



Wind Energy in Canada in Today's Economy

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canwea

CANADIAN WIND
ENERGY ASSOCIATION

ASSOCIATION CANADIENNE
DE L'ÉNERGIE ÉOLIENNE

Presentation Outline

- **About CanWEA**
- **Status of wind in Canada and worldwide**
 - Current capacity and future prospects in Canada
 - Wind globally
- **Socioeconomic benefits of wind**
 - Canada's wind energy opportunity
 - Wind in the current economic context
- **WindVision 2025**
 - A vision for the country
 - What do we need for the future?
- **Wind and Hydro: good partners**
- **Social acceptability of wind projects**
- **Conclusion**

Wind: Canada's infinite source of clean energy.



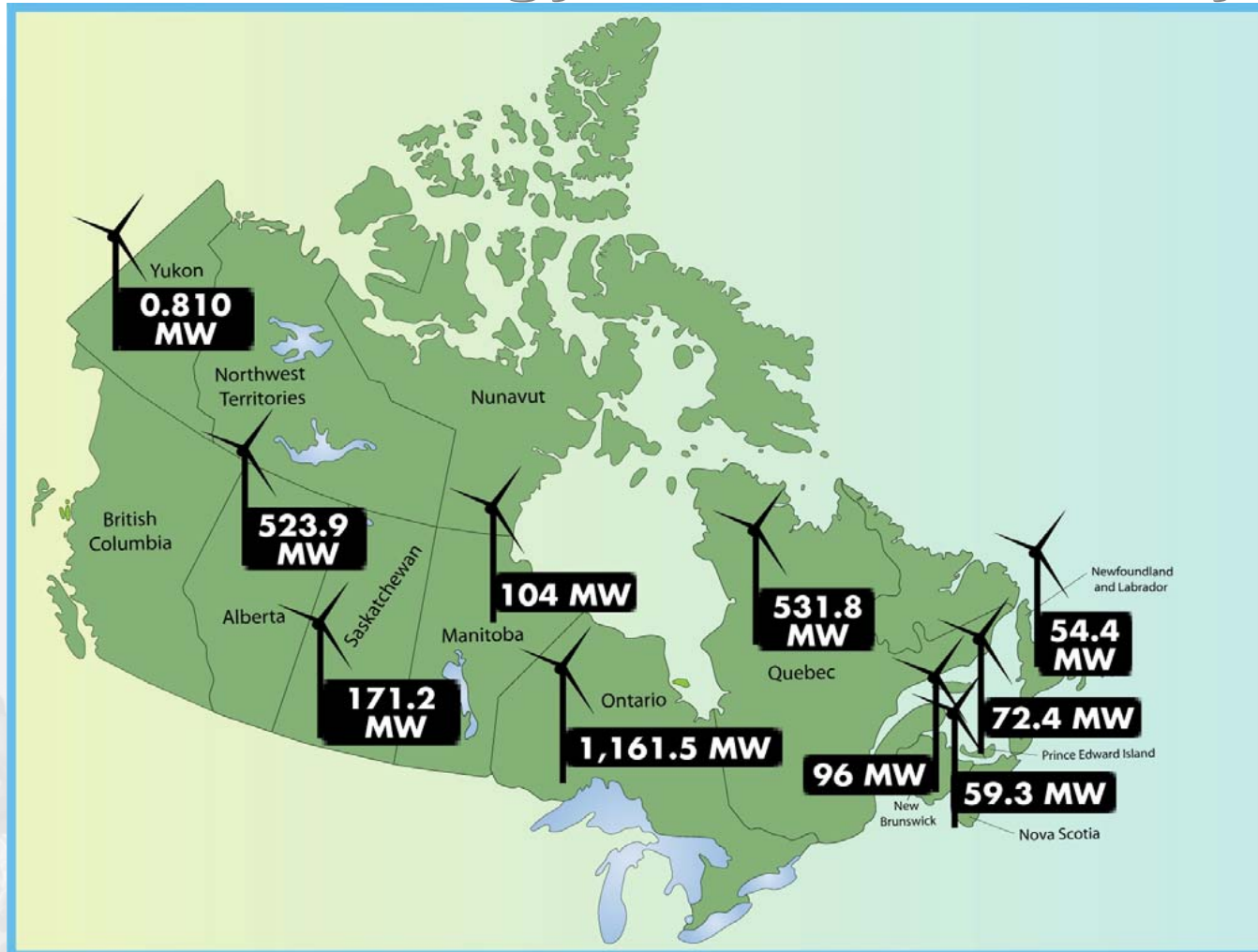
About CanWEA

- **CanWEA's members:**
 - Over 450 members including turbine manufacturers, component suppliers, project developers, project owners, utilities and service providers
- **CanWEA's vision:**
 - Work on behalf of our members to advocate for the responsible and sustainable growth of wind energy throughout Canada
 - Serve as Canada's leading source of credible information about wind energy and its social, economic and environmental benefits and effects

Wind: Canada's infinite source of clean energy.



Wind Energy in Canada Today



Wind: Canada's infinite source of clean energy.

Wind Energy in Canada Today

- Canada will have more than 3,100 MW in place by the end of 2009
- Wind developments operating in every province
- Wind supplies about 1 per cent of Canada's electricity demand with enough power to meet the needs of 860,000 homes
- In 2007, Canadian wind industry directly employed 4,000 people
- Generated 1,2 billion\$ in investments in 2008

Wind Energy in Canada in 2015: 12,000 MW

- **Provincial objectives now represent a minimum of 12,000 MW by 2015, including:**
 - Ontario : new GEA will allow Ontario to exceed the original OPA 4,600 MW target
 - Quebec : 4,000 MW by 2015
 - Maritime Provinces : more than 800 MW by 2015
 - Others: MB (1000 MW), AB (~3000 MW), BC, NL ...
- **12,000 MW by 2015 would:**
 - meet 5% of Canada's total electricity demand
 - represent a \$20+ billion investment (2005-2015)
 - directly employ 10,000+ people in 2015
 - reduce GHG by 9 million tons CO₂ per year

Wind Energy in Canada beyond 2015

- **Canada only scratching the surface of its potential**
- **Canada has one of the world's best wind resources:**
 - Longest coastline, second largest landmass
- **Canada is well positioned to integrate wind energy:**
 - 60% of Canada's electricity produced from hydro
- **Canada has good interconnections:**
 - Access to growing US market for renewable energy
- **Canada has the skill sets:**
 - Skills and education systems needed to capture the industrial development benefits of wind energy
- **Canada has an opportunity to contribute to a new North American supply chain for wind turbines, but needs to compete for this investment**

Trends of Wind Globally

- **Global Wind Energy Council's moderate scenario:**
 - 137,000 MW in 2010, 560,000 MW + in 2020
 - Between 800 et 1100 billion \$ in investment by 2020
 - 1,75 millions of new green jobs
- **There will be very important investments made by the wind energy industry**
- **How can we make sure that Canada benefits from it?**

Socioeconomic Benefits of Wind

Canada's Wind Energy Opportunity

- **Economic benefits:**
 - Competitive, stable cost of power
 - Rapid, incremental installation
- **Social benefits:**
 - Job creation and local investment
 - Rural economic diversification
- **Environmental benefits:**
 - No emissions of GHGs, air pollutants or other waste
 - Minimal impacts on surrounding environment

Socioeconomic Benefits of Wind (cont'd)

Wind in the current economic context

- **Decline in the manufacturing sector and a need to diversify our economy**
 - Wind is poised for significant 21st century growth, bringing great opportunities for its supply chain
- **Rural economic challenges and increasing urbanization**
 - Wind is a new natural resource that can help diversify rural economies (e.g. The Gaspésie region in Québec)
- **Rising electricity prices - new generation is more expensive and major transmission investments are required**
 - Wind will become more cost-competitive

CanWEA's WindVision 2025

- **CanWEA's WindVision: 20% of Canada's electricity demand to be met by wind energy by 2025**
- **Impacts:**
 - 55,000 MW of wind – representing 50% of electricity produced from new build
 - Stimulates minimum \$79 billion investment in Canada
 - Creates minimum 52,000 new jobs (would be significantly higher with a more mature Canadian supply chain)
 - Produces minimum \$165 million in new annual revenues for each of municipal governments and landowners
 - Reduces GHG emissions by 17 million tonnes CO₂ annually

Wind: Canada's infinite source of clean energy.



Need for renewed ecoEnergy Program

- CanWEA calling for continued federal support for wind energy (ecoENERGY): 1 cent kWh for 10 years
- Projected to have allocated all of its funding early in the 2009-2010 fiscal year
- CanWEA calling for renewed commitment to renewable energy deployment through either ecoENERGY expansion or an alternative mechanism like a new grant program
- Provides strong signal and assists provincial wind development plans
- Impacts of failure to do so: project delays, potential cancellations, and flow of capital from Canada to the US

Wind and Hydropower: Natural Partners

- Wind and Hydro are natural partners
- Wind and hydro can play an important role in helping Canada's commitment to generate 90% of its electricity production from non-emitting sources by 2020
- We can even envision moving that number to 100%, but it will take a strategic approach that looks beyond provincial borders
- Wind, hydro and other renewable powers are key to develop a greener, healthier and wealthier Canada

Social acceptability of wind projects

- **Need to engage with communities**
 - Need to remember the “5 C’s” of development
 - Wind energy has broad public support, but some concerns and myths remain
 - The debate has to be based on facts and consensus
- **Wind can be developed under many models**
 - Many different development models (co-operative, private, large, small)
 - Many different proponents (communities, municipalities, developers, Aboriginal communities, utilities)

Conclusion

- Canada has a world class wind resource
- We have to “think big” and seize this opportunity in order to make benefit local communities everywhere in the country
- Wind can play an important role in to diversify Canada’s economy
- Wind and other renewable can have benefits for every region of the country

Thanks!

Our next seminar:

**Emerging Opportunities in Québec's Wind Energy Supply Chain
November 9 – 10, Montréal, Québec**

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