Hydrogen + Fuel Cell Sector in British Columbia

BRITISH COLUMBIA | Canada's Pacific Gateway

www.canadaspacificgateway.com

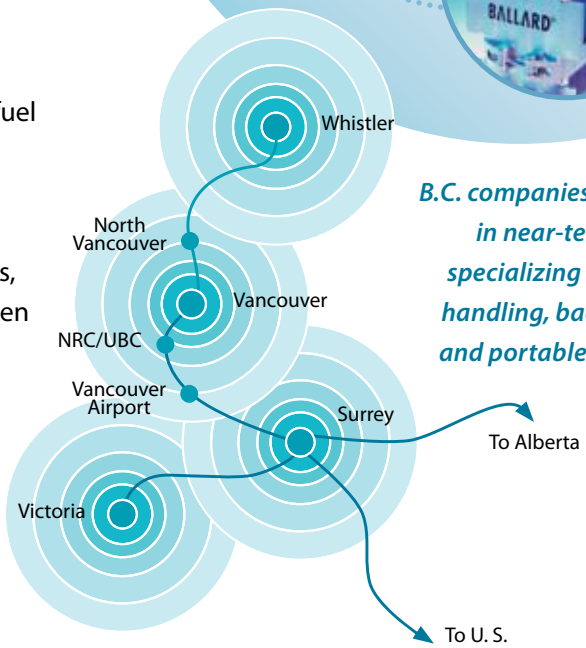
Since 2002, more than $1 billion has been invested by Canada's hydrogen and fuel cell sector by the industry into research and development – the majority of this funding has gone to B.C.-based companies.

British Columbia is a recognized world centre for hydrogen and fuel cell technology. Hydrogen is a near-zero emission solution that will help B.C. meet its greenhouse gas reduction targets, which is why B.C. remains committed to its leadership role in the hydrogen and fuel cell sector.

Government's continuing support of the BC Hydrogen and Fuel Cell Strategy (available online at: www.fuelcellscanada.ca) will help develop a leading hydrogen economy:

- Industry in B.C. has invested over $100 million per year over the last seven years on hydrogen research, development and demonstration.
- PST reductions for hydrogen fuel cell buses.
- Motor Fuel Tax exemptions for hydrogen used in fuel cell vehicles.

B.C.'s Hydrogen Highway™ is a world-leading practical demonstration of hydrogen fuel cell vehicles, infrastructure and hydrogen technology. The Hydrogen Highway includes hydrogen fuelling stations that have been built in Surrey and Vancouver and others are underway. For more information, visit www.hydrogenhighway.com.



B.C. companies are leaders in near-term markets, specializing in materials handling, back up power and portable electronics.

By 2016, global sales for the hydrogen and fuel cell sector are estimated to be $8.5 billion.

SELECTED LISTING OF BRITISH COLUMBIA'S HYDROGEN AND FUEL CELL SECTOR

British Columbian companies are recognized globally for being leaders in hydrogen and fuel cell technology for mobile, stationary and micro applications. For more information on these selected companies and organizations, please view the current Canada's Hydrogen and Fuel Cell Industry Capabilities Guide available online at: www.chfca.ca.

COMPANIES

- Advanced Lithium Power Incorporated
- Angstrom Power Incorporated
- Automotive Fuel Cell Cooperation Corporation
- Azure Dynamics Corporation
- Ballard Power Systems
- BC Hydro
- BC Transit
- Chrysalix Energy Venture Capital
- D Point Technologies Incorporated
- Eagle Graphite Corporation
- Energix Research Incorporated
- FuelCon Systems Incorporated
- Greenlight Innovation
- Helioscentris Energy Systems Incorporated
- Hydrogen Technology and Energy Corporation
- IMW Industries Limited
- MagPower Systems Incorporated
- Membrane Reactor Technologies Limited
- Mitsubishi Canada Limited
- Mountain Power Incorporated
- Neodym Technologies
- NORAM Engineering and Constructors Limited
- NxtGen Emissions Controls Incorporated
- Palcan Energy Corporation
- PEM Engineers
- Plug Power Canada Incorporated
- Power Air Corporation
- Power Tech Labs Incorporated
- QuestAir Technologies Incorporated
- Sacre-Davey Group
- Stantec Consulting Limited
- Tekion
- Westport Innovations Incorporated
- Xantrex Technology Incorporated

RESEARCH AND ORGANIZATIONS

- Advanced Testing and Validation Centre (ATVC)
- BC Hydrogen Highway
- Canadian Hydrogen and Fuel Cell Association (CHA)
- Clean Energy Research Centre, UBC (CERC)
- Institute for Integrated Energy Systems, University of Victora (IESVic)
- National Research Council Institute for Fuel Cell Innovation (NRC-IFCI)
- Natural Resources Canada's Hydrogen Fuel Cells and Transportation Energy (HyFate) Group
- 4D Labs, Simon Fraser University
- Vancouver Fuel Cell Vehicle Program (VFCVP)

B.C.'s hydrogen and fuel cell industry employs approximately 1,200 employees at 35 organizations.

ANGSTROM POWER INCORPORATED
www.angstrompower.com

Angstrom Power Incorporated is a Vancouver-based company founded in 2001 to develop and commercialize micro-structured fuel cells. Angstrom's innovative Micro Hydrogen™ technology, an integration of novel fuel cell, energy storage and micro-fluidic components, has demonstrated Better than Batteries™ performance at scales equivalent to today's mobile lithium-ion batteries. The combination of hydrogen fuel and handset scale integration makes Angstrom a technology leader with capabilities not matched by any competitor.

In January 2008, Angstrom announced a global first with the completion of a six month test of fully integrated fuel cell-powered mobile devices. Angstrom has demonstrated research results showing twice the talk-time of the equivalent battery powered devices in side-by-side testing. Angstrom is currently in the process of developing products for industrial and consumer markets. The family of products includes end-user devices as well as products for refueling. The refueling can either be portable using cartridges, or fixed using existing hydrogen infrastructures.

AUTOMOTIVE FUEL CELL COOPERATION
www.afcc-auto.com

Automotive Fuel Cell Cooperation, the fuel cell Centre of Excellence for Daimler and Ford, is developing next-generation technology for zero-emission automobiles.

Following a successful 10-year alliance, Ballard Power Systems sold its automotive fuel cell assets to Daimler and Ford to create AFCC in 2008. AFCC is Burnaby, B.C.-based, and a joint-venture private company between Daimler (50.1%), Ford (30%) and Ballard (19.9%; financial investor).

AFCC employs 150 people in their global automotive fuel cell R&D centre in Burnaby. It is one of the world leaders in automotive fuel cell development and is one of the largest fuel cell development centres in the world. Automotive fuel cells are currently one of the most viable technologies capable of achieving a significant long-term reduction in carbon dioxide emissions from motor vehicles and relieving us from our dependence on oil.

PLUG POWER CANADA
www.plugpower.com

Plug Power has installed more than 1,000 fuel cell systems throughout the world with commercial products for material handling, prime and backup power applications. Involving technology developed in British Columbia by Cellex and General Hydrogen, commercial customers are replacing lead acid batteries with Plug Power GenDrive™ power units to increase productivity and decrease operating expenses within operations.

In December, 2008, Plug Power sold 220 GenDrive units to Central Grocers, a wholesale food distributor, as a power source for an entire fleet of electric lift trucks at its brand-new facility in Illinois. The warehouse is the first grocery distribution centre in the world where all goods will be handled with fuel cell-powered lift trucks. This milestone sale to Central Grocers demonstrates that hydrogen fuel cells are recognized as commercially viable solutions by customers today. British Columbia serves as the birthplace of this leading technology. Today, Plug Power's Richmond office is home to all engineering and development activities for its GenDrive product as we move through market adoption toward complete commercialization.

BC Transit
www.bctransit.com

Beginning in late 2009, BC Transit will be operating the world's largest hydrogen fuel cell demonstration fleet in Whistler, B.C. The 20 new fuel cell buses will form the backbone of the 31-bus service in the Whistler transit system.

The hydrogen fuel cell bus is an exciting part of BC Transit's portfolio of clean technologies. The new buses are hybrid vehicles, using fuel cells to directly convert hydrogen into electricity and batteries to store electrical energy. BC Transit drivers have been operating diesel/electric hybrid buses since 2005. The new buses will be similar to conventional buses to operate, but without the emission of fumes, air-borne pollutants and greenhouse gases. The fleet will undergo a five-year testing period to determine the viability of this technology for commercial application.

BC Transit's fleet is being manufactured by New Flyer of Winnipeg, in partnership with Ballard Power Systems of Burnaby who will be building the fuel cells, and ISE providing the technology integration. The fuel and fuelling infrastructure are provided by Air Liquide Canada of Montreal.

The deployment of the Whistler fleet will demonstrate:

- The sixth generation of fuel cell bus technology.
- A 62 per cent reduction in GHG emission compared to diesel buses (on a life-cycle assessment basis using liquid hydrogen transported from Quebec).
- The largest hydrogen fuelling station in the world (1,000kg/day capacity).

"BC Transit will be the first in the world to test hydrogen fuel cell buses in a fleet configuration."
~ Bruce Rothwell, Project Manager, BC Transit

FOR MORE INFORMATION

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British Columbia is a leading developer and test bed for fuel cell technology and products and hydrogen fuelling stations.