GREEN POWER OPPORTUNITIES FOR ONTARIO

EXECUTIVE SUMMARY

One of the largest political and economic reforms in Ontario's history takes place this spring when the province moves electrical generation, transmission and pricing toward a 'free market' system. The change, set for May 1, will affect every municipality, utility, business and residential consumer in the province.

Green Power Opportunities for Ontario shows why environmentally friendly power options, including energy efficiency measures and renewable energy, must be part of the new electricity market. Prepared for the Toronto Renewable Energy Cooperative by the Canadian Institute of Environmental Law and Policy and the David Suzuki Foundation, the report shows that Ontario can reduce energy waste and generate enough green energy for the province to shut down all five of its coal burning power plants.

The report contains recommendations on how the provincial government can move Ontario toward a green energy economy and compliance with the Kyoto Protocol by:

- Shutting down all five of Ontario's coal-fired electricity plants
- Removing hidden subsidies to polluting forms of energy, including coal
- Implementing a demand side management program (energy efficiency measures facilitated by utility programs)
- Reforming the price of electricity so that all 'external' costs are included and all forms of energy can compete on a level playing field
- Implementing a renewable portfolio standard to mandate a minimum level of clean, renewable energy for all electrical producers

By implementing these recommendations the Ontario government can create a level playing field for green energy opportunities. Unless this happens, a fully 'unregulated' electricity market will offer enormous advantages to coal-fired power because of its low price, which does not include the costs of air pollution and global warming.

ONTARIO'S GREEN POWER POTENTIAL

RENEWABLE ENERGY SOURCE	MINIMUM TECHNICAL POTENTIAL (IN MW)	MINIMUM TECHNICAL POTENTIAL (IN GWH/YEAR, ROUNDED DOWN)
Wind	6,390.0	15,600
Hydro	953.0	2,859
Biogas	70.6	600
Total	7,413.6	19,059
Total including energy efficiency programs		39,059

NOTE: *wind power is assumed to operate at 28% capacity over 8760 hours. Solar energy is not included here but in the energy efficiency section instead because of its primary use for water heating, not electric generation.*

The report shows that Ontario can reduce energy waste and generate enough green energy for the province to shut down all five of its coal burning power plants.

COAL POWER: PROBLEMS AND SOLUTIONS

Coal accounts for more than 26 per cent of the electricity generated in Ontario. Considered by the market to be one of the cheapest forms of energy, its price tag doesn't include environmental and health costs. Coal is responsible for air pollution, smog, acid raid, mercury contamination of natural ecosystems and production of the greenhouse gas emissions that cause global warming.

Ontarians have been paying the higher price all along, it has simply been hidden in higher taxes, health care costs and environmental degradation. The Ontario Medical Association estimates that air pollution costs Ontario more than $1 billion each year in health care costs, and prematurely kills 1,900 people annually.

Despite the fact that it is a significant cause of climate change and air pollution, the use of coal power in Ontario has grown in the past decade. A plan to replace the use of coal needs to meet peak demand, either by providing electricity that can be brought on and off line incrementally or by reducing the peak energy load. Energy efficiency measures and many sources of renewable energy are well suited for these purposes. For example, in Ontario winds generally tend to be strongest in the afternoon and in winter. This coincides directly with peak demand times.

ENERGY EFFICIENCY: ONTARIO'S GREENEST AND LARGEST POWER SOURCE

Energy efficiency measures have a strong effect on peak demand. Some of the greatest potential savings can be found in industrial and commercial motors, lighting, office equipment and in appliances such as refrigerators, freezers, furnace fans, washers and dryers. These uses make up a large part of the demand for electricity during peak hours.

Energy saving has the potential to provide Ontario with massive reductions in electricity use. Between 1990 and 1999, a wide gap opened between actual electricity consumption and projected demand (this ratio is known as 'electricity productivity'). If this saved electricity is thought of as a source of supply, more than 16 per cent of Ontario's primary electricity was coming from increased electricity productivity by 1999. In fact, improved electricity productivity was providing more 'new' electricity services to Ontarians than the new sources of coal, oil, gas, nuclear and hydro power during the same period.

This trend can be amplified by regulatory incentives that encourage utility energy efficiency programs (known as 'demand side management'). These programs have proven effective in Ontario's natural gas distribution sector and it is vital that they now be extended to the electricity sector. In many ways, demand side measures are the ultimate renewable resource and are job-intensive.

GREEN POWER WITH A RENEWABLE PORTFOLIO STANDARD

An effective way to help balance the hidden subsidies and external costs of coal-fired electricity generation is through a renewable portfolio standard.

A legislated renewable portfolio standard would require electricity providers to include a percentage of new renewable electricity (such as wind or small hydro) in the supply portfolio they offer. It's a necessary part of market reform that ensures a sustainable energy future.

CONCLUSION

It is technically possible, economically feasible and ecologically necessary to stop burning coal for electricity in Ontario. By implementing energy efficiency measures and a renewable energy portfolio standard, Ontario can move from coal to a sustainable energy future.

Prior to the market opening this spring, the Ontario cabinet must act to counter the historic and damaging advantages of coal-fired power. Coal's public health costs, acid rain damage and climate change impacts must be addressed as the electrical system is reformed. Expanded efficiency measures and renewable energy production are required as core elements of the electrical restructuring and as major policy advances to tackle air pollution and global warming.

The full report can be ordered, for $10, from the three organizations below:

David Suzuki Foundation
tel. 800 453-1533 • www.davidsuzuki.org
Canadian Institute for Environmental Law and Policy
tel. (416) 923-3529 • www.cielap.org
Toronto Renewable Energy Co-operative
tel. (416) 977-5093 • www.trec.on.ca

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