



[**CHEMICALS AND PLASTICS**]
Canada's competitive advantages

CANADA'S CHEMICALS AND PLASTICS SECTOR

Canada ranks among the world's top chemicals and plastics manufacturing countries, offering an industry that is fully supported by secure access to abundant and low-priced raw materials and an integrated physical infrastructure that facilitates easy access to feedstock, ensures speedy transportation to market and brings cost savings to manufacturers.

Canada's chemicals and plastics production was valued at more than \$73 billion,¹ with exports totalling nearly \$40 billion in 2013,² and contributed \$19.2 billion to Canadian GDP in 2013.³ The industry is poised for continued growth—Canada's chemical sector alone is forecast to increase by 27 percent by 2020, a higher rate than in the U.S. and Western Europe.⁴

Chemicals and plastics companies in Canada are part of an integrated value chain with diverse strengths that are closely tied to other key sectors. Expertise and competitive strengths in basic and specialty chemicals, along with high activity and demand for supplies, equipment, and technology by Canada's natural resource development, construction, and advanced manufacturing industries translate into continued growth and opportunities in Canada's chemicals and plastics industry.

A WEALTH OF OPPORTUNITIES

Canada offers a large, strong and growing domestic chemicals and plastics market, as well as direct access to a fully integrated North American market. Chemicals and plastics producers located in Canada are within hours trucking distance of more than 190 million consumers—over 55 percent of North America's population-based market and 60 percent of its polymer processing market.

CANADA'S KEY STRENGTHS IN CHEMICALS AND PLASTICS

With some of the world's largest supplies of, and lowest costs for, feedstock and electricity, as well as quality skilled labour, world class research institutions, and easy access to nearby markets, global companies choose Canada for chemicals and plastics. Foreign investors in Canada include such brand names as: BASF, E. I. du Pont de Nemours and Company, Praxair Technology, Inc., LANXESS AG, The Dow Chemical Company, Chevron Phillips Chemical Company, PPG Industries, Inc., ExxonMobil Corporation, INEOS Group AG, Saudi Basic Industries Corporation, Aditya Birla Group, Royal Dutch Shell Plc., Bayer AG, Akzo Nobel N.V., and Mitsubishi Chemical Corporation.

“Canada's access to competitively priced raw materials makes it a very attractive place to invest. NOVA Chemicals' Canadian operations will be converting natural gas liquids from shale gas and oil development and oil sands upgrading off-gases into high-value petrochemicals, and we are evaluating even larger Canadian investments for the future.”

Grant Thomson, Senior Vice President and President Olefins and Feedstock
NOVA Chemicals

¹ Statistics Canada. Annual Survey of Manufactures and Logging, Total Manufacturing Output and Revenues, NAICS 325 (Chemical manufacturing including pharmaceuticals) and NAICS 3261 (Plastic product manufacturing) (2011).

² Industry Canada. Trade Data Online, Trade by Industry, NAICS 325 and NAICS 3261 (2013).

³ Statistics Canada. Gross Domestic Product by Industry, NAICS 325 and NAICS 3261 (2013).

⁴ American Chemical Council. *Global Chemicals Outlook 2012*. pp.14.

CHEMICALS AND PLASTICS CLUSTERS

Canada's integrated chemicals and plastics clusters are home to complexes of upgrading, refining and nearby production of petrochemicals, synthetic resins, specialty chemicals and plastics products. Nearly 5,200 establishments⁵ employ 162,673 workers⁶ and support more than 500,000 related jobs in Canada.



WESTERN CANADA

- » Alberta's industrial heartland, Red Deer and Joffre (Alberta), Vancouver, Prince George, and Nanaimo (British Columbia), Saskatoon (Saskatchewan), Winnipeg and Brandon (Manitoba)
- » **Leading companies include:** Agrium Inc., Akzo Nobel N.V., Canexus Corporation, The Dow Chemical Company, Methanex, Royal Dutch Shell Plc., The Mosaic Company, Wipak Ltd.

EASTERN CANADA

- » Sarnia, Eastern Ontario, and the Greater Toronto Area (Ontario), Montréal and Bécancour (Quebec)
- » **Leading companies include:** 3M Canada, BASF Canada Inc., CF Industries Holdings, Inc., Honeywell International Inc., Momentive Performance Materials Holdings LLC, NOVA Chemicals Corporation, Selenis Canada, Inc, Tremco Incorporated

ATLANTIC CANADA

- » Halifax (Nova Scotia), St. John (New Brunswick)
- » **Leading companies include:** Air Liquide Canada Inc (AIR LIQUIDE S.A.), Corridor Resources Inc., Intertape Polymer Group Inc., Imperial Oil Limited, Irving Oil Limited

RECENT INVESTMENTS

- Williams Companies, Inc. will invest \$850 million to construct a propane dehydrogenation facility near Edmonton, Alberta—Canada's first such plant.
- Koch Industries, Inc. announced plans to invest \$30 million to increase ammonia production and realize operational efficiencies at its Brandon, Manitoba facility.
- Cytec Industries Inc. is investing \$100 million to expand its Niagara Falls, Ontario phosphine and derivatives manufacturing plant—the first in North America and largest worldwide.
- Advanced Drainage Systems, Inc. added a polyethylene pipe manufacturing line to its plant in Saint-Germain, Quebec, and expanded its reach through distribution centres in Moncton, New Brunswick and Morrisburg, Ontario, in ongoing investment to increase capacity to meet local demand.

⁵ Statistics Canada. *Canadian Business Patterns Database*, NAICS 325 and NAICS 3261 (2012).

⁶ Statistics Canada. CANSIM Table 281-0024, NAICS 325 and 3261 (2012).

CANADA'S ADVANTAGES

FEEDSTOCK ADVANTAGE

Canada offers abundant, secure, low-priced manufacturing inputs. It is one of the world's largest producers of natural gas, crude oil and hydroelectricity. A global leader in potash and other minerals, and home to a large petroleum refining industry, Canada's massive forestry and agricultural industries provide an abundance of the raw materials needed for bio-based chemicals, fuels and plastics. The chemicals and plastics industry is poised for growth thanks to new shale gas, development of Arctic and off-shore gas in Atlantic Canada, and growing markets for chemistry-based solutions.

ACCESS TO MAJOR MARKETS

Under NAFTA, Canada enjoys preferential access to one of the largest and most important markets in the world. Further, once the Comprehensive Economic and Trade Agreement (CETA) with the European Union comes into force, Canada will have guaranteed preferential access to European markets. Canada recently concluded negotiations on a free trade agreement with South Korea providing a strategic gateway to this dynamic and fast-growing region. Canada is also engaged in negotiations with India, Japan and the Trans-Pacific Partnership, to strengthen its position as a global export base. These agreements allow investors to benefit from integrated global supply chains and seize new export market opportunities.

EXTENSIVE INFRASTRUCTURE

Canada's transportation infrastructure and border systems are among the world's best, minimizing delays in getting product to market.⁷ Canada also has many integrated industrial parks offering storage, waste treatment facilities, and streamlined permitting, and the possibility for cost savings through shared infrastructure, collaboration and easy access to services and customers through connected pipelines and rail, road, sea and air transport links.

QUALITY AVAILABLE WORKERS

Canada is equipped with a highly skilled labour force for the chemicals industry. As one of Canada's most knowledge intensive manufacturing industries, it offers a high proportion of available, well-educated workers with a track record of company loyalty.

DUTY-FREE MANUFACTURING TARIFF REGIME

Canada is the first country in the G-20 to offer a tariff-free zone for industrial manufacturers, having implemented an initiative that will see tariffs on all manufacturing inputs reduced to zero by 2015. As a result, investors now have the advantage of importing advanced machinery and equipment free of import duties. Along with the straight-line depreciation that Canada allows for manufacturing and processing equipment, these duty-free policies mean that investors can quickly write off capital investment in Canada.

INTEGRATED VALUE CHAIN

Canada is home to the full value chain, transforming its abundant natural resources into building blocks for value-added products at a rapid pace and at globally competitive costs. Canada has a track record of R & D success and an experienced, collaborative network with expertise in composites, chemical engineering, greener materials and resource development.

⁷ World Bank. International Logistics Performance Index (2010).

SUPPORT PROGRAMS AND INNOVATION

Canada offers generous investment tax credits, tariffs and programs to support chemicals and plastics R & D performed in Canada.

- The **Scientific Research and Experimental Development (SR&ED)** provides income tax credits and refunds for expenditures on eligible R & D activity in Canada.
- The **Advanced Manufacturing Fund (AMF)** is a \$200-million program over five years (starting in April 2014) by the Federal Economic Development Agency for Southern Ontario (FedDev) that supports investments by manufacturing firms that create new and innovative products or production methods.
- The **Accelerated Capital Cost Allowance (ACCA)** is a temporary two-year program that allows companies to rapidly write off eligible machinery input investments with a 50 percent straight line depreciation rate. The program provides support to businesses in the manufacturing and processing sectors to help them retool with new machinery and equipment.
- The National Research Council Canada's **Industrial Research Assistance Program (IRAP)** supports innovative R & D and the commercialization of new products and services by small and medium-sized firms.
- **Export Development Canada (EDC)** and **Business Development Bank of Canada (BDC)** provide flexible financing programs and solutions tailored to support foreign direct investment in Canada.

At both the federal and provincial levels, Canada fosters a vibrant R & D environment that supports collaborative research through networks of universities and specialized research institutes. R & D projects include applications in extractive industries, agriculture and food processing, advanced manufacturing and sustainable technologies.

- Centre for Advanced Coatings Technologies, University of Toronto (Toronto, Ontario)
- Centre for Advanced Polymer Processing and Design, McMaster University (Hamilton, Ontario)
- Centre for Applied Research on Polymers and Composites (Montréal, Quebec)
- Composites Innovation Centre (Winnipeg, Manitoba)
- Fraunhofer Project Centre for Composites Research, University of Western Ontario (London, Ontario)
- Institute for Polymer Research, University of Waterloo (Waterloo, Ontario)
- Magna-National Research Council Composite Centre of Excellence (Greater Toronto Area, Ontario)
- Natural Resources Canada's CanmetMATERIALS (Hamilton, Ontario and Calgary, Alberta)
- Networks of Centres of Excellence, Advanced Foods and Materials Canada (Guelph, Ontario)
- Networks of Centres of Excellence, Carbon Management Canada (Calgary, Alberta)
- Networks of Centres of Excellence, Composites Research Network (Vancouver, British Columbia)
- National Research Council Canada Construction (Ottawa, Ontario)
- National Research Council Canada Energy, Mining and Environment (Vancouver, British Columbia)
- Petroleum Technology Alliance Canada (Calgary, Alberta)

INVEST IN CANADA TO ACHIEVE GLOBAL EXCELLENCE

A WELCOMING BUSINESS ENVIRONMENT

Canada is ranked as the best country for business in the G-20.

Source: Forbes and Bloomberg

A HIGHLY EDUCATED WORKFORCE

Canada's workforce is the most highly educated among members of the OECD, with half of its working-age population having a tertiary-level education.

Source: Organisation for Economic Co-operation and Development (OECD)

LOW TAX RATES

Canada's overall marginal effective tax rate on business investment is by far the lowest in the G-7—about 17 percentage points lower than that of the United States.

Source: Department of Finance Canada

COMPETITIVE R & D ENVIRONMENT

Canada offers the lowest business costs in the G-7 for R & D-intensive sectors, with a 15.8 percent cost advantage over the United States.

Source: KPMG

FINANCIAL STABILITY

For six consecutive years, the World Economic Forum has declared Canada's banking system to be the soundest in the world.

Source: World Economic Forum (WEF)

UNPARALLELED MARKET ACCESS

Canada's NAFTA advantage gives investors access to 470 million consumers. Many Canadian production hubs are actually closer to U.S. markets than American production sites—of Canada's 20 largest cities, 17 are within an hour-and-a-half drive of the U.S.

Source: The World Bank

A GREAT PLACE TO INVEST, WORK, AND LIVE

Canada is one of the globally most multicultural countries with world-class universities, a universal health care system and clean and friendly cities in addition to having the second highest standard of living in the G-20, as measured by GDP per capita.

Source: The World Bank

Unless otherwise noted, all values in this publication are in Canadian dollars. Content is based on the latest available information at time of publication.



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