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## Canada and Australia Natural Partners



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## Agenda

1. Canadian Economy & Background Statistics
2. Canada & Australia - Natural Partners
3. S & T, Innovation and Commercialisation
4. Renewable Energy & Cleantech Funding
5. Renewable Energy Market, Capabilities & Partners
6. Major Future Activities



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## Canadian Economy

- Relatively Strong Economy despite Global Slowdown
- Sound Financial Institutions
- Positive Business Climate
- Cost-Competitive Business Environment
- Dynamic Workforce
- Solid Infrastructure



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## Australia

Population:	33.8 million	22.0 million
Total Area:	9.97 mill. sq km	7,71 mill. sq km
GDP:	A\$ 1,700 billion	A\$ 1,100 billion
Per Capita GDP:	A\$ 51,156	A\$ 49,890
Inflation:	1.4%	1.5%
Unemployment:	8.7%	5.8%



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## Canada & Australia - Natural Partners

- Longstanding trade relations and diplomatic links
- Cultural, social and political similarities
- Similar legal & accounting systems
- Shared business practices
- High standards of living
- Comfort level between Canadians and Australians



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## Trade & Investment

- 2-way trade exceeds A\$ 4.5 billion

*Canada exports aircraft, meat, telecom, minerals/chemicals, mining and agricultural equipment and imports minerals-chemicals, alcoholic beverages*

- 2-way investment exceeds A\$ 10.7 billion

*In Canada minerals-chemicals, consulting/engineering, infrastructure, beverages and in Australia IT-telecom, minerals/chemicals, consulting/engineering, food, publishing*

- Australia Canada's 18<sup>th</sup> largest partner in trade and 15<sup>th</sup> in services



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# Australians in Canada



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MACQUARIE



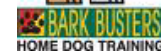
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# Canadians in Australia



SNC • LAVALIN



La SENZA



ALDO





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## Canada's S & T collaboration

- Founded on partnerships, networks and excellence at all levels of innovation.
- Strategy has 4 priorities: accelerating knowledge creation and commercialization; supply of highly qualified people; modernizing business, regulatory policies to foster industrial R&D; and helping to develop innovation infrastructure to attract S&T investments.
- Canada's S&T community welcomes other countries' partnering with Canada and offers exceptional conditions for research, including R&D tax-credit programs.



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## **Innovation Advantage – Strong Fundamentals**

- Low inflation, low interest rates and low debt
- Supportive regulatory policies
- High employment rates
- Corporate tax framework among the best in the world
- Stable and globally competitive financial services sector
- Sophisticated system of intellectual property protection
- Advanced transportation infrastructure
- Fully integrated with North American supply chains (NAFTA)



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## Grow with Canadian Innovation Partners

- More international companies are conducting and commercializing R&D in Canada with Canadian business partners.
- Tap into Canadian ideas, technologies and talent through strategic alliances, joint ventures, licensing and technology transfer agreements, and venture capital and private equity investments.
- Use Canadian innovators as technology development and commercialization partners in global markets.
- Partner with a Canadian venture capital firm or an early-stage Canadian innovation company to tap Canada's technological base.



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## Canadian Renewable Energy & Cleantech Funding

- NRCan – Renewable Energy and Clean Tech Systems Demonstration Projects for co-funded projects \$203 million.
- Economic Action Plan (stimulus) \$40 billion - \$2.6 billion for cleaner and more sustainable environment includes \$1 billion Clean Energy Fund for development and advancement clean energy.
- Alberta Government \$2.2 billion for three CCS projects.
- Sustainable Development Technology Canada – now with \$1.12 billion in two funds - \$585 million SD Tech Fund and recently a further \$533 million NextGen Biofuels Fund.



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## Sustainable Development Technology Canada

- Established 2001 as not-for-profit foundation to finance, to support development and demonstration of clean technologies
- Fifteen rounds 1,670 SOIs received representing some \$17 billion in project potential from 5,023 companies and institutions.
- Fourteen rounds completed allocating \$453 million to 171 projects, leveraging additional \$1.1 billion from other project partners.
- Ratio of industry-partner contributions to SDTC investment: approx 2.4 to 1, some 84 percent coming from private sources.



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## Major Partners and Forums

- Canadian Biomass Innovation Network – through joint activities were linked to Bioenergy Australia and Australian Government.
- APEC - Energy Trade & Investment Task Force, Environmental Technologies Working Group.
- Global Carbon Capture & Storage Institute – foundation member.
- Asia-Pacific Partnership on Clean Development & Climate and eight Task Forces.



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## Asia-Pacific Partnership on Clean Development & Climate

- Formed Jan 2006, Australia, US, Japan China, India, Korea
- Canada strongly supported and joined October 2007
- Canada is Chair of the Renewable Energy and Distributed Energy Task Force and Co-Chair of the Cement Task Force.
- Last year Canada introduced its Net-Zero Energy Home Coalition concept to Building and Appliance Task Force – consequently a Working Group meeting held in Australia February 2009 and an International NZEH Coalition proposed and approved.



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## Canadian Renewable Energy Industries

### Overall Statistics

- Equipment exports to the United States, China, Germany, the Netherlands and Mexico: \$1.3 billion (2006).
- Equipment imports come from US, the EU, China, Germany, Hong Kong, Japan, Mexico.
- Total revenues: \$25.2 billion in 2007.
- Domestic Market consumption in 2007 reached a total of 358.9 billion KWh from renewable sources.



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# Canadian Renewable Energy Industries

## Seven Key Subsectors

- Wind
- Solar
- Geothermal
- Tidal
- Biofuels
- Hydro (small & traditional)
- Hydrogen and fuel cell



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## Canadian Industry Capability

### 1) Wind:

- Large-scale wind turbine tower, base frame and rotor blade manufacturing ([Énergie Ressource Développement](#))
- Nacelle assembly expertise ([AAER Inc.](#))
- Leading edge technology in electric inverter, power conditioning equipment and large-scale battery storage ([Northern Lights Energy](#), [MDS](#))
- Wind resource assessment and mapping expertise ([Zephyr North](#), [Helimax](#))
- Wind farm planning, financing and development expertise ([Indigo Wind](#))
- Small (10-60 kW range) wind turbine manufacturing ([Atlantic Orient](#)).



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## Canadian Industry Capability

### 2) Solar – Photovoltaic (Passive):

- Innovative manufacturing process technologies for raw materials, solar cell and solar module production ([ATS Automation](#))
- PV manufacturing equipment and automation expertise ([EnRel Energy](#), [Reonac Energy](#))
- High efficiency solar-LED lighting systems ([Carmanah](#))
- Expertise in design of solar electric systems for off-grid, remote or northern locations ([Carmanah](#), [Energy Resource Development](#))
- Industry leader in solar charge controllers, inverters, rectifiers and other balance of system components ([Xantrex](#))





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## Canadian Industry Capability

### 2) Solar – Active:

- Design, manufacturing and installation of turnkey solar heating systems ([Conserval](#))
- Solar collectors for domestic and commercial water heating ([EnerWorks](#), [Solcan](#), [Thermo-Dynamics](#))
- Solar air collectors for space heating and ventilation applications ([Conserval](#), [Solarnetix](#))
- Solar air heating for systems for crop drying and other industrial applications ([Matrix Energy](#), [Conserval](#))
- Solar pool heating systems ([Thermomax](#), [Nexus Solar](#))





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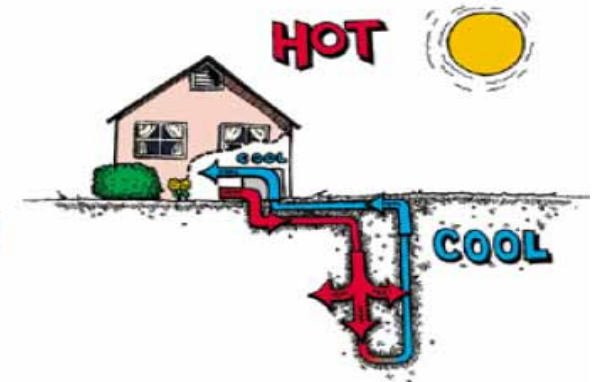
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## Canadian Industry Capability

### 3) Geothermal:

- Manufacturing of a wide variety of residential and commercial GHP system products designed for use in cold climates; ([GeoSmart Energy, Ice Kube Systems](#))
- Small-scale residential and large-scale commercial GHP project feasibility studies, design, engineering and construction; ([GeoTility, Lockhart](#))
- A developed network of dealers and distributors of GHP systems and peripheral components; ([Airtechni, Eden Energy](#))
- Design, manufacturing and installations of solar, and geothermal hybrid systems. ([Pro Eco Energy, Swiss Solar Tech](#))





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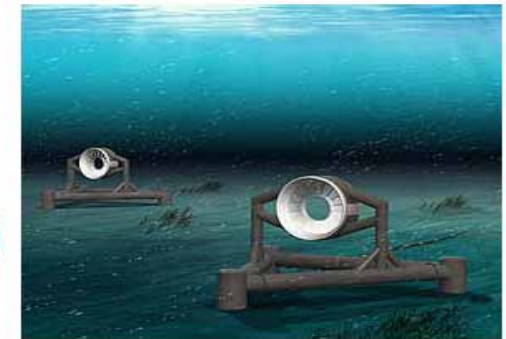
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## Canadian Industry Capability

### 4) Tidal:

- Marine fabrication and marine operations; ([Fraser River Pile and Dredge](#))
- Underwater horizontal and vertical axis turbines for harnessing currents and tides; ([Verdant Power, Blue Energy](#))
- Operation of tidal generation stations; ([Nova Scotia Power, BC Tidal Energy](#))
- Wave technology test and simulation facilities; ([Institute for Ocean Technology, Canadian Hydraulics Centre](#))
- Wave and tidal energy resource assessment and technology; ([Clean Current Power Systems](#))
- Numerical modeling, wave measurement and analysis, and flow measurement. ([ASL Environmental](#))





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## Canadian Industry Capability

### 5) Biofuels:

- Expertise in the design, construction and operation of large scale ethanol production plants ([Greenfield Ethanol](#), [SunOpta Bioprocess Group](#); [Husky Energy](#))
- Cellulosic technology to produce ethanol from agricultural residues, (such as straw and corn stalks) ([logen Corp.](#), [Greenfield](#), [SunOpta](#), [Lignol](#))
- Technology for large scale production of high quality biodiesel fuel, derived from vegetable and animal fats, at a cost that competes with petroleum diesel ([Rothsay Biodiesel](#), [BIOX Corporation](#))
- Bioenergy research facilities and expertise ([logen Corp.](#), [KMW Systems](#))
- Supply of sustainable feedstock for use in bioenergy processes ([Emery International](#))





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## Canadian Industry Capability

### 6) Hydro:

- Manufacturing of water turbines
- Impact assessments
- Design, development, constructions, integration and supervision
- Large hydropower plant operation and management expertise
- Control systems for hydropower
- Technologies for refurbishing and upgrading existing small and large hydropower facilities
- Computer modeling and simulation tools for hydraulic turbines
- Large hydropower turbine research and testing facilities



### Key Players Include:

[Alcoa](#)

[GE Hydro](#)

[Alstom](#)

[SNC-Lavalin](#)

[Dessau](#)



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## Canadian Industry Capability

### 7) Hydrogen and Fuel Cell:

- Backup power solutions ([Ballard Power Systems](#), [Hydrogenics Corporation](#))
- Natural gas hybrid fuel cells for residential power ([Enbridge Gas](#))
- Forklift trucks and other material handling applications ([Cellex Power Products](#), [Hydrogenics](#), [General Hydrogen](#))
- Fuel cell vehicles ([Ballard Power Systems](#), [Dyнетek](#))
- Micro fuel cells for powering portable devices such as cell phones, laptops and flashlights ([Tekion](#), [Angstrom Power](#)).





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## Major Future Activities

- Mar 24 - 26 GLOBE Conference, Vancouver <http://www.globe2010.com/n/>
- Sept 12 - 16 World Energy Congress, Montreal [www.montreal2010.ca](http://www.montreal2010.ca)
- Sept 19 - 24 IWA World Water Congress & Exhibition, Montreal  
<http://www.iwa2010montreal.org/invitation-to-participate.asp>
- Sept 19 - 22 ABIC (Biotechnology), Saskatoon
- **Plus in Australia:**  
Bioenergy Australia, Ecoforum, OZWATER, Clean Energy Council, ENVIRO and of course All-Energy



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## 2010 Reasons TO DO BUSINESS IN Canada



*2010 Winter Games - February 2010*



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**GLOBE 2010**

VANCOUVER CONVENTION & EXHIBITION CENTRE, CANADA

**MARCH 24-26**

**11<sup>TH</sup> BIENNIAL TRADE FAIR & CONFERENCE ON  
BUSINESS & THE ENVIRONMENT - VANCOUVER**

## **INVITATION**

### **GLOBE 2010 Business & The Environment Vancouver 24 - 26 March 2010**

You are invited to participate in one of the most well-known and prestigious business and environment events in the world. In March 2010, the GLOBE 2010 Conference & Trade Fair will host more than 10,000 international leaders in the business of the environment from over 70 countries. Join the Australian Trade Mission to GLOBE 2010 organised by the Consulate General of Canada in conjunction with partners in Australia and Canada.



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## Thank You

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