THE CANADIAN TRADE COMMISSIONER SERVICE
LE SERVICE DES DÉLÉGUÉS COMMERCIAUX DU CANADA

Wind Energy Opportunity

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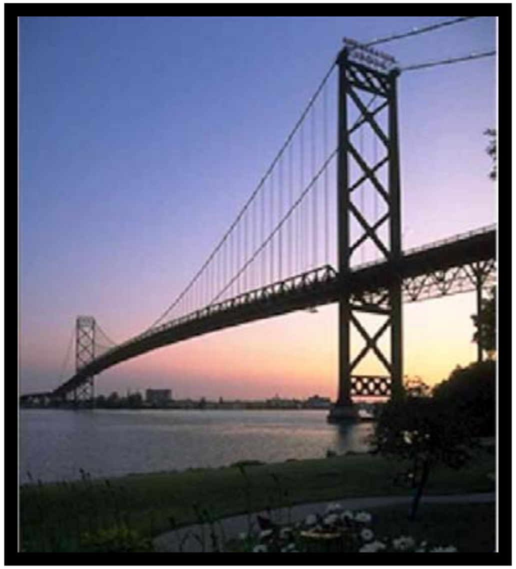
<u>For Manufacturers Only</u>

London, February 5, 2009



International Trade Canada
Trade Commissioner Service
Commerce international Canada
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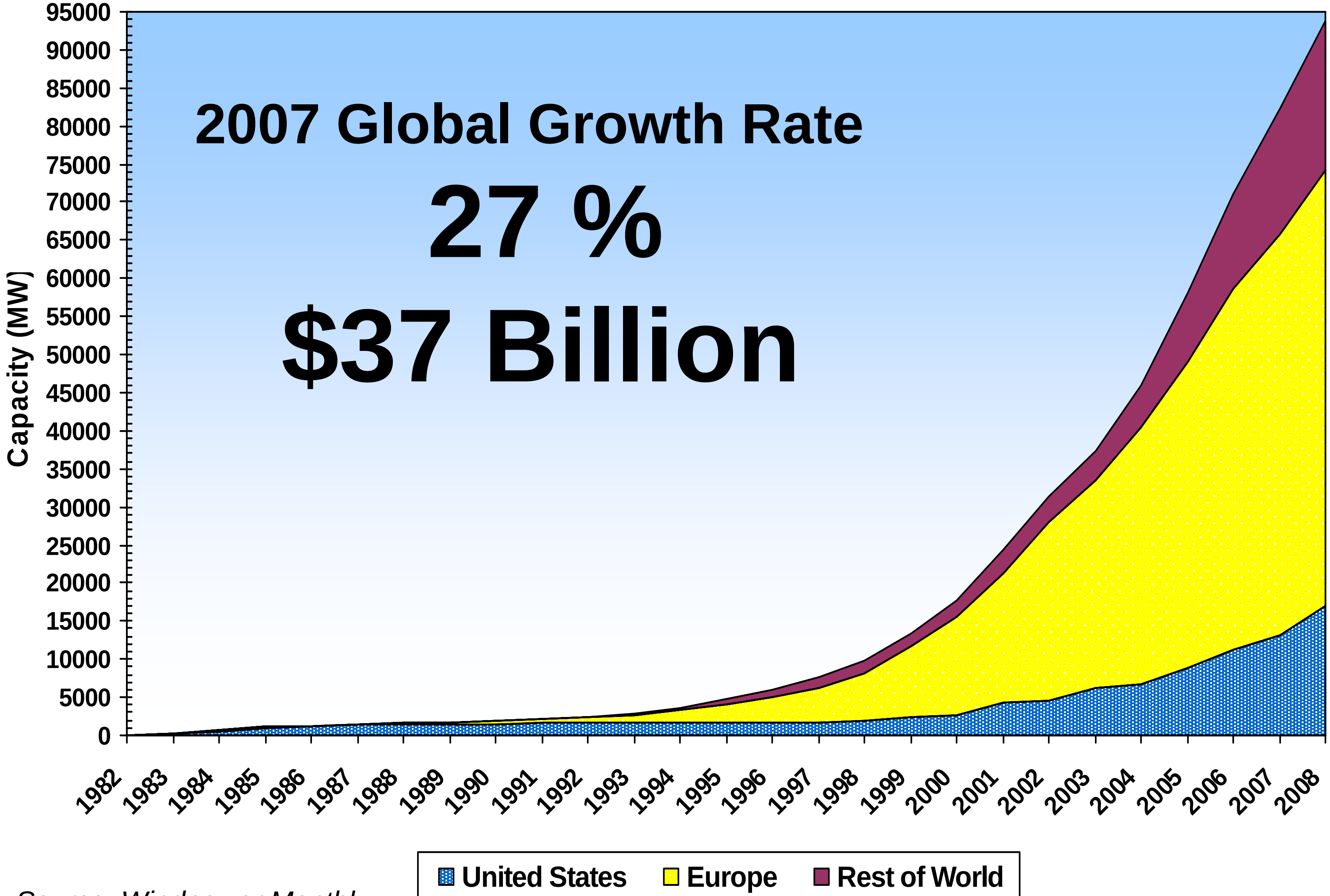
Canada

Agenda

- Market Information
- Drivers of Growth
- Who is here?
- US Installations (Existing)
- OEM location considerations
- Needs
- Scale
- I’m from the government – I’m here to help
- Close

This is a BIG Market



Source: Windpower Monthly

Wind is Growing Especially in the US

Incremental Capacity (2007, MW)	
U.S.	5,329
China	3,287
Spain	3,100
Germany	1,667
India	1,617
France	888
Italy	603
Portugal	434
U.K.	427
Canada	386
Rest of World	2,138
TOTAL	**19,876**

Cumulative Capacity (end of 2007, MW)	
Germany	22,277
U.S.	16,904
Spain	14,714
India	7,845
China	5,875
Denmark	3,088
Italy	2,721
France	2,471
U.K.	2,394
Portugal	2,150
Rest of World	13,591
TOTAL	**94,030**

Source: BTM Consult; AWEA project database for U.S. capacity.

Growth *was* projected Very Large

Forecasts	World	N America
– 2008	24.4%	34.8%
– 2009	22.1%	29.8%
– 2010	20.2%	26.0%
– 2011	18.8%	23.1%
– 2012	17.1%	20.9%
Five Years	**20.6%**	**26.9%**

-Source: Global Wind Energy Council

BUT

Money got tight

Opportunities are still there

- OEMs continue to build at capacity
- The order books are still full
- Some projects are delayed because of financing
- Backlog is about 1 year versus 5 years
- Projects are proceeding

The BIG drivers for Wind

- US Government energy policy
- Canadian Government energy policy
- Drive to reduce oil dependence
- Green agenda
- Public support
- Carbon

OEMs in N.A. Today

- General Electric
- Gamesa
- Clipper Windpower
- Acciona
- DeWind
- AAER
- Suzlon

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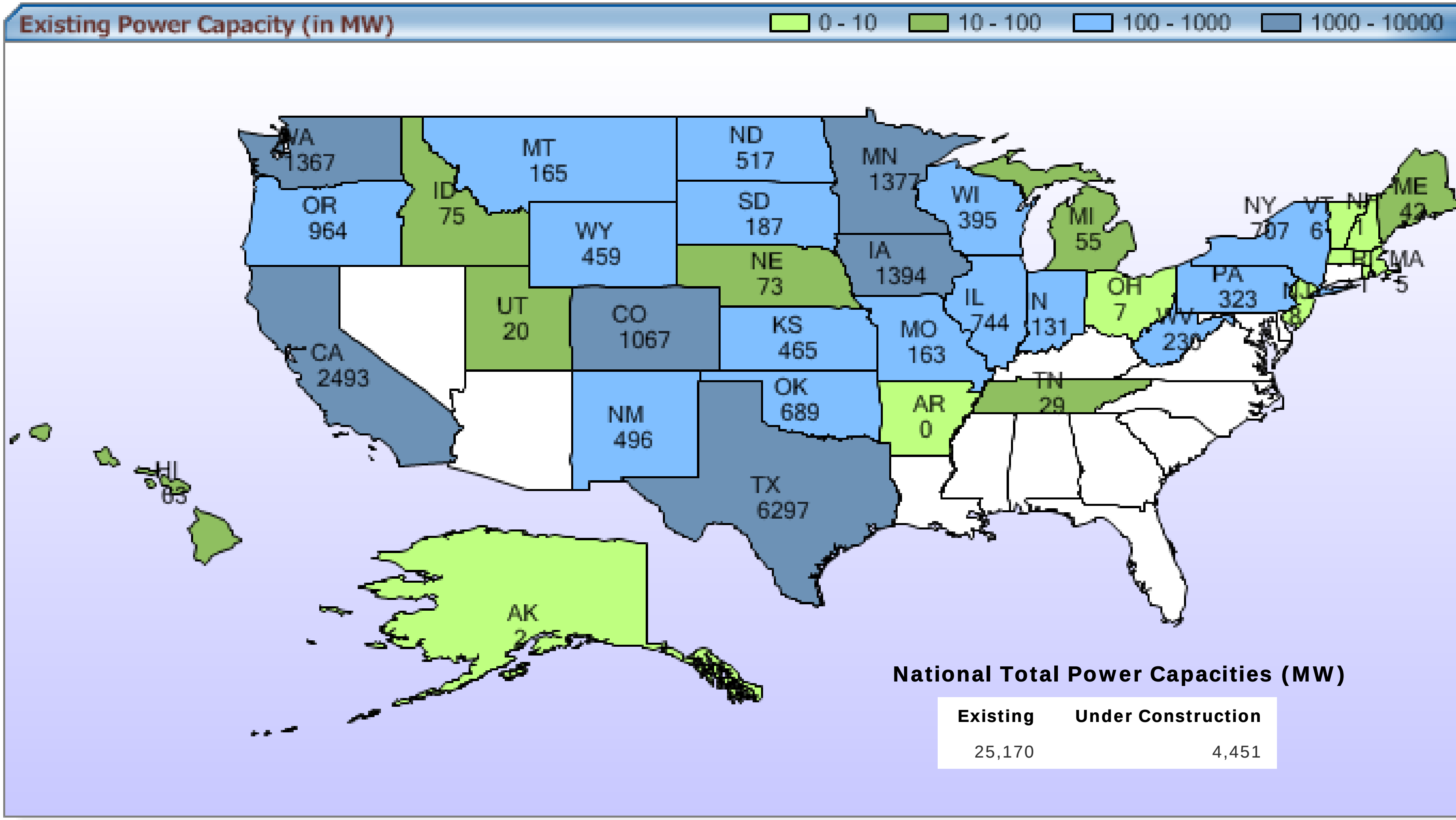
US Wind Installations



More OEMs are coming ….
When and where?

Considerations

- Volumes
- Destinations
- Capabilities
- Scale

What will be needed

- Towers & Bases
- Nacelles & Gearboxes
- Hubs & Blades

- Stuff

Required Capabilities

- Foundries
- Machine Shops
- Fabricators
- Generator
- Electronics

- Painters
- Heat-Treat
- Testing/Analysis
- Grinders

- Platers
- Machine Subs (Wind)
- Small Fabricators

- Fabricator (flanges)
- Steel Mill (plates)

Small fabricators
- door frames
- platforms

- Ladders
- Fasteners
- Electricals

Blade Core
- Balsa
- Foam

Resins
- Epoxy
- Polyester

Fiberglass
- Woven cloth
- Chop Strand Mat

About Scale

These are BIG parts
They require BIG work pieces
And BIG equipment

And they need to be moved

We’re Working on it

- **Working group of Federal, Provincial Regional And Municipal Partners (LEDC is active)**
- **Industry Canada has done and is doing studies**
- **More news soon**

Find out MORE

CanWEA Seminar Series

Opportunities in Canada's Wind Energy Supply and Value Chains
February 18-19, 2009
Toronto, Ontario

Thank you for your kind attention

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