

Canada



Solar and the Canadian Experience...



CanSIA



...An Evolution

The Canadian Solar Industries Association (CanSIA)



- **National Trade Association that represents over**
 - 400 + solar organizations in Canada
- **Mission and strategic objectives**
 - Strengthen the Canadian solar industry;
 - Develop and expand solar markets;
 - Remove market barriers;
 - Strengthen labour force training and expertise; and,
 - Improve awareness and understanding across Canada and globally.



Where we stand...

Canada's Energy Reality



- **Energy / Electricity Governance**
 - Provincial jurisdiction
 - Federal > No National Renewable Energy Plan
- **Natural Resources Rich**
 - Oil & Gas remains a key economic driver (i.e. Alta Oil Sands)
- **Significant Nuclear Agenda**
 - Large uranium deposits + CANDU technology
- **Electricity Cost**
 - Relatively inexpensive (i.e. Hydro)
- **Energy Security NOT a concern**

Solar Works in Canada!



Solar Resource Comparisons Canada Avg: 1150 kWh/kW



Ranking of Major Cities Worldwide in Terms of Yearly PV Potential

City	Yearly PV Potential (kWh/kW)
Cairo, Egypt	1635
Los Angeles, USA	1485
Ottawa, Canada	1198
Toronto, Canada	1161
Washington, DC., USA	1133
Paris, France	938
Tokyo, Japan	885
Berlin, Germany	848
London, England	728

Source: Natural Resources Canada



Towards a Renewable Energy Future...



1. Canadian Solar Industry

- *Industry in transition...*
- From smaller scale to larger scale projects / players (i.e. Schuco, SunPower, General Electric, SolarWall etc.)

2. US-Canada Clean Energy Dialogue

- Election of Obama (i.e. Renewable Energy platform)
- U.S. Energy Security (i.e. Canada viewed as domestic)
- Canada likely to follow US lead in Copenhagen

3. North American Cap & Trade System

4. Smart Grid Infrastructure

- Ontario Green Energy Act

5. Green Jobs for New Economy

6. Principal support for renewables emanates from provinces (i.e. Ontario Green Energy Act, Solar BC, Alberta, etc)



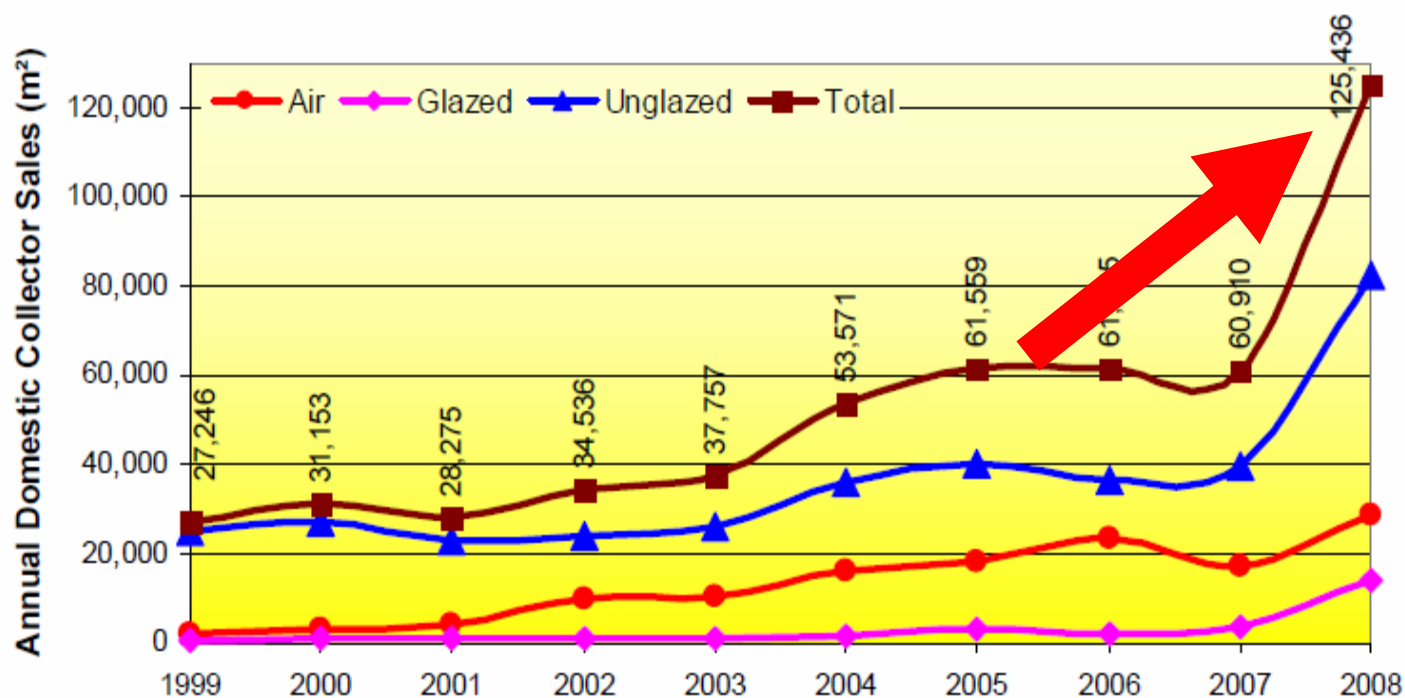
Turning the corner... Expanding Solar Markets





Solar Thermal Industry

- Approx. 100% growth in 2008*
- Federal Incentives ended 2007 / reinstated 2008
- Federal Residential Pilot Projects starting in 2009



* Preliminary findings from NRCan survey for 2008



Solar Thermal Incentives & Support



- **Federal Incentives**
 - Residential Solar Water Heating Pilot Program
 - ecoEnergy Renewable Heat Program
 - ecoEnergy Home Retrofit Program
 - Home Renovation Tax Credit (expires Feb, 2010)
- **Provincial Incentives**
 - Matching Federal ecoEnergy Renewable Heat and Home Retrofit Programs (Ont, BC, Sask, NS)
 - Various rebates, etc.
- **Additional Provincial Support**
 - Solar BC (100,000 Roofs Program)
 - Ontario Solar Thermal Task Force
 - Ontario Green Energy Act (100,000 Roofs Program)



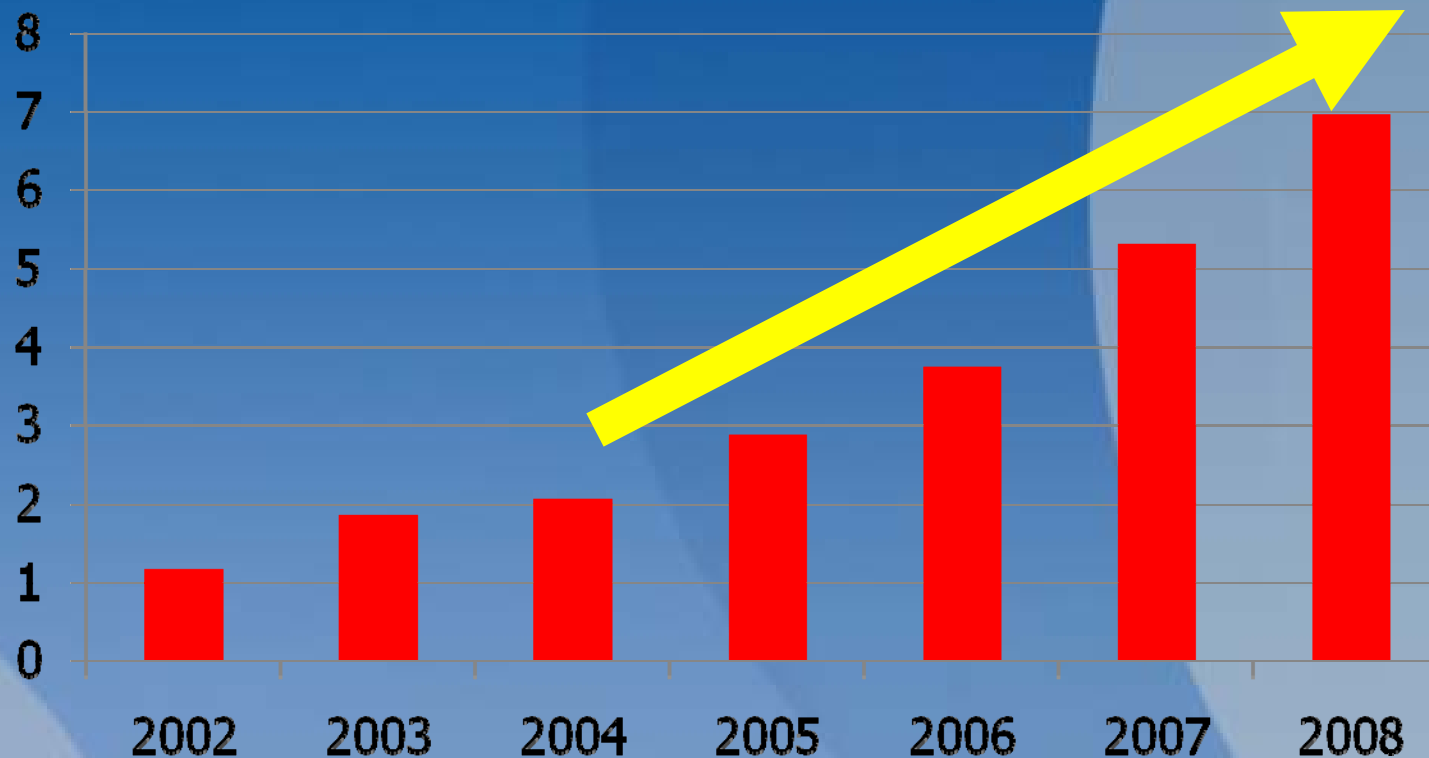
Solar PV Industry

6 Year Annual Growth=35%



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Annual PV Installation in Canada (MW)





Leading the PV Charge...

Ontario Green Energy Act



- **Ontario FIT Program (N.A. First!)**
 - Launched Oct. 1, 2009
- **Multi-tiered solar PV tariffs**

▪ 10 kW:	80.2 cents/kWh
▪ 10 – 250 kW:	71.3 cents/kWh
▪ 250 – 500 kW:	63.5 cents/kWh
▪ > 500 kW:	53.9 cents/kWh
▪ Large scale ground:	44.3 cents/kWh



Ontario...

Challenges Going Forward



- **Ongoing Stability**

- Sending the right signal to the marketplace

- **Renewable Energy Approval Process**

- Streamlined regulatory approval process

- **Domestic Content Requirements**

- Impacts International and non-Ontario companies
- FIT Program: Start at 50% & increase to 60% by Jan 2011
- MicroFIT: Start at 40% & increase to 60% by Jan 2011

- **Agricultural Lands Restriction**

- Ground solar > 100 kW not permitted on Class 1 & 2 lands
- Ground solar permitted on some designated Class 3 lands

- **Developing Industry Capacity**



National Perspective... Challenges Going Forward



- National Renewable Energy Policy
- National Climate Change Policy
- Recognition in the US-Canada Energy/Environmental Dialogue
- Getting Ontario FIT Program Right!!
 - No start / stop
- Solar Workforce Development Strategy
 - 100% solar employment growth over next 3 years
- ST Product CSA Certification
 - Costly and time consuming



Driving Forward...

Doing Solar Business in Canada



- **Strategic Location (Gateway to N.A.)**
 - Close proximity to major U.S. solar market (NY, NJ, Ohio, Mass., Washington, California)
 - Transportation links to major N.A. markets
- **Emerging silicon production** (Timminco, REC)
- **Emerging thin film opportunities**
- **Low manufacturing input costs** (i.e. electricity, water rates)
- **Qualified labour force**
- **Provincial support** (i.e. Ontario Manufacturing)



CanSIA Conference

Join us!!

CanSIA Solar Conference 2009

December 7-8

Toronto, Ontario, Canada

www.cansia.ca



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