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CAC/MSOS REFERENCE MATERIAL FOR THE EXAMINATION OF THE CANADIAN WIND ENERGY ASSOCIATION

1. CanWEA Press Release, August 22, 2003 "Canadian Wind Energy Association Hires First Executive Director".
2. "Wind Vision for Canada", June 6, 2001 by CanWEA.
3. "Generating Investment in Ontario", December 12, 2002.
4. Letter dated December 19, 2003 to Hon. Ralph Goodale from CanWEA.



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Administration

FOR IMMEDIATE RELEASE
AUGUST 22, 2003

CANADIAN WIND ENERGY ASSOCIATION HIRES FIRST EXECUTIVE DIRECTOR

CanWEA OPENS OFFICE IN OTTAWA

(Ottawa) – The Canadian Wind Energy Association (CanWEA) has taken a significant step forward in its efforts to secure public and political awareness of wind energy as an environmentally conscious and important piece of Canada's electricity puzzle.

This month, the association opened a new head office in Ottawa and hired Robert Hornung, former Policy Director with the Pembina Institute, as its new Executive Director.

CanWEA, whose 300+ members include major energy producers (e.g., Shell Canada, Suncor Energy, Hydro-Quebec, Transalta through Vision Quest Windelectric), equipment manufacturers (e.g., GE Wind Energy, NEG Micon, Vestas) and a broad range of emerging wind energy producers, consultants and advocates, will invest more energy in making the case for wind power to both Canadian governments and the Canadian public with Hornung's appointment.

"Wind energy is a viable, environmentally conscious and economic approach to meeting Canada's greenhouse gas emission reduction goals and providing a clean, renewable source of electricity for the 21st century," says Glen Estill, President of CanWEA. "In hiring Mr. Hornung to represent CanWEA's interests to Canada, we hope to be able to spread that message even more effectively."

Hornung, who spent the past nine years with the Pembina Institute, first as Climate Change Program Director and then as Policy Director, has planned a multi-faceted approach to the challenge of further developing the Canadian wind power industry. His key priorities include encouraging supportive government policies to bolster the supply of wind power, broadening public education and outreach in order to drive further demand for wind power, strengthening the association from within, and building partnerships with other organizations (e.g., environmental, public health) that stand to benefit from the development of wind energy in Canada.

"Ultimately, my goal is to convince Canadians, and government policymakers and administrators, that wind is much more than a niche technology," Hornung says. "In fact, wind power is the world's fastest growing source of electricity, with sustained growth rates in industrialized countries in excess of 30% per year over the past decade."

In Canada, however, the wind energy story is far different than in other parts of the world. Germany, the world's leader in operating wind capacity, now produces more than 12,001 Megawatts (MW) of wind energy, roughly 38.3% of the world's total. Denmark, one of the world's leading wind energy producers, now gets 18% of its total electricity from this power source. Canada, by comparison, began 2003 with only 236 MW, or 0.76% of the world's total – representing an even smaller percentage of Canadian electricity supply. In world



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standings, Canada ranks behind a full 12 countries in wind energy production – including Germany, Spain, Denmark, Italy, the United States, the United Kingdom, the Netherlands, India, and even Greece and Japan – yet Canada has some of the best wind energy potential in the world.

“Canada has an enormous amount of unexploited wind energy potential. CanWEA is calling on federal and provincial governments to adopt a goal of 10,000 MW of wind power by 2010 – equivalent to 5% of Canada’s electricity supply,” Hornung says. “In the longer-term, much more significant production is possible. Ten years ago, it was estimated that Canada’s wind energy potential was almost 30,000 MW. With advances in technology over the past decade, we now believe that Canada’s potential is more than two to three times that amount. While wind energy will never supply all of Canada’s electrical requirements, it is not unreasonable to expect this clean, renewable energy source to meet more than 20% of Canada’s electricity needs.”

Currently, federal and provincial policy support for wind energy is sparse, ad-hoc, and uncoordinated.

While Hornung believes the federal government’s Wind Power Production Incentive program, announced in the 2001 Federal Budget, is a step in the right direction, it needs to be modified and raised in order to be fully effective. And on a provincial level, he says, renewable portfolio standards are needed in every province to create a demand for and an increased use of renewable energy.

“Wind should be a good fit for governments that like to talk about innovation, that like to talk about economic performance and that like to talk about sustainable development,” he adds. “Wind can meet all of those objectives, and we need to build support for the implementation of a national wind energy strategy.”

As well, Hornung plans to survey the needs and concerns both of CanWEA members and other stakeholders, in order to provide more fully effective leadership in the renewable energy sector. “Organizations that provide solutions need to think creatively about the needs of a variety of stakeholders. They need to have a strong point of view but be able to listen and engage other points of view,” he says.

“I think in seeking policy changes, we need to hear what the government is saying and respond to its concerns, then find solutions that address both the concerns of CanWEA and government. The solutions are out there, but it’s an investment of time and commitment to make it happen.”

CanWEA represents this country’s wind energy community, comprised of organizations and individuals who are directly involved with the deployment and application of wind energy technology, products and services. It will host its internationally attended Conference and Trade Show, “Harvesting The Wind”, from September 21 to September 24, 2003, in Pincher Creek, Alberta. For more information on CanWEA or its upcoming conference, please see www.canwea.ca

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W i n d V i s i o n f o r C a n a d a

10,000 MW by 2010 (10x10)

Recommendations for
**Achieving Canada's
Wind Energy Potential**

By the
**Canadian
Wind Energy Association
(CanWEA)**

June 6, 2001



Wind Vision for Canada
10,000 MW by 2010 (10 X 10)

**Recommendations for Achieving
Canada's Wind Energy Potential**



By the
Canadian Wind Energy Association (CanWEA)

June 2001

Wind Energy Today

Wind energy has come of age. It is one of the fastest growing sources of energy in the world and offers a formidable economic opportunity. Investment in wind energy represents an investment in Canada's future. Canadians must act now to become industry leaders and take advantage of the economic and environmental benefits presented by wind.

Wind energy is a \$5 billion U.S. per year industry worldwide and is experiencing explosive growth. In the year 2000, the capacity of wind power facilities worldwide grew from 13,455 megawatts to 17,700 megawatts, a growth rate of 32%. This rate of growth has been sustained over the past five years. Canada's wind power capacity grew from 127 megawatts to 140 megawatts in the year 2000, a 10% growth rate¹. Canada must embrace change and innovation in public policy and energy market reform or risk loss of competitiveness in this global industry. The earlier Canada implements measures to support the deployment of wind energy, the greater the benefit to Canadians by creating thousands of jobs, limiting emission of greenhouse gases (GHG) and other pollutants, reducing health-care costs, and securing an abundant and secure source of green power.

Multinational oil and gas companies like Shell and BP believe renewable energy will provide 5% to 10% of the world's energy supply by 2020 and 50% by 2050. The European Union wants to meet 22% of its electricity needs from renewables by the year 2010, a large part of that from wind². Denmark is currently providing more than 13% of its electricity needs from wind³. The U.S. is expected to have 5,250 megawatts of wind power capacity by the end of 2001⁴. To take advantage of this significant business opportunity, multi-millions of dollars are being invested in the market. Large Canadian energy companies like Suncor Energy, Ontario Power Generation, Shell Canada, TransAlta, and Enbridge are investing in wind power companies and projects, demonstrating their confidence in the industry, while numerous other companies are buying green power from wind facilities. However, the investment climate in Canada is currently much less attractive than in other countries, thereby limiting overall investments.

Canada's wind energy resources are considered to be among the world's most energetic and represent a significant new energy opportunity. Early action by governments to stimulate the emerging Canadian wind energy market will result in abundant and cost-effective clean energy for the future.



Cowley Ridge Windplant, Pincher Creek Alberta
(Photo courtesy of Canadian Hydro Developers, Inc.)

Several jurisdictions in Canada are facing electricity shortages, while at the same time, consumers across Canada are facing some of the highest energy costs in the past two decades. Wind energy can provide a reliable source of electricity within a short and flexible timeframe. In the year 2000 alone, Germany added 1,668 megawatts of wind power capacity with a very short planning horizon. In contrast, most fossil fuel plants, large hydro dams, or nuclear plants take several years to develop from the planning to implementation stages.

Wind energy has a stable cost which is not subject to the same volatility as fossil

¹ Wind Power Monthly. April, 2001.

² Wind Power Monthly. January, 2001.

³ Wind Power Monthly. April, 2001.

⁴ The Economist. March 10, 2001. Pp. 30-31.

fuel supplies. In fact, the cost of wind energy production is approximately stable for the entire life of the facility, up to 25 years. Many consumers in the U.S. are choosing wind power for this reason, as insurance against spikes in electricity prices caused by volatility in fossil fuel supply costs.

The primary goal of CanWEA through *Wind Vision for Canada* is to:

Install more than **10,000 megawatts of wind power capacity** by 2010 (10 X 10), thereby providing at least **5% of Canada's electricity from wind** by 2010. This is equivalent to about 30 million megawatt-hours of electricity per year based on current forecasts⁵, sufficient to meet the electricity needs of nearly four million homes⁶.

The estimated underlying goals and benefits of meeting our goal are:

Jobs: Creating 80,000 to 160,000 permanent jobs by 2010⁷.

Renewable Electricity: Generating 30 million megawatt-hours of electricity annually from renewable resources with long-term price stability and resource availability. The cost of renewable energy is not affected by global price fluctuations in energy supplies.

Environment: Displacing between 15 and 25 million tonnes per year of atmospheric GHG emissions by 2010, depending on where the wind farms are located⁸. This is the equivalent of permanently removing the GHG emissions of up to 7.5 million personal automobiles⁹.

Investment: Adding between \$10 billion and \$20 billion in new capital investment, predominantly to rural areas of Canada.

Regional Diversification: Creation of local construction and maintenance jobs, investment in rural economies, income for private landowners such as farmers, and a perpetual municipal tax base.

Human Health Benefits. By reducing the emissions of smog and acid rain-creating pollutants, heavy metals and particulate matter produced through fossil-fuel combustion, 30 million megawatt-hours of wind energy per year will have a measurable impact on human health. This will eventually result in reductions in health-care spending in those areas that currently use a significant amount of coal¹⁰, areas with urban smog problems¹¹, and remote areas that rely extensively on diesel generation.

Benefits of the Wind Vision for Canada Program

- \$10 to \$20 billion of economic activity for Canadians.
- 80,000 to 160,000 high-quality jobs.
- Contribution to clean air and human health benefits.
- Reductions of 15 to 25 million tonnes of greenhouse gas emissions per year.
- 30 million megawatt-hours per year of renewable energy at a stable price.

⁵ Canada's Emissions (Energy) Outlook. 1999.

⁶ Assuming 8000 kWh per year per home.

⁷ Source for multiplier: Pembina Institute. Comparative Employment Benefits of Energy Investments. 1997. 8 full-time equivalent jobs per million dollar investment.

⁸ Assuming an emissions factor of 500 tonnes/GWh on the low-end (efficient natural gas plant) and 800 tonnes/GWh on the upper end, coupled with the potential range of electricity production from wind.

⁹ Assuming the use of a small vehicle with an average fuel economy of 6.9 litres/100km and daily average use of 55km which results in 9kg of GHG emissions per day or 3.3 tonnes/year. Source: <http://www.climatechangesolutions.com> – Travel Mode Calculator.

¹⁰ Where coal is displaced by wind power.

¹¹ Where local fossil fuel power plants are displaced by wind energy.

How Can Canada Achieve the CanWEA Wind Vision for Canada?

The priority is to stimulate wind energy deployment and a significant wind energy industry in areas of resource identification, project development and financing, manufacturing, construction, operation, and maintenance.

The CanWEA strategy for achieving this goal consists of the following measures which can be facilitated by provincial, territorial, municipal, and federal governments:

- Establish early-stage financial support mechanisms for wind power.
- Enact provincial and territorial electricity supply policies for wind power.
- Establish foundation measures to support wind power development.
- Expand government purchases of green power.

What Can Policymakers Do?

CanWEA needs government action to achieve its objectives. There is a need to:

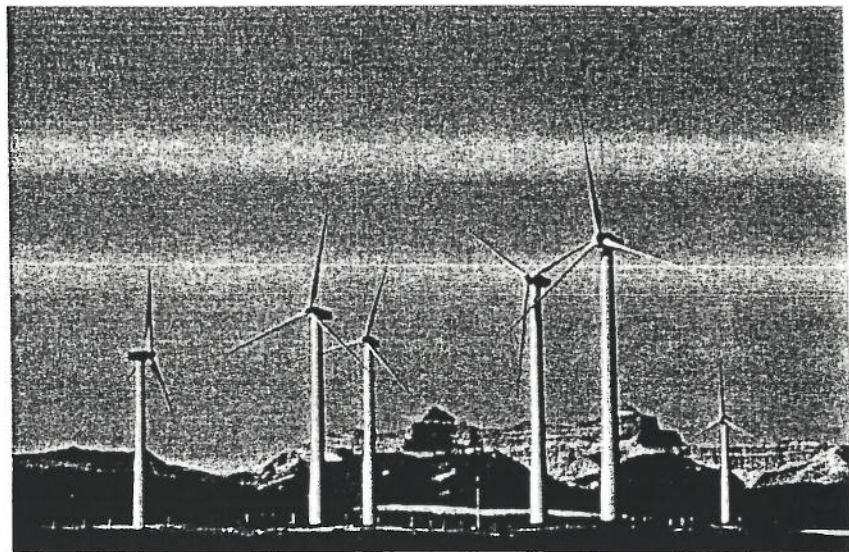
- Ensure non-discriminatory electricity market access – ensure that legislation, regulation or market rules do not prevent or financially penalize wind energy development.
- Market stimulation - to break through scale barriers, develop many strong domestic industry players and establish domestic manufacturing, the wind industry needs early-stage incentives similar to our trading partners. Policies such as legislated production incentives, consumer credits, and renewable energy portfolio standards (RPS) have proven very effective in the U.S. and Europe.
- Lead through example - stimulate market action through provincial, territorial, municipal and regional government support and purchases.

What Can the Public Do?

- Call your utility and ask for green power from wind energy.
- Call or write your municipal government representative, MLA and MP and ask what they are doing to reduce greenhouse gas emissions and global warming and how they intend to support the development of wind energy.
- Join CanWEA and become engaged in our *Wind Vision for Canada* program.
- Get involved locally to promote wind energy to schools, municipalities, etc.

What Can Industry Do?

- Support the CanWEA *Wind Vision for Canada* by making representations to governments.
- Purchase wind-generated electricity from your utility company or invest in wind energy facilities or wind power companies.
- Join CanWEA and become engaged in our *Wind Vision for Canada* program.



Castle River Windfarm, Pincher Creek Alberta
(Photo courtesy of Vision Quest Windelectric Inc.)

What are the Key Elements to Wind Industry Growth in Canada?

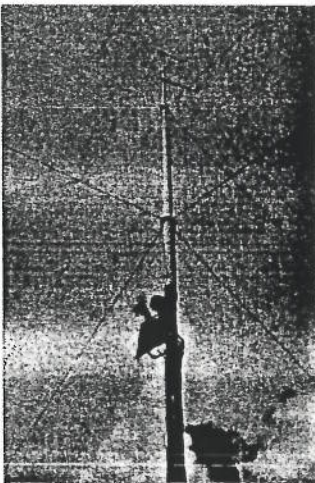
Early Stage Financial Support Mechanisms (largely Federal Government)

1. Implement market-wide production-based revenue incentives for wind energy. This means that all wind power suppliers – large or small, profitable or emerging, public or private – can take advantage of federal government financial incentives.
2. Remove tax barriers for wind energy development allowing all players, regardless of size or earnings, to benefit from the existing accelerated depreciation in our tax laws.

Electricity Supply Policies (Provincial and Territorial)

3. Implement renewable energy portfolio standards in the provinces and territories. Provincial and territorial government legislation would require all retailers of electricity to meet a minimum proportion of their sales from cost-effective renewable energy sources, including wind. Trading of renewable energy credits between retailers would allow this commitment to be met at the lowest possible cost. Trading between jurisdictions with portfolio standards in place would ensure that the most cost-effective renewables in Canada would be developed. The cost of such a system would be shared equally among electricity consumers. BC Hydro has already announced 10% of its new electricity supplies will be met from green power resources. Other provinces and territories should follow this lead.
4. Establish net metering or net billing in all provinces and territories, allowing electricity users to generate a portion of their own electricity and receive a credit on their electricity bill when they produce more than they can use. This policy has already been established in Manitoba, Toronto and parts of rural Ontario, and has been recently introduced in the Yukon.

Foundation Measures (Government and Industry)



Wind Monitoring Station
(Photo courtesy of Zephyr North
and BC Hydro)

5. Develop a comprehensive wind energy atlas for Canada. This requires an extensive wind-speed prospecting process in many parts of the country, similar to what has already been completed in SW Alberta, Saskatchewan and parts of Ontario and Québec, and which is currently underway in British Columbia and the Yukon.
6. Introduce electricity product labeling for all electricity sales in Canada. These labels, similar to consumer food labels, would indicate the sources of electricity and the environmental impacts of those sources, facilitating consumer choice in the purchase of environmentally friendly sources of energy such as wind.
7. Continue to provide education and marketing materials to the Canadian public and business on the benefits and costs of wind energy.
8. Establish a Greenhouse Gas (GHG) Emission Reduction trading system incorporating renewable energy as a cornerstone to long term emissions reduction.
9. Continue to provide financial support for wind energy technology research and development which adapts technology for the Canadian environment or builds on Canadian skills and core competencies.

Government Purchases of Wind Power

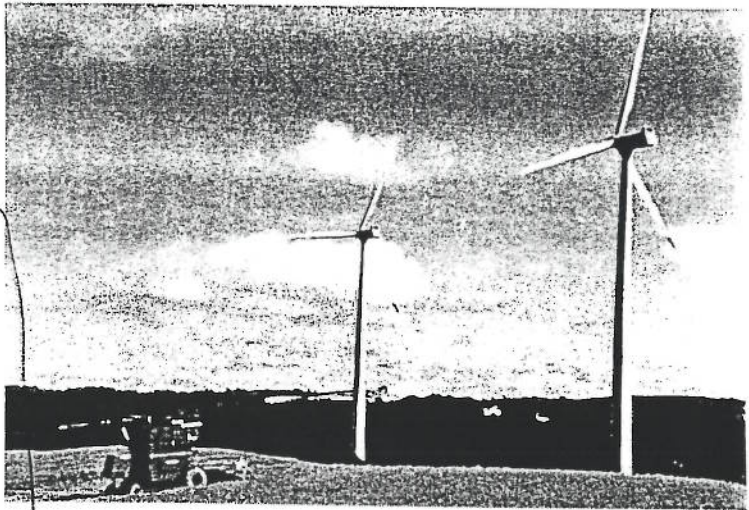
10. The federal government recently announced its plan to purchase green power to meet 20% of its total electricity needs. Provincial and municipal governments should set a similar positive example of environmental stewardship.

Where Are We Today?

Canada currently has 140 megawatts of installed wind capacity, lagging far behind our industrialized counterparts and trading partners.

In contrast, Germany, with fewer energy resources, has installed more than 6,000 megawatts of wind-power.

Our largest trading partner, the U.S., is promoting wind energy development through a U.S. 1.7-cent per kilowatt-hour production incentive from the federal government, several state requirements for renewable energy, net metering, capital cost "buydown" programs, and other mechanisms. As a result, the U.S. has seen significant development in the last decade, including 1,000 megawatts of new capacity in 1999 alone.



Le Nordais Windfarm, Quebec

Through government policy initiatives in Texas, it is anticipated that up to 1,600 megawatts of wind power capacity will be developed over the next year¹². A wind power developer in Texas today can benefit from federal tax credits for wind power production, a state-wide requirement for electric utilities to purchase 2,000 megawatts of renewable energy by 2009, access to the state power grid, net metering credits for homeowners who produce renewable energy, and consumer choice of power supplier, including several wind power options. Canada offers only a fraction of these market features, with the majority of provinces and territories offering none of them.

Despite the U.S. emphasis on fossil fuel energy, President George Bush's proposed National Energy Policy, released in May 2001, continues to support wind power through the following mechanisms:¹³

- Reaffirming support for the wind energy production tax credit.
- Reaffirming support for R&D in wind power.
- Establishing a new "Renewable Energy Partnership Program" to help companies buy renewable energy and receive credit for it, promote consumer choice, and increase consumer knowledge about the environmental benefits of renewable energy.

Table – Comparison of Wind Power Capacity in Various Jurisdictions¹⁴

• Germany:	6,113 MW
• Denmark:	2,297 MW
• USA:	2,555 MW, 5,250 MW expected by the end of 2001
• Spain:	2,402 MW
• India:	1,220 MW
• Canada:	140 MW
• European Target:	22% of electricity supplies from renewables by 2010 ¹⁵

¹² Wind Power Monthly, October, 2000.

¹³ Recommendations of the National Energy Policy Development Group, May 18, 2001. In EREN Network News.

¹⁴ Wind Power Monthly, November, 2000, April, 2001, The Economist.

¹⁵ In 1998, 9.8% of the EU electricity supplies were from renewable energy. The majority of the growth to meet the proposed 2010 target will be from wind energy supplies.

Canada is not capturing its full energy market share because we have not encouraged development of our wind energy resources through early industry support mechanisms similar to those in other industrialized countries and those employed in Canada's fossil fuel and nuclear sectors. The table below highlights federal government spending on energy in Canada.

Table – Federal Government Spending on Energy

\$1,350 million	Average annual direct federal spending on fossil fuels between 1970 and 1999 ¹⁶ .
\$850 million	Cost to the federal government of cleaning up radioactive waste in Port Hope and decommissioning uranium tailings sites.
\$353 million	Average annual subsidies to the nuclear energy industry by the Canadian government since 1953 ¹⁷ .
\$156 million	Federal subsidy to the Canadian nuclear industry in 2000.
\$93 million	Average annual loans to the fossil fuel industry written off by the federal government since 1970, over and above direct spending. ¹⁸
\$12 million	Yearly funding for renewable energy by the Canadian government ¹⁹ .

Call to Action

Considerable evidence points to the fact that our major trading partners are moving dramatically away from non-renewable resources to renewable energy, and erecting trade barriers to economies and trading partners that continue to be highly carbon-intensive. Coincident with these actions, renewable energy technologies continue to decline in cost due to volume and technological improvements. In short order, renewable energy may be less expensive than conventional fossil energy. Countries positioned with renewable energy resources and industrial strength to capitalize on this retooling of the global energy infrastructure will be highly advantaged. Currently, there is a significant risk that Canada will not participate in this infrastructure revolution. In addition, we may risk a loss of competitiveness by having to purchase technology and greenhouse gas emission reduction offsets from others, or by suffering large penalties for our lack of action and large fossil fuel base, which create immense emissions that will be regulated by the Kyoto Protocol or other international treaties.

Wind energy is a proven technology, viable and competitive on a large scale. Canada's wind resources are among the world's best. Our priority should be to accelerate market penetration and provide the support required for the industry to reach the scale at which it will be competitive with other forms of energy.

We are calling on all Canadians – consumers, industry and policymakers – to support CanWEA's 10 x 10 goal through action and policy.

For further information, please see our website at www.canwea.ca, or contact CANWEA at canwea@canwea.ca or <http://www.canwea.ca> or 1 800 9CANWEA.

¹⁶ Total spending was \$40.4 billion between 1970 and 1999. Source: Report of the Commissioner of the Environment & Sustainable Development - 2000.

¹⁷ Total spending was \$16.6 billion since 1953. Source: Ibid.

¹⁸ Total spending was \$2.8 billion since 1970. Source: Ibid.

¹⁹ In 2000, including R&D and tax incentives.

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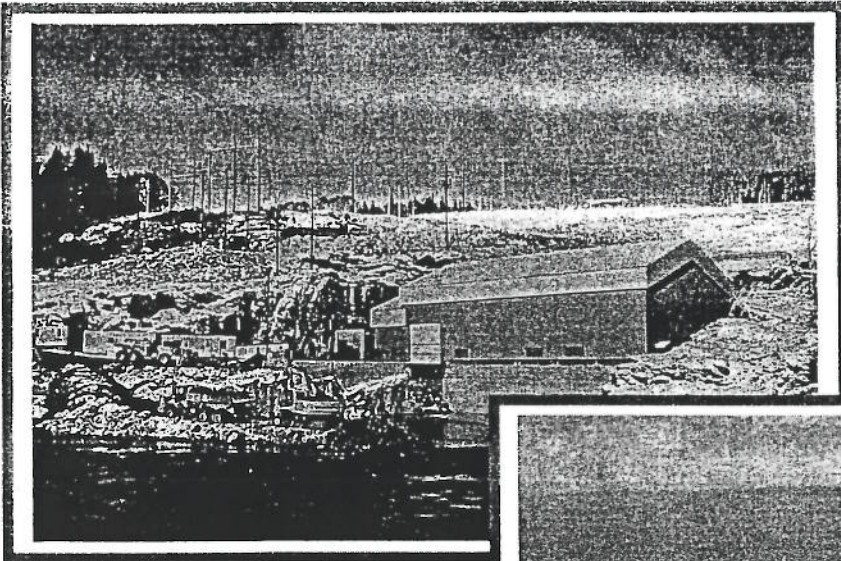
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This report is printed on recycled paper.

Published June 2001

Generating Investment in Ontario

Final Report of the Renewable Energy Task Team



Presented to:

***MPP Steve Gilchrist
Alternative Energy
Commissioner***

By:

***David Boileau, Chair,
Waterpower and Wind Power Task Forces***

***Glen Estill, President,
Canadian Wind Energy Association***

***Paul Norris, President,
Ontario Waterpower Association***

December 12, 2002

Implementing a proactive taxation regime

15. It is recommended that the Ontario government provide a capital tax exemption for projects that generate new electricity from renewable energy sources. The eligibility period should be from November 2002 to November 2012.
16. It is recommended that the Ontario government adopt a full Ontario Retail Sales Tax rebate for renewables. The eligibility period should be November 2002 to November 2012.
17. It is recommended that the Ontario government adopt a fixed rate of assessment for wind at \$ 40,000 per installed MW. This fixed rate would encompass all wind energy related improvements to the assessed property, including maintenance and operations buildings, roads, transmission lines and substations.
18. It is recommended that the resulting property tax be paid to the municipality where the project is located and that for a period of 10 years the province rebate, to the property taxpayer, the full amount of the property tax attributable to the wind park assessment.
19. It is recommended that new renewables using Crown land be extended the same royalty holiday provisions as those that exist for waterpower.
20. It is recommended that the Province consider (through the Alternative Energy Commission) challenging the federal government to take the following additional action:
 - provide an exemption for the federal capital tax of 0.225%
 - expand the qualification for Class 43.1 by eliminating, or increasing, the 50 MW cap on waterpower
 - adopt a refundable tax credit for renewables
 - expand funding for the Wind Power Production Incentive (WPPI)
 - raise the WPPI payment and increase the national program target from 1000 MW to 4000 MW
 - introduce similar incentive programs (with new funding) for other renewables.
 - address renewable energy-related recommendations in the Canadian Electricity Association 2003 federal budget submission

Policy Paper #1

Leadership in Government – An Alternative Energy Commission and Renewable Energy Development Secretariat

Background:

In November 1998, after the completion of supporting background analysis and joint investment in pilot studies, representatives of Ontario's waterpower industry and the provincial government, led by the Ministry of Natural Resources created a Task Force to assess the governance and policy implications of a commercialized electricity market on the waterpower sector. The Task Force process prepared the groundwork for the establishment of a "New Business Relationship" between the province and the waterpower industry, recognizing the environmental, economic and energy importance of indigenous renewable resources. Importantly, the government committed four years of new funding to MNR (total of \$16M) to build the capacity within the organization to deliver its responsibilities in the relationship.

Building on the success of the Waterpower Task Force, a similar initiative was undertaken by the leadership of Ontario's burgeoning wind industry and the provincial government. Struck in April 2001, the Wind Power Task Force followed a similar path of collaborative assessment of policy and procedural challenges and opportunities. The Task Force tabled a series of comprehensive recommendations in its final report in October 2001.

Almost coincident with the initiative of the Wind Power Task Force, the Ontario government established the Select Committee on Alternative Fuel Sources, an all-party committee of the Legislature, appointed on June 28, 2001 chaired by Dr. Doug Galt. The committee's mandate was "to investigate, report and recommend ways of supporting the development and application of environmentally sustainable alternatives to existing fossil-based fuel sources."

In its final report, tabled with the legislature in June 2002, the Committee clearly recognized the importance of renewable energy to the province's objectives, adopting many of the recommendations made by the waterpower and wind power industries. Moreover, the report specifically identified the value of the "Task Force" policy development process, stating that "The Committee also believes that the Task Force approach, as used by the Ontario Waterpower and Wind Power Task Forces, has merit to give direction in some cases in the formulation of policy on alternative fuel/energy matters."

In October 2002, in response to a joint presentation by the waterpower and wind power industries to government, MPP Steve Gilchrist confirmed the appointment of Mr. David Boileau as the co-chair of a "Renewable Energy Task Team" in a letter addressed to all key Ministers and requested their full cooperation in developing recommendations. Mr. Gilchrist has recently been appointed as Ontario's "Alternative Energy Commissioner". Led by Mr. Boileau, representatives of the waterpower and wind power industries drafted a series of recommendations and undertook to refine these draft recommendations through consultation with key stakeholders and government ministries.

Costs and Resources

Some analysis of the overall impact of the price freeze over three years suggests that on average, the price will be lower more often than higher than 4.3 cents. While it may be useful to investigate the underlying assumptions in this evaluation, such analysis is beyond the scope of this paper. It is important to recognize, however, that if the current system can be expected to generate new revenues, these resources could be invested in meeting supply objectives.

Moreover, renewable energy already generated more than \$140 million in resource royalties for the Consolidated Revenue Fund through the occupation of Crown land (all waterpower). This revenue source is unique to renewable energy and will grow, in time, with new renewables coming on stream.

As identified in the taxation review, the waterpower and wind power industries have estimated that it will cost only 1.5 to 3 cents per kWh over the price of new natural gas generation (estimated to require 6 –7 cents) to bring on new renewables sufficient to meet the 375 MW/yr objective. Wind's eligibility for the federal WPPI (if improved, as recommended), reduces the differential for wind to approximately 1.5 cents. Using 1.5 cents as the incremental cost of new renewables (and average value of renewable energy credits or "green tags"), an annual 1500 GWh procurement policy requires a maximum investment of \$22.5 million (increased by the accelerating supply objective). This investment will be partially offset by the competitive process, ensuring the most economically viable projects come forward. Additionally, the province may choose to transfer the renewable energy credits to other entities, at a price that recognizes this environmental value (e.g. emissions offsets).

In conclusion, while the investment required to achieve the RPS objective is significant, it can be mitigated through the allocation of revenues received by the Crown (either from the market or resource royalties), the use of a competitive process and/or the transfer of environmental attributes.

Implementing a Proactive Taxation Regime

Overview

Renewable energy resources in Ontario make an important contribution to local, regional and provincial economies. Importantly, these indigenous resources provide a direct source of royalties to the provincial Consolidated Revenue Fund – a benefit unique to renewables. Currently, this contribution averages more than \$140 million annually – generally the single largest source of resource royalties collected by the Crown. While these royalties are wholly derived from waterpower production, the growing potential of new wind power and continued growth of waterpower will result in additional direct benefits to the Crown.

Waterpower has benefited substantially from the tax reforms and incentives embodied in Bill 140. This is demonstrated by the considerable resurgence of investment in some of Ontario's existing waterpower infrastructure previously impeded by a burdensome property tax regime. Through Bill 210, the Ontario government has proposed a suite of tax incentives intended to encourage more investment in renewables.

While providing tangible financial benefits, the new tax incentives are not expected to significantly improve the investment climate for waterpower. This is because Bill 140 has already addressed property tax and royalty costs.

As well, most waterpower projects and all wind parks already benefit from the federal Class 43.1 depreciation rules. This provides a 30% declining balance depreciation rate applicable at the federal and provincial levels. As this favourable treatment of capital expenditures already offsets the large part of taxable income, a corporate income tax holiday for renewables would have little impact on after tax rates of return.

Other measures such as capital tax and Ontario Retail Sales Tax (ORST) exemptions do provide a modest but important benefit to both waterpower and wind power projects and should be carried forward.

Finally, for wind power, property assessment rationalization, property tax rebates and Crown Land royalty holidays can provide considerable benefit.

To quantify the impact of the proposed measures the Task Team commissioned an assessment of the impact of the proposed measures. Based on this review the team recommends that four of the tax incentive measures be considered.

1. Capital Tax

Background

Ontario has a capital tax rate of 0.3% on employed capital. This tax is applied each year against the depreciated value of the asset. Relative to fossil generation, most renewable energy projects have a high capital cost per installed Megawatt. The impact is exacerbated by the fact that renewable projects have relatively low capacity factors. This is due to the availability of water and wind.

The table below compares the approximate impact of the Ontario capital tax on a 100 MW wind park, a 100 MW waterpower station and a 100 MW combined cycle gas fired installation.

Type of generation (100 MW)	Typical capital cost	Annual capital tax at 0.3%	Typical capacity factor	Capital tax per unit of energy (MWh)
Wind power	\$150 million	\$ 450,000	33%	\$1.56
Waterpower	\$230 million	\$ 690,000	57%	\$1.32
Natural gas	\$100 million	\$ 300,000	90%	\$0.38

Recommendation

It is recommended that the Ontario government provide a capital tax exemption for projects that generate new electricity from renewable energy sources. The eligibility period should be November 2002 to November 2012.

Costs

At present there is only modest investment in new renewables. A capital tax exemption therefore will not have a large impact on current CRF revenue. Additionally, the Ontario government has already indicated that the capital tax will be phased out over time, so this measure would simply be accelerating that plan for this sector.

Benefits

As shown in the above table, adopting a capital tax exemption for renewable generation projects is equitable and helps to close the cost gap between renewables and other sources. See tax calculator spreadsheet (page 31) for cost/benefit figures.

4. Crown Land Royalties on Wind Energy

Background

Waterpower

Crown land waterpower rentals were largely addressed by Bill 140. This Act adopted a "market based" Gross Receipts Charge (GRC). In recognition of the high capital cost burden associated with new waterpower, the Province legislated an exemption for new developments, redevelopments and upgrades from the rental GRC for a period of 10 years.

Wind power

A sizeable portion of Ontario's wind power potential is located on Crown lands. There is currently no Crown wind land rental schedule for wind parks. This reflects the fact that there are no commercial wind turbines on Crown Land. It is reasonable to expect that in future the Crown will seek rental/royalty income from the use of this public resource.

Recommendation

The same rationale that provided a rental holiday for waterpower (using development incentives to promote public policy objectives like clean energy) should be extended to wind power.

Costs

At present, Ontario has no experience with commercial wind parks on Crown Land and no revenue. There are no prescribed rents for the use of wind to produce electricity. However, experience on private wind lands in the U.S. indicates that landowners are receiving approximately 2% of the energy revenues in wind rights payments. A 2% charge on energy revenue would typically yield \$ 3000 /year/MW in wind right payments to the landowner.

Benefits

Any reduction in operating expenses helps bridge the cost gap. The province has a long history of allocating Crown Lands to promote sustainable resource development. Clearly the use of Crown Lands to promote a public policy priority like renewable energy is consistent with this objective. As a further benefit, many of Ontario's good wind lands are located in Northern and rural Ontario where there is an urgent need for new jobs and investment.

Summary

If these recommendations are adopted, the team estimates that the after-tax rate of return on equity would improve by an average of 1% for waterpower and 4% for wind power.



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December 19, 2003

Hon. Ralph Goodale
Minister of Finance
140 O'Connor Street
Ottawa, Ontario
K1A 0G5

Re: Wind Energy and the 2004 Federal Budget

Dear Minister Goodale,

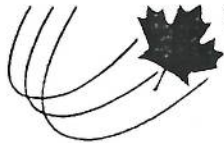
On behalf of the Canadian Wind Energy Association (CanWEA), let me congratulate you on your recent appointment as Minister of Finance. Our members include wind turbine and component manufacturers, wind energy project developers (including many of Canada's largest energy companies), wind energy consultants and service providers, as well as other corporations and individuals with an interest in wind energy. CanWEA has set a target of 10,000 MW of installed wind energy capacity in Canada by 2010 and we look forward to working with you to create a strong and viable Canadian wind energy industry.

We are writing to request that the federal government make the following changes to the Wind Power Production Incentive program (WPPI) in the 2004 Federal Budget:

- increase the WPPI program target to 4,000 MW
- extend the WPPI program deadline to 2010
- remove all project, corporate and provincial caps under WPPI, and
- allow wind energy projects that qualify for the Canadian Renewable and Conservation Expense (CRCE) to also be eligible for WPPI.

I have attached a detailed description of our proposal for your information (Attachment # 1).

CanWEA strongly supports the WPPI and we are pleased to see that it has facilitated investments that have increased Canada's installed wind energy capacity by 93 MW. As the federal government has acknowledged, however, the level of incentive currently provided by WPPI is inadequate to close the "gap" that currently exists between the cost of wind energy and competing sources of electricity in most parts of the country. Unless the remainder of the temporary cost gap is more completely addressed through either a higher incentive payment under WPPI or significant new provincial actions, CanWEA believes that WPPI may well fail to meet its current and modest 1,000 MW target.



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While the federal government currently faces some fiscal constraints, provincial actions that can help to close the gap are now a real possibility. WPPI has stimulated policy proposals at the provincial level that would, if implemented, lead Canada to put in place at least 3,500 MW of installed wind energy capacity. Most of these initiatives, however, are currently only under consideration and there is a real chance that many of these initiatives will be scaled back (to the levels supported by WPPI) or even abandoned over the next 18 months. CanWEA believes that WPPI's modest targets are now likely to limit provincial action to support wind energy – eliminating a potential opportunity to significantly exceed the current WPPI target.

Our proposal to expand WPPI would require the federal government to make an average expenditure of \$50 million / year for 16 years. It is important to note, however, that these funds: (a) would only be utilized once existing WPPI funds were fully committed, and (b) would be drawn down at less than the average rate for the first few years of the program. Accordingly, these measures would not require any significant expenditures by the federal government for several years, even though they would stimulate significant investment by the industry to identify and develop wind energy facilities.

Wind energy is the world's fastest growing source of electricity and Canada is blessed with outstanding wind resources. Aggressive pursuit of wind energy will provide significant investment and employment benefits to Canada – particularly in rural areas. It will facilitate electricity price stability in a future likely to be characterized by volatile and increasing natural gas prices. Wind energy does not contribute to climate change, air and water pollution, habitat destruction, or the production of solid, toxic or nuclear wastes, and creates no significant new environmental problems. A short backgrounder is attached that provides more detail on this rapidly growing industry and its potential benefits for Canada (Attachment # 2).

CanWEA very much appreciates the role you played in making WPPI a reality while you were Minister of Natural Resources and we think our proposal will help ensure that WPPI does the maximum possible to leverage constructive and substantive action from provincial governments. Thank you for considering our proposal and I will be contacting your office to arrange a meeting where representatives of CanWEA can discuss our proposal with you in more detail. We look forward to receiving your response to our letter and proposal.

Yours sincerely,

Robert Hornung
President

cc Parliamentary Secretary to the Minister of Finance – Hon. John McKay
Deputy Minister – Kevin Lynch
Assistant Deputy Minister – Denis Gauthier



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ATTACHMENT # 1 – CanWEA's PROPOSAL FOR THE 2004 FEDERAL BUDGET

The Canadian Wind Energy Association (CanWEA) is asking the Federal Government to make the following changes to the Wind Power Production Incentive program (WPPI) in the 2004 Federal Budget:

- increase the WPPI program target to 4,000 MW
- extend the WPPI program deadline to 2010
- remove all project, corporate and provincial caps under WPPI, and
- allow wind energy projects that qualify for the Canadian Renewable and Conservation Expense (CRCE) to also be eligible for WPPI.

WPPI is currently designed to meet a very modest objective (1,000 MW of new installed wind energy capacity over a five year period through 2007) by providing a production incentive payment (1.2 – 0.8 cents / kwh) that fills a portion of the “gap” that currently exists between the cost of wind power and competing sources of electricity. Under WPPI, government payments are explicitly tied to actual electricity production.

While the fundamental design of WPPI is sound, the first two years of a five year program have only supported the installation of 93 MW of installed wind energy capacity in Canada. These projects have either been: (a) situated in areas of Canada with an exceptional wind resource, near-ideal site access and high electricity prices, or (b) small projects that are not required to get investment grade returns. Over this same time period, the Netherlands, India, Denmark, the United States, Spain and Germany have installed anywhere from 3 to 47 times more wind energy capacity. In addition, a significant percentage of the potential economic benefits associated with these projects have flowed out of the country because Canada's small domestic market has prevented the development of any significant domestic wind turbine and component manufacturing capacity.

This is not surprising. When WPPI was introduced, the federal government acknowledged that the level of incentive it provided would be inadequate to support wind energy development in most parts of Canada. Unless this temporary cost gap is more completely addressed through either a higher incentive payment under WPPI or significant new provincial actions, CanWEA believes that WPPI may well fail to meet its current and modest 1,000 MW target.

While the federal government currently faces some fiscal constraints, provincial actions that can help to close the gap are now a real possibility. WPPI has stimulated provincial governments to develop policy proposals which, if implemented, could lead Canada to put in place a minimum of 3,500 MW of installed wind energy capacity (these proposals are outlined in a Table at the end of this document). Ontario's proposed renewable portfolio standard in Ontario, which would make the single largest provincial contribution to wind energy development, would also make a significant contribution to the



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federal government's efforts to implement the Kyoto Protocol because of its link to a phase-out of coal-fired power.

Most of these initiatives, however, are currently only under consideration. Initiatives that are proceeding are not guaranteed to be fully implemented or are only voluntary. There is a real possibility that many of these initiatives will be scaled back (to the levels supported by WPPI) or even abandoned over the next 18 months. Key provincial concerns are the cost to provincial treasuries and citizens, as well as the extent of the federal government's long-term commitment to wind power as a significant source of electricity.

CanWEA believes that the 2004 Federal Budget provides an excellent and timely opportunity for the federal government to make a strategic investment to strengthen the WPPI program and thereby provide both a stronger signal of the federal government's commitment to wind power and a stronger incentive for provincial governments to implement their own policy proposals. By doing so, the federal government would not only increase the probability of meeting its modest WPPI target, but would also provide an incentive for provincial governments to take the actions required to put significantly more wind power in place.

The 2004 Budget is also timely in light of the United States' recent failure to pass an Energy Bill in Congress. As a result, the United States Wind Energy Production Tax Credit (PTC) will expire on December 31st, 2003. While the PTC is likely to be reinstated (it was a non-controversial piece of the draft legislation and it has expired and been reinstated in the past), the failure to pass the Bill highlights the uncertainty inherent in U.S. Policy. This uncertainty has held back the development of wind turbine and component manufacturing in the United States, and presents a golden opportunity for Canada. With quick action to ensure a strong domestic market for wind energy, Canada will become the location of choice for manufacturers hoping to serve the entire North American market.

Our proposal to expand WPPI would require the federal government to make an average expenditure of \$50 million / year for 16 years. It is important to note, however, that these funds: (a) would only be utilized once existing WPPI funds were fully committed, and (b) would be drawn down at less than the average rate for the first few years of the program. Accordingly, these measures would not require any significant expenditures by the federal government for several years, even though they would stimulate significant investment by the industry to identify and develop wind energy facilities.

Allowing wind energy projects that are eligible for support through CRCE to also receive funding through WPPI will also have a small impact on federal finances as only a limited number of investments (primarily associated with new entrants to the wind energy market) are CRCE eligible. Nonetheless, the measure would provide a significant boost in support for these projects – increasing diversity and competition within the industry.

It is important to note that some important additional proposed enhancements to the income tax rules relating to CRCE were announced in the Department of Finance Technical Release No. 2002-063, dated July 26, 2002, but that the draft legislation containing these amendments to the Income Tax Act



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have not yet been passed. We urge the federal government to move quickly to implement these changes.

Canada will not see the development of a robust wind energy industry unless the cost gap between wind energy and competing sources of electricity is eliminated. While technological advances and increasing natural gas prices are likely to ensure this happens in the next 10-20 years, Canada is falling far behind other countries in the development and deployment of wind energy technology. Other countries have stepped in to fill the cost gap in the short-term, providing significantly stronger incentives than Canada has to ensure that their industry is well positioned to compete in this rapidly growing market in the long-term. For example, the US PTC is worth 1.8 cents (U.S) / kwh, non-taxable, and unlimited in program size. WPPI has a significantly smaller value, is taxable and has a size limit.

Canada must take more aggressive action to support wind energy if it hopes to be a leader with respect to one of the key energy technologies of the 21st century. Such action must occur at both the federal and provincial level. The 2004 Federal Budget provides an excellent opportunity for the federal government to make a strategic investment in WPPI that would provide a strong incentive for provincial governments to implement proposed actions that would ensure Canada meets, and significantly exceeds, its current WPPI target – allowing Canadians to capture more of the economic and environmental benefits of wind energy.



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PROVINCIAL WIND ENERGY / RENEWABLE ENERGY
POLICY PROPOSALS

Province	Initiative	Potential Wind Energy Production	Status
British Columbia	50% of new generation portfolio standard	Minimum 50 MW	Voluntary, includes high-efficiency natural gas generation
Alberta	3.5% Renewable Portfolio Standard (RPS) by 2008	Up to 560 MW	Under consideration
Saskatchewan	150 MW wind energy project	150 MW	Voluntary
Manitoba	100 MW wind energy project	100 MW	Under consideration
Ontario	10% RPS by 2010	Approximately 1,500 – 3,000 MW	Under consideration
Quebec	1,000 MW RFP by 2012	1,000 MW	Implementation not guaranteed with new government
New Brunswick	NB Power Target of 100 MW by 2010	100 MW	Voluntary
Nova Scotia	3.75% RPS by 2011	Up to 145 MW	Under consideration
Prince Edward Island	10% RPS by 2010	Up to 40 MW	Under consideration
Newfoundland	25 MW wind energy project	25 MW	Under consideration



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ATTACHMENT # 2: WIND ENERGY BACKGROUNDER

Wind Energy is the World's Fastest Growing Source of Electricity

- Global installed capacity of wind energy has increased, on average, by 25% a year for the last decade and wind energy now produces enough electricity to meet the needs of 19 million households.
- Wind energy provides 20% of Denmark's electricity and 40% of electricity in some German regions.
- The wind energy industry now employs 70,000 people worldwide and is worth \$6-7 billion.
- Current global installed capacity of wind energy is 34,000 MW. This is projected to increase to 83,000 MW by 2007 and 177,000 MW by 2012.

Canada's Wind Energy Resource

- Canada, with the world's second largest land mass and longest coastline, has a massive wind energy resource that offers potential for significant developments in all regions of Canada.
- While wind is an intermittent power source, many European jurisdictions have demonstrated this is not a significant problem for modern electrical grids. Wind power is an ideal complement to Canada's abundant large-scale hydro resources because large hydro facilities can store energy by allowing reservoirs to grow when wind power is available and can fill the gap when the winds are not blowing.
- Canada could easily integrate wind power into the electricity grid at a level that would meet 20% of Canada's electricity needs. This would require 36,000 MW of installed wind power capacity – far exceeding Canada's current installed wind power capacity of only 316 MW.

Wind Energy's Economic Benefits

- Every 1,000 MW of installed wind power capacity generates \$1.5 billion in economic activity and creates a minimum of 8,000 job-years of employment.
- Wind energy resources are often excellent in rural areas and wind energy projects can diversify rural economies by providing lease income for landowners, and jobs and property tax revenues.
- The manufacture of wind turbines and components in Canada is essential to maximization of economic benefits for Canada. Wind energy policy instability in the United States provides Canada with a tremendous opportunity to become the manufacturing centre for the whole North American market.
- Wind energy is an attractive alternative to natural gas as the major source of new electricity generation in Canada. Huge demand for natural gas, coupled with a projected production peak around 2015, promises volatile and increasing natural gas prices. Wind power can facilitate electricity price stability and decline because the fuel is free and the cost of wind turbines continues to steadily decrease by 3-5%/year. Substituting wind power for natural gas will decrease pressure on natural gas prices and allow us to extend the life of the resource for more efficient uses like home heating.

Wind Energy's Environmental Benefits

- Wind energy is a proven and commercially available technology that does not contribute to climate change, air and water pollution, habitat destruction, or the production of solid, toxic or nuclear wastes.
- Wind energy creates no significant new environmental problems. While wind energy requires land, the land can be used for other purposes (e.g. agriculture and recreation). Wind turbines also have very



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limited impact on birds – less than a house cat or a car - and noise issues associated with wind energy production have been eliminated by advances in turbine design, and proper setbacks from residences.