



Environmental Industries in Atlantic Canada

Atlantic Canada's environmental industries have been one of the region's strongest growth areas, with an 87% increase in revenues from 1995 to 2002. In addition, Atlantic Canada has consistently shown higher growth rates than the national average in employment figures and the number of active companies in the field. Atlantic Canada's environmental market is valued at \$1.5 billion annually (Industry Canada 2004), with a number of the region's 821 environment companies exporting their products and services internationally. The industry employs highly educated and highly regarded professionals, researchers and scientists.

BUSINESS COSTS

According to *Competitive Alternatives: KPMG's guide to international business costs, 2006*, Atlantic Canada has the lowest business costs in the G7 countries. Low business costs help drive the growth of environmental industries in Atlantic Canada.

COMPARATIVE BUSINESS COSTS INDEX*

OVERALL RESULTS

New York, NY	112.6	ATLANTIC CANADA	Charlottetown, PE	91.7
Detroit, MI	102.7		Halifax, NS	92.2
San Diego, CA	103.2		Moncton, NB	91.1
Boston, MA	107.8		St. John's, NL	94.3
Chicago, IL	100.8		Sydney, NS	92.2
Phoenix, AZ	101.1		Truro, NS	89.4
Atlanta, GA	96.4		Pictou, NS	89.9

source: *Competitive Alternatives: KPMG's guide to international business costs, 2006 Edition.*

* Business costs are expressed as an index, with the United States average being assigned the baseline index of 100. A cost index of less than 100 indicates lower costs than those in the U.S.

BUSINESS ENVIRONMENT

Atlantic Canada's nationally recognized research and development facilities, along with its university and college programs, provide a strong base for environmental industries. Researchers, scientists and graduates from these recognized institutions have directly influenced the growth of environmental industries by applying their knowledge and abilities at both the public and private level within the region. With a strong, knowledgeable workforce and overall appealing economic environment, Atlantic Canada is a leader in this area.

ENVIRONMENTAL SERVICES

AMEC - Earth & Environmental (St. John's, NL), a division of AMEC Americas Limited, offers full-service solutions to its global clients. Services include feasibility studies, initial site selection, environmental impact assessments, regulatory reviews, contaminated site and risk assessments, design, financing and construction through to operation, monitoring, environmental audits, site decommissions and reclamations.

CHARACTERISTICS

The region's knowledge and capabilities in this industry are well regarded in other jurisdictions. Atlantic Canada is recognized and competitive on a national and international scale. The table below illustrates the dynamics of Atlantic Canada's environmental industries.

ATLANTIC CANADA ENVIRONMENTAL INDUSTRIES PROFILE (2002)*

Total Companies	821
Total Employment	12,000+
Market Value	\$1.5 billion

*source: Statistics Canada (2004)

ENVIRONMENTAL INDUSTRIES IN ATLANTIC CANADA

LEADERSHIP

Atlantic Canada has been successful in developing innovative solutions for the evolving issues that impact and affect the environment and human health. Examples include: the country's first fully integrated waste management facility; a breakthrough mobile environmental cleanup unit; biodegradable peat moss-based oil absorbents; and software that simulates environmental management scenarios.

The ability to solve environmental concerns has allowed many Atlantic Canadian companies and institutions to develop and export these solutions nationally and internationally.

Increasingly, companies around the world are moving toward integrated environmental and economic solutions. Atlantic Canadian companies have demonstrated the ability to provide this expertise:

- New Brunswick is recognized for its expertise with wastewater (organic waste from pulp and paper, pharmaceuticals, food processing and potable water).
- Nova Scotia has achieved some of the highest diversion rates in solid waste management (at 50 percent) in the world.
- Prince Edward Island is recognized for its expertise in wind energy, as well as for solid waste management planning and systems development.
- Newfoundland and Labrador is recognized for its expertise in oil spill contingency planning, oil spill response and remediation.

ENVIRONMENTAL INDUSTRIES GROWTH 1995-2002*

Province	% Growth 1995-2000			% Growth 2000-2002		
	Establishments	Employment	Total Revenue	Establishments	Employment	Total Revenue
ATLANTIC	67.8	38.6	59.3	-2.7	14.2	18.7
Quebec	44.1	-0.5	17.0	-2.2	8.0	-1.3
Ontario	57.0	-9.0	43.2	3.7	-3.0	8.8
Saskatchewan	56.3	56.8	47.7	0.0	9.0	145.1
Manitoba	50.0	-28.4	28.7	7.9	24.6	-12.9
Alberta	113.4	47.8	61.4	19.9	4.3	47.2
BC	65.6	12.8	7.7	24.3	-9.3	4.1
Canada	59.9	6.2	34.7	6.6	0.3	12.8

source: Statistics Canada (2004)

CBCL Ltd. (Halifax, NS) was the first architect/engineering firm in North America to be certified under ISO 9001 quality standards. CBCL offers a wide range of services such as solid waste management, land and water resource management, wastewater collection and treatment, drainage and storm water control, and water supply and treatment. Major projects have included acid drainage mitigation at the Halifax International Airport and Phase 1 Assessment of Muggah Creek Watershed, including the Sydney Tar Ponds.

ClimAdapt (Halifax, NS) is a partnership of 12 businesses and government agencies. This organization internationally markets its expertise in planning and assessment for climate change adaptation.

Dillon Consulting operates from 18 cities across Canada, including Halifax and Sydney, Nova Scotia, and Fredericton, New Brunswick. It operates internationally in Asia, the Caribbean, the United States and Central America. The company focuses on four major areas of business, with environment as a key component. Major projects have included a two-phase, seven-year (1995-2001) project for the Department of National Defence, which saw the 18,000 hectare Tracadie Range in New Brunswick closed, remediated and transferred to the Province of New Brunswick. Dillon was also involved in the development of the Sydney Water Treatment Plant in Nova Scotia.

Envirem Technolgies Inc.

(Fredericton, NB) is an environmental/geotechnical engineering firm that specializes in the implementation of industrial waste assessment, treatment and monitoring programs. The company provides services such as environmental monitoring and inspection, site investigations and waste management.

Jacques Whitford Environment Limited

(Dartmouth, NS) has offices throughout North America and has successfully secured projects in China, Russia and Mexico. Its Mobile Environmental Remediation System (MERS) unit is a self-contained device used in homes, offices, schools and refineries throughout North America. MERS performs vapour extraction, air sparging and induction, sand filtration, water treatment and product recovery, and features its own automatic safety systems.

Greystone Energy System

(Moncton, NB) is Canada's largest independent manufacturer of devices used for managing and monitoring the environmental atmosphere of office buildings, industrial plants and commercial facilities.

ENVIRONMENTAL PRODUCTS

ADI Group Ltd. (Fredericton, NB)

provides consulting, design, project and construction management, environmental management, design-build services and water and wastewater treatment solutions to industries and governments worldwide.

ENVIRONMENTAL INDUSTRIES IN ATLANTIC CANADA

In recognition of its innovation, growth and management excellence, the company has received national and regional awards, including the award for “Canada’s 50 Best Managed Companies”.

Island Waste Management

(St. John’s, NL) provides hazardous waste management, offering comprehensive and integrated services. The company manages over 80 percent of the market in Newfoundland and Labrador, including 100 percent of biomedical waste generated and over 80 percent of the household hazardous waste collected annually.

Pol-E-Mar Newfoundland

(St. John’s, NL) manufactures PVC solid flotation oil containment booms, oil storage tanks, berms, silt barriers and curtains, and permanent rubber booms. The company also supplies reels, power packs and beach cleaning equipment. It is one of the largest suppliers of oil spill response equipment in Canada.

ACHIEVEMENTS

Atlantic Canada’s environmental industries are strongly supported by local governments. This support lends itself to the sector’s development and commitment to success and innovation.

Atlantic Canada has been rewarded with many international accolades and achievements:

Nova Scotia’s waste management system was the first in North America to achieve 50% diversion and its recycling program has been named one of the most successful in the world. International delegations regularly tour Nova Scotia to study its waste management system. The province has introduced an innovative recycling program for travelers including blue mini-recycling bags for cars, trucks and vans.

New Brunswick received an international award for adopting province-wide regulations that protect municipal groundwater supplies from contamination. The National Ground Water Association also named the Department of the Environment and Local Government the winner of its Outstanding Ground Water Protection Award.

Prince Edward Island’s Waste Watch program targets the diversion of waste from landfills by sorting, recycling and composting. The program features monthly collection of recyclables and a blue-bag system used residentially as well as commercially. Recycling programs are also in operation in the province for many other materials, including scrap metals, lead-acid batteries, derelict vehicles, liquor and wine bottles, agricultural pesticide containers, plastic wrap and other waste.

The Province of Newfoundland and Labrador has launched several provincial initiatives which prevent waste from going to landfills. The City of St. John’s and the Conception Bay North area have banned commercial cardboard from their waste disposal sites. Commercial and domestic composting initiatives have been implemented and encouraged by provincial and municipal governments.

RESEARCH AND DEVELOPMENT

Atlantic Canada’s universities and research institutes are involved in research to support the growth of environmental industries in the region. Below are a few examples of the cutting edge research and development prevalent across the region:

Dalhousie University (Halifax, NS) is home to the Centre for Water Resources Studies, which is developing international expertise in the area of water resources. As well, the University’s Coastal Resources Research Network supports researchers in developing countries in their efforts to research and promote community-based coastal resources management. The Centre for Marine Environmental Protection is developing technologies for observation and protection of marine environments.

Memorial University of Newfoundland

(St. John’s, NL) is home to the Centre for Earth Resources Research, which has extensive capabilities and facilities in low temperature isotope geochemistry and the studies of pollution, groundwater flow and elemental cycling through the lithosphere, hydrosphere and atmosphere. It also has the capability for shallow marine seafloor seismic profiling, used in seabed site surveys, paleoclimatological and sedimentological research.

ENVIRONMENTAL INDUSTRIES IN ATLANTIC CANADA

Atlantic Canada’s environmental industries are knowledge-based, providing a variety of products and services internationally.

Environmental products include site remediation systems, air/soil/water quality testing units, solid waste management programs, and hazardous waste management facilities.

Environmental services include environmental audits, laboratory services, and environmental health and safety education/training.

Université de Moncton

(Moncton, NB) has established an Environmental Sciences Research Centre to coordinate environmental research related to the local economy. In addition, its Eastern Canada Soil and Water Conservation Centre works cooperatively and complementarily with private and public stakeholders to promote sustainable resource management in agriculture.

Mount Allison University (Sackville, NB)

is home to the Coastal Wetlands Institute which conducts research on the pattern of growth and environmental change in coastal marshes. The Institute studies the physical processes and coastal dynamics of sediments, heavy metal pollutants, inter-tidal algae mats, fungi biology and detrital breakdown, the energy metabolism in coastal invertebrates, the population biology of marsh organisms, the behavioural ecology of fish in salt marshes, and the human ecology of wetland areas.

University of New Brunswick

(Fredericton, NB) focuses on environmental research through its Research Chair in Wildlife Ecology, which conducts advanced research into wildlife as part of the Atlantic Co-operative Wildlife Ecology Research Network. The University also supports the Chair in Environmental Design Engineering.

ENVIRONMENTAL INDUSTRIES IN ATLANTIC CANADA



PROVINCES AND ABBREVIATIONS

- NB** - NEW BRUNSWICK
- PE** - PRINCE EDWARD ISLAND
- NS** - NOVA SCOTIA
- NL** - NEWFOUNDLAND AND LABRADOR

If you would like more information on this industry, please contact:

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University of New Brunswick

(Saint John, NB) hosts the Centre for Coastal Studies and Aquaculture which brings together a multidisciplinary team involved in these areas. Activities focus primarily on the Bay of Fundy region but also stretch around the globe.

The Department of Fisheries and Oceans' Gulf Fisheries Centre

(Moncton, NB) has a focus on marine environmental sciences. The Department also operates the St. Andrews Biological Station which conducts marine environmental research, including the effects of toxic chemicals on the marine environment.

ENVIRONMENTAL INDUSTRY ASSOCIATIONS

Atlantic Canada's environmental industries are well supported by industry associations that work together to develop and enhance the sector.

The New Brunswick Environment Industry Association is a non-profit organization dedicated to promoting the growth and development of the environment industry in New Brunswick. It helps its members maximize opportunities, improve competitiveness, reduce costs and expand regional activities.

The Newfoundland and Labrador Environmental Industries Association provides a strong unified voice for communication and cooperation among the private sector, government and non-profit entities involved in Newfoundland and Labrador's environment industry. The Association keeps its members informed of industry happenings and issues, and hosts regular events including annual trade shows, conferences, seminars and workshops.

The Nova Scotia Environmental Industries Association is a business organization that promotes environmental products and services and contributes to sustainable development in Nova Scotia. It provides networking events, weekly newsletters, policy development, training and export development.

The Prince Edward Island Environmental Network is a not-for-profit, non-governmental network that assists members through the sharing of information and provision of administrative and technical support. It is affiliated with other provincial environmental networks.

ENVIRONMENTAL INDUSTRIES IN ACTION

The **Sydney Tar Ponds** clean up in Nova Scotia is considered to be the largest environmental remediation project in Canada's history. The project will cost an estimated \$400 million and is a model for the dozens of towns and cities across North America that were home to steel plants and coke ovens.

Atlantic Canada is leading the way in the development of renewable energy sources such as wind energy. The Prince Edward Island **Wind-Hydrogen Village** is Canada's first wind-hydrogen village demonstration project. This multi-faceted initiative will demonstrate, in real-life and in real-time, how wind energy and hydrogen technologies can work together to offer clean and sustainable energy solutions across a wide range of applications. New Brunswick, Nova Scotia and Newfoundland and Labrador are also actively developing their wind energy infrastructure.



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