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Phase-out coal-fired power plants, public health group advises

By Dr. Jack Lee and Kim Perrotta

Ontario's health professionals are calling today for the phase out of coal-fired electricity generation to retard climate change, reduce smog, cut acid rain, and reduce mercury emissions to the environment.

A new report by the Ontario Public Health Association (OPHA) points out that coal is the dirtiest fuel available. Last year, Ontario's five coal-fired power plants were responsible for 20% of all greenhouse gases released in this province; 23% of all sulphur dioxide emissions; 14% of all nitrogen oxide emissions; and 23% of all mercury emissions.

While we are concerned about all four environmental issues associated with coal-fired power plants, the one that drives our call for their phase-out is climate change. Coal-fired power plants are huge emitters of greenhouse gases and there is currently no commercially available technology that can be used to capture the millions of tonnes of carbon dioxide emitted from them.

Ontario's coal-fired power plants emitted 35 million tonnes of carbon dioxide last year – that is 78% of the greenhouse gases that Ontario would need to cut in order to fulfill the reductions envisioned by the Kyoto Protocol. Ontario could go a long way towards achieving its share of the Kyoto commitment by phasing out these power plants.

But is it really so important to sign on to Kyoto? Let's take stock.

Global climate change has the potential to impact on all aspects of life. Directly, climate change is expected to increase air temperatures, increase water temperatures, melt polar ice, raise sea levels, and increase the frequency and intensity of extreme weather events such as hurricanes, tornadoes, floods, droughts, and snowstorms. In Ontario, it is expected to produce a 5-fold increase in heat waves and smog episodes.

These changes have large costs. Extreme weather events alone claim the lives of about 123,000 people around the world each year. These extreme weather events are increasing in number and in intensity as the climate changes. The economic costs of natural disasters have increased 10-fold from $4 billion (U.S.) per year in the 1950s to $40 billion (U.S.) a year in the 1990s. A report written for the UN Environment Programme estimates that these costs could increase to $150 billion (U.S.) a year in insurance pay-outs within the next ten years.

The direct costs of climate change pale when compared to the indirect costs.

Indirectly, climate change is expected to flood coastal seashores, affect agricultural productivity, change the productivity and range of forests, affect the quality and quantity of water supplies, shift the size and nature of fish populations, and extend the range and increase the intensity of insect-borne diseases. That's a lot of lives and livelihoods disrupted, and a lot of infrastructure in need of replacement.

One estimate prepared for the World Health Organization suggests that an extra 40 to 300 million people could be at risk of hunger by the year 2060 because of the impact of climate change. This is in addition to the 640 million who are expected to be at risk from hunger in the absence of climate change.

It is clear that the cost of inaction is too great to contemplate. The question is not, "Do we sign the Kyoto Protocol?" but rather, "How do we implement the Kyoto Protocol in the most effective and least disruptive way?"

The phase-out of coal-fired power plants has been shown to be one of the most cost-effective means for cutting greenhouse gases in Canada, and it would simultaneously produce other public health and environmental benefits.

- A phase-out would substantially improve air quality in Ontario and in downwind jurisdictions because it would reduce emissions of two of the precursors of smog. Sulphur dioxide would be cut by 23% and nitrogen oxides by up to 14%. The Ontario Medical Association estimates smog pollutants cause 1,900 premature deaths a year.

- It would cut acid rain, which still threatens some 95,000 lakes in eastern Canada, because both sulphur dioxide and nitrogen oxides are also precursors of acid rain.

- It would reduce mercury emissions by 23%. Mercury is a neuro-toxin that accumulates in the aquatic food chain. Mercury has been associated with neuro-developmental deficits among children whose mothers eat fish during pregnancy. It is the pollutant responsible for 99% of the consumption restrictions placed on fish in inland lakes in Ontario.

Where would we get our electricity? Energy experts Torrie Smith Associates have estimated that the 37,000 Gigawatt-hours of electricity generated from coal-fired power plants in 2001 could be more than replaced by 2012. Investments in energy efficiency could reduce demand by 35,000 GWh, industrial and commercial co-generation could provide an additional 10,000 GWh, and generation with wind, small hydro and biogas projects could add 5,000 GWh. These energy shifts do not have to bankrupt us. Many energy efficiency investments pay for themselves many times over.

It is not money that is stopping us from tackling air pollution and climate change. It is vision and leadership and the courage to stand up to those with vested interests in conventional energy sources.

Jack Lee is Executive Director and Kim Perrotta is Air Quality Coordinator of the Ontario Public Health Association, a non-profit organization that represents many of the staff working in public health units and community health centres across this province.