

Backgrounder: OPHA Report, “Beyond Coal: Power, Public Health & the Environment”

Ontario’s Electrical Sector

- Ontario’s electrical sector is currently undergoing huge changes.
- Without proper regulatory framework, a competitive electrical market could result in greater use of coal-fired power plants that are significant contributors of emissions that lead to: 1) global climate change, 2) smog, 3) acid rain and 4) mercury contamination of the aquatic food chain.

Global Climate Change

- In 2001, coal-fired power plants in Ontario were responsible for 20% of greenhouse gases emitted in this province.
- The Intergovernmental Panel on Climate Change has concluded that:
 - Climate change is already happening;
 - Climate change is caused, in large part, because of human activities that are changing the composition of the atmosphere;
 - Greenhouse gas emissions will have to be reduced to a small fraction of their current levels in order to stabilize atmospheric concentrations of carbon dioxide (CO₂) and retard global climate change.
- Direct health impacts expected with climate change include those associated with increases in heat waves, air pollution, and extreme weather events such as tornados and floods.
- Indirect health impacts expected include those associated with increases in drought, failure of water supplies, shifts in food supplies, and increases in the range of insect-borne and infectious diseases.

Smog

- Ontario’s coal-fired power plants were responsible for about 23% of the sulphur dioxide (SO₂) and 14% of the nitrogen oxides (NO_x) emitted in this province in 2001; both air pollutants are precursors of smog.
- The Ontario Medical Association has estimated that fine particulate matter in Ontario’s air contributes to about 1,900 premature deaths per year.

Acid Rain

- Acid rain remains a serious environmental problem today; In 1997, a multi-stakeholder task group struck by the federal government concluded that SO₂ caps in Canada and the United States would have to be cut by an additional 75% to protect most of eastern Canada from acid rain.

Mercury Contamination of the Aquatic Food Chain

- ❑ Mercury is a highly toxic element capable of accumulating in the aquatic food chain; negative health impacts have been documented among children exposed prenatally to low levels of mercury as a result of their mothers eating fish during pregnancy.
- ❑ The National Academy of Science (NAS) has estimated that over 60,000 children per year in the U.S. are born at risk from adverse neuro-developmental effects due to prenatal exposure to mercury.
- ❑ Coal-fired plants were responsible for 23% of Ontario's mercury emissions.

Encourage Energy Efficiency

- ❑ Torrie Smith Associates estimate that electricity demand in Ontario could be reduced by 35,000 gigawatt-hours (GWh) annually by 2012; and that 10,000 GWh could be produced with commercial/industrial co-generation.
- ❑ In 2001: five coal-fired plants generated 37,000 GWh of electricity.
- ❑ Recommendations: Revise province's Building Code to encourage energy efficiency, renewables and co-generation; and establish a "shared savings mechanism" that rewards electrical utilities that effectively encourage reductions in energy consumption among their consumers.

Promotes Renewable Energies

- ❑ Torrie Smith Associates estimate that wind, small hydro, and biogas could provide about 20,000 GWh of electricity annually in Ontario; 5,000 GWh of which could be provided by 2012.
- ❑ Recommendations: Province establish a Renewable Portfolio Standard (RPS); and Federal government provide the same level of support to renewable technologies that it provides to conventional energy sources.

Phase-Out the Use of Coal-Fired Power Plants.

- ❑ Recommendations: Province establish air emission caps that would phase-out the use of coal-fired power plants in Ontario by 2010.
- ❑ This could reduce annual provincial emissions of: SO₂ by 23%, NO_x by up to 14%, mercury emissions by 23%, and CO₂ by up to 20%.
- ❑ The 35,000 kilotonnes of greenhouse gases emitted from Ontario's five coal-fired power plants each year represent about 78% of the greenhouse gas emissions (i.e. about 45,000 kilotonnes) that Ontario would need to cut in order to achieve the 6% reduction envisioned by the Kyoto Protocol.

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