity for water heating by 60%. Why didn’t the OPA recommend that Ontario’s electric utilities (e.g., Hydro One, Toronto Hydro) start renting hybrid solar/electric water heaters? Similarly, geothermal heat pumps can cost-effectively reduce a home’s use of electricity for space heating by 65%. Why didn’t the OPA recommend that Ontario’s electric utilities also rent geothermal heat pumps? Finally, switching from electricity to natural gas for space heating, water heating, cooking and drying can also reduce a home’s energy bills and is a more efficient way to deliver these services. Why didn’t the OPA recommend fuel switching from electricity to gas for these end-uses?

The OPA’s Supply Mix Advice Report raises far more questions than it answers. The Ontario Government needs to take a much closer look these issues and make it immediately clear which direction it intends to pursue.

For more information, please visit: www.gocleanandgreen.org or www.cleanairalliance.org

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