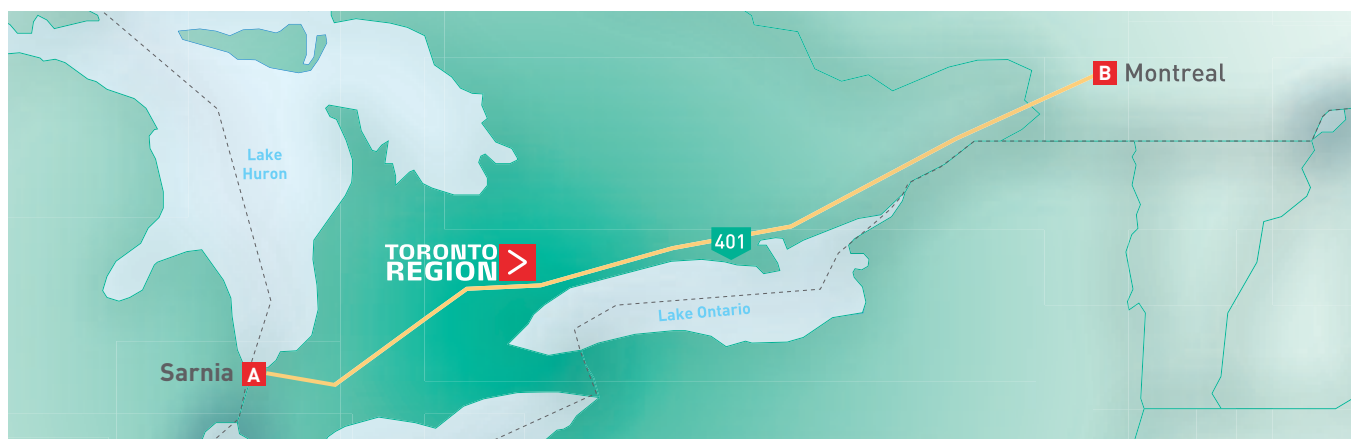


GLOBALLY-RECOGNIZED CLUSTERS IN THE TORONTO REGION: HYDROGEN & FUEL CELLS

THE TORONTO REGION IS ...

- Centrally-located in the 900 km (560 miles) **Hydrogen Corridor** that extends from Sarnia, ON to Montreal, QC, an area that contains the densest population base in Canada (1/3 of total population). The Hydrogen Corridor:
 - Fueling stations 150 km apart linking communities with hydrogen activities
 - Passes by two major nuclear power stations and is close to auto makers and universities with hydrogen programs
- The location of **Hydrogen Village™** based at the University of Toronto Mississauga campus, a public-private partnership of 41 companies, governments and institutions committed to the commercialization of hydrogen and fuel cell technologies through early deployment
- Part of a sophisticated electricity infrastructure and a growing demand for clean, reliable electricity generation:
 - Government of Ontario recently introduced the *Green Energy Act (GEA)* which aims to increase investment in renewable energy projects and increase conservation
- A growing hub of companies that offer hydrogen-related products and services, including: Air Liquide, Arkema Canada Inc., Biorem Technologies, Inc., Brenntag Canada Inc., Canadian Hydrogen Energy Co., Daimler Buses North America, DuPont Canada, Eco-Tec Inc., Evonik Degussa Canada Inc., Hydrogenics Corp., Kamira Water Solutions Canada, Praxair Canada Inc., and Teleflex GFI Control Systems Inc.
- Home to 26 university programs in engineering, physical, material and environmental sciences that produce an educated and highly-skilled workforce
 - 4,000 university graduates (all levels) in hydrogen related programs in 2007

Hydrogen Corridor

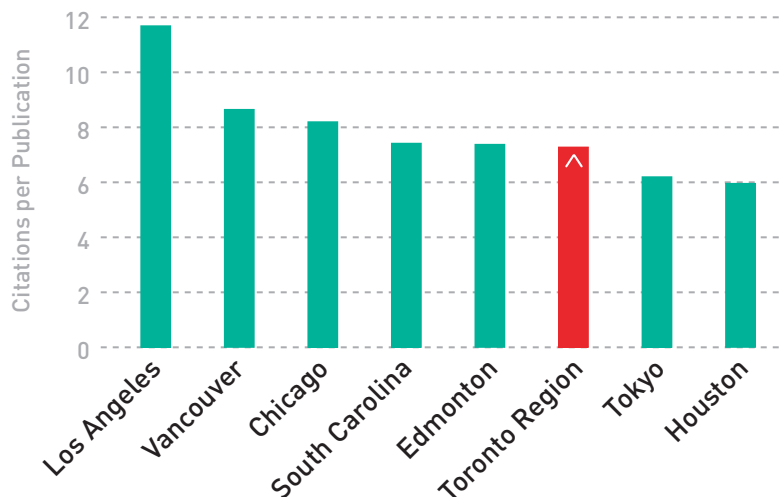


The Toronto Region is centrally located along the 950 km (560 mile) Hydrogen Corridor that spans from Sarnia, Ontario to Montreal, Quebec, and encompasses one-third of the population of Canada.

WORLD-LEADING RESEARCH AND EDUCATION

- Toronto Region universities are a hub of research excellence recognized by major Canadian granting agencies:
 - 3 Canada Research Chairs: Fuel Cell Materials and Manufacturing; Electrochemistry, and Advanced Energy Systems
 - Natural Sciences and Engineering Research Council (NSERC) awarded \$9.1 million to projects in the Toronto Region (2003-2008)
- Ranked among the top 8 regions for scientific impact based on the number of citations per publication
- Two universities ranked in the top 10 in Canada for with the most hydrogen-related publications: University of Toronto (#2) and University of Waterloo (#3)
- A centre of advanced research and development based in Toronto Region universities, including:
 - **McMaster University:** Dofasco Centre for Engineering and Public Policy, GMC Centre for Engineering Design, McMaster Institute for Automotive Research and Technology (MacAUTO), and McMaster Institute for Energy Studies (MIES)
 - **University of Toronto:** Centre for Nuclear Engineering (CNE)
 - **University of Waterloo:** Green Energy Research Institute (GERI), Waterloo Centre for Automotive Research (WatCAR) and Waterloo Institute of Sustainable Energy (WISE)
 - **York University:** Institute for Research and Innovation in Sustainability (IRIS)

Average Citations per Publication (2004-2008)



Source: ISI

Top 10 Canadian Universities: Number of Hydrogen-related Publications, 2008

University of British Columbia	48
University of Toronto	41
University of Waterloo	30
University of Alberta	30
University of Calgary	25
McGill University	18
University of Victoria	17
Dalhousie University	16
University of Western Ontario	16
University of Ottawa	14

Source: ISI

Web Links

Toronto Region Research Alliance www.trra.ca
 McMaster University www.mcmaster.ca
 University of Guelph www.uguelph.ca
 University of Toronto www.utoronto.ca
 University of Waterloo www.uwaterloo.ca
 York University www.yorku.ca

Industry leaders such as Siemens Westinghouse, Ontario Power Generation, Hydrogenics, Stuart Energy, Ballard, Fuel Cell Technologies and Air Liquide helped establish Hydrogen Village at the University of Toronto Mississauga campus.

ADVANTAGES

- A world-leading economic region:
 - Ranked #1 for the soundness of its banking system by World Economic Forum (*Global Competitiveness Report 2008-2009*)
 - Ranked #3 in North America by MasterCard's Worldwide Centres of Commerce (2008)
 - Ranked #7 Top City Regions of the Future by Foreign Direct Investment magazine (2009)
 - Ranked #10 of the World's Top Global Cities (Global Cities Index (2008)
 - Ranked #10 most economically powerful city by Forbes.com (July 2008)
 - Ranked #11 of 62 in the 2009 Global Financial Cities Index
- 7.4 million people live in the Toronto Region, making it the 4th largest urban region in North America
- Immigration responsive to company needs:
 - Uncapped number of work permits available to foreign workers
 - Process for intra-company transfers is fast and straightforward
 - Special programs allow employers to permanently recruit high-end research staff and other workers within defined occupations
- Business-friendly environment:
 - Canada ranked #1 in number of procedures required to start a business, and #2 in time required to start a business (World Economic Forum, *Global Competitiveness Report 2008-2009*)
 - Ranked #4 globally for Ease of Doing Business by MasterCard Worldwide Center of Commerce Index (2008)
- Canada's largest centre for research and education – location for 35% of all R&D conducted in Canada
- Highly-skilled workforce of 1.8 million (25-64 years of age) drawn from the most educated population in the G8: 64% hold a post-secondary degree or equivalent
- Part of a well-developed transportation infrastructure – air, rail and highway corridors – that easily moves people and goods to cities in the US Midwest and Northeast

SUPPORTIVE GOVERNMENT PROGRAMS

- Companies can access a range of programs for business that include financial assistance and tax incentives, including:
 - **Government of Canada:** Sustainable Development Technologies Canada; Scientific Research & Experimental Development Expenditures; NRC Industrial Research Assistance Program; New Environmental Technologies Evaluation; Financial Support – Science & Technology; and Canadian Environmental Technology Information Centre
 - **Government of Ontario:** Ontario Fuel Cell Innovation Program; Ontario Research Fund; Innovation demonstration Fund; Investment Accelerator Fund; Business Mentorship and Entrepreneurship Program; Next Generation of Jobs Fund; Strategic Opportunities Program; and Ontario Business Research Institute Tax Credit



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Toronto Region has a Growing Hydrogen and Fuel Cell Expertise

