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CIPEC ANNUAL REPORT 2011



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Conservation

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ABOUT CIPEC

The Canadian Industry Program for Energy Conservation (CIPEC) is a voluntary
**industry-government partnership established
to improve Canada's industrial energy efficiency.**

CIPEC is funded under the ecoENERGY Efficiency for Industry initiative.

CIPEC comprises 25 sectors that include more than 50 trade associations. Each sector represents companies that are engaged in similar industrial activities. The Task Force Council provides a forum for sectors to share ideas and recommend ways to address common needs and includes representatives from every CIPEC sector task force. Overall direction is provided by the CIPEC Executive Board, made up of private sector leaders who are champions of industrial energy efficiency and who provide advice on industrial energy efficiency programs and related issues to the Government of Canada.

In the CIPEC partnership, change emerges from consensus and joint action developed through open communication. CIPEC continues to be the focal point for industry's response to Canada's energy efficiency efforts.

CIPEC's role is to promote greater energy efficiency and recognize and reward those who lead the way. At its biyearly conferences on industrial energy efficiency,

CIPEC presents the CIPEC Leadership Awards to honour innovative Canadian companies that have demonstrated a significant and innovative contribution to energy efficiency.

Part of CIPEC's mandate is a strong communications and awareness program anchored in its biweekly *Heads Up CIPEC* newsletter, which has a readership of more than 10 000 subscribers. CIPEC also raises awareness of the goals and benefits of improved energy use. The Task Force Council and sector task forces are constantly working toward broadening participation, encouraging information sharing and bolstering awareness of the role and achievements of CIPEC members.

CIPEC volunteers include successful business leaders and others recognized on the national stage. Profiles of these leaders and their strong belief in CIPEC's principles attract new members from industry, building on the successful partnership between industry and government.

OUR MISSION

TO PROMOTE EFFECTIVE VOLUNTARY ACTION THAT REDUCES INDUSTRIAL ENERGY USE PER UNIT OF PRODUCTION, THEREBY IMPROVING ECONOMIC PERFORMANCE, WHILE PARTICIPATING IN MEETING CANADA'S CLIMATE CHANGE OBJECTIVES.

JOIN CIPEC

Participate in CIPEC by registering your company's commitment to energy efficiency improvements and greenhouse gas reductions. Signing up as a CIPEC Leader is free and provides eligibility for a broad range of benefits, including

- cost-shared assistance for energy assessments and for implementation pilots for the ISO 50001 Energy Management System Standard
- Natural Resources Canada's Dollars to \$ense Energy Management Workshops (and opportunities to have them delivered on-site and customized to meet specific company needs)
- technical guidebooks
- *Heads Up CIPEC* – a bi-weekly e-newsletter that provides the latest energy efficiency information
- opportunities to network with other industrial energy managers and practitioners

Contact CIPEC

oee.nrcan-rncan.gc.ca/cipec
info.ind@nrcan-rncan.gc.ca



MESSAGE FROM THE CHAIR

An uncertain economic picture did not deter CIPEC members from advancing the cause of industrial energy efficiency in Canada this year. CIPEC members continued to set an example for Canada, and the world, with their commitment to innovative approaches to energy efficiency.

Our signature achievement this year was the publication of the *CAN/CSA-ISO 50001 Energy Management Systems* standard. I believe that this standard signals the start of a new era in energy efficiency. The new standard will enable organizations of all types and sizes to establish the systems and processes necessary to take a systematic approach to improving energy efficiency, use, consumption and intensity. It will also help reduce greenhouse gas emissions and other environmental impacts.

The Canadian Standards Association (CSA) technical committee approved the publication of the Canadian standard CAN/CSA-ISO 50001 on June 24, 2011. The fact that the CSA was able to quickly publish the standard without modifying it speaks to the strength of Canada's participation on the ISO international committee, comprising representatives from 43 countries.

CIPEC members and Natural Resources Canada (NRCan) officials played key roles in developing the standard. Their efforts over the last three years deserve our thanks and praise. I am confident that CIPEC will play a significant role in promoting the adoption of ISO 50001 by industry in Canada. The Government of Canada and its provincial/territorial and utility partners are already advancing the impact of ISO 50001 through pilot projects with CIPEC members. I am pleased to note that the ecoENERGY Efficiency for Industry program is offering cost-shared assistance to industrial companies for ISO 50001 implementation pilots and energy assessments.

The other important news from this year was the conclusion of NRCan's ecoENERGY Retrofit for Industry program, which provided incentives for energy efficiency projects to industrial facilities through NRCan's Office of Energy Efficiency (OEE). The program helped industrial facilities overcome financial barriers to improving the energy efficiency of their operations. Its lasting impact can be seen in the more than 500 agreements funded, the \$11 million in saved energy costs recorded by CIPEC members and the 130 000 tonnes of greenhouse gas (GHG) emissions that were avoided.

There were also new program developments to celebrate this year. The OEE expanded the number of Dollars to \$ense energy management workshops from four to six. Starting this fall, the Dollars to \$ense suite of regular workshops includes the new Energy Management Information System (EMIS) workshop and the new Recommissioning (RCx) workshop – both the result of successful pilots. The EMIS workshop shows how to make energy performance visible, and it helps organizations take steps to apply a systematic approach to energy efficiency. The RCx workshop increases awareness and knowledge of the fundamentals of building recommissioning.

I am also proud that this year my fellow CIPEC Leaders recorded total annual energy savings of 5.17 petajoules – enough energy to power almost 44 000 households. Estimated reductions in annual GHG emissions totalled 483 kilotonnes. One of the most significant things about these impressive numbers is the fact that they were achieved voluntarily – the foundation of CIPEC's success.

The CIPEC Leaders who have driven Canada's success on industrial energy efficiency all share this voluntary commitment. And the 208 new CIPEC Leaders we welcomed this year are now part of this proud volunteer tradition. Since 1975, CIPEC has grown to include more than 2400 CIPEC Leaders.

As I look forward to my fifth year as the Chair of the CIPEC Executive Board, I continue to be inspired by the extraordinary progress CIPEC continues to make and the remarkable voluntary partnership it remains. I wish to express my gratitude to CIPEC's Executive Board and Task Force Council and the many volunteers on the sector task forces for their continuing dedication to improving industrial energy efficiency in Canada. I am convinced that their leadership and our collective efforts will ensure CIPEC has a promising future as we lead the drive toward sustainable growth in the wider Canadian economy.

Sincerely,

Glenn Mifflin

Executive Vice-president and CFO
North Atlantic Refining Limited
Chair, CIPEC Executive Board

THE RESULTS

The Canadian Industry Program for Energy Conservation (CIPEC) brings exceptional value to Canadian industry while supporting Canada's drive to improve energy efficiency and reduce greenhouse gas (GHG) emissions. **Its extraordinary impact is clear – CIPEC delivers results.**

The share of Canada's gross domestic product (GDP) created by CIPEC industries increased 24.6 percent between 1990 and 2009. With the help of effective energy management, energy consumption by these industries rose only 18.5 percent.

In 2009, CIPEC industries created approximately 25 percent of the country's GDP and provided jobs for approximately 3.5 million Canadians.

The more than 5000 companies that CIPEC sectors represent reduced their combined energy intensity by 4.9 percent between 1990 and 2009. Had energy intensity remained constant, GHG emissions from CIPEC industries would have been 26.9 megatonnes (Mt) higher.

Improved energy efficiency enabled Canadian industry to avoid approximately \$200 million in purchased energy in 2009 – enough energy to heat almost 200 000 Canadian households for one year.

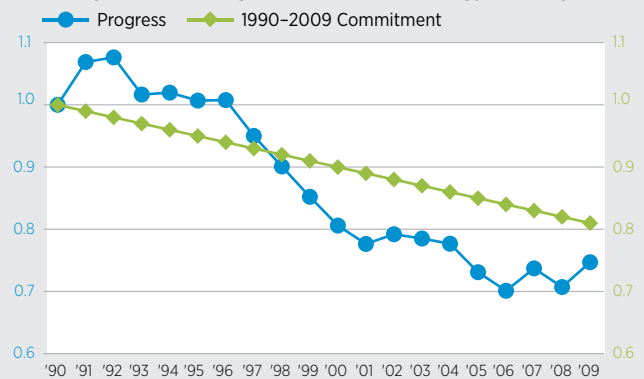
The mining, manufacturing and construction sectors improved their energy intensity by an average of 1.3 percent per year. Between 1990 and 2009, these sectors improved energy intensity by 25.3 percent.

From the fall of 1997 to March 31, 2011, the CIPEC Dollars to \$ense Energy Management workshops helped companies save an estimated 17 300 terajoules of energy and cut carbon dioxide emissions by more than 1900 kilotonnes.

The *Heads Up CIPEC* newsletter reaches 10 000 recipients across Canada. This newsletter is distributed electronically twice per month.

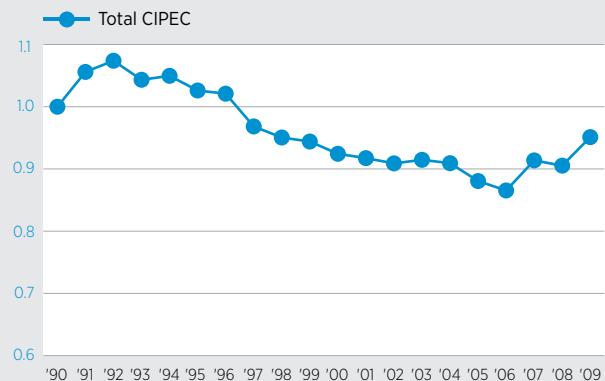
More than 2400 industrial facilities have signed on as CIPEC Leaders.

Mining, Manufacturing and Construction Energy Intensity



The mining, manufacturing and construction sectors improved their energy intensity by an average of 1.3 percent per year between 1990 and 2009. This rate surpasses the public voluntary commitment made by these CIPEC members to achieve an average annual energy intensity improvement of 1.0 percent per year.

Total CIPEC Energy Intensity



All CIPEC industries improved their combined energy intensity by 4.9 percent, or an average of 0.3 percent per year, between 1990 and 2009. If energy intensity had remained constant, GHG emissions would have been 26.9 Mt higher in 2009.



ISO 50001 ENERGY MANAGEMENT SYSTEMS STANDARD

The ISO 50001 Energy Management Systems Standard
rides a wave of interest.

CIPEC Leaders are set to be early adopters.

The recent publication of the ISO 50001 International Standard for Energy Management Systems signalled the official start of a new era in energy efficiency. CIPEC Leaders are embracing this new standard from the International Organization for Standardization (ISO).

"We are seeing tremendous levels of interest from CIPEC Leaders. Close to 200 people participated in two webinars we held in February, and interest has only been building since then," says Michael Burke, Director of Industrial Programs at Natural Resources Canada (NRCan). Burke served as Vice-chair of the Canadian delegation to the ISO 50001 negotiations.

ISO 50001 highlights

- Incorporates energy management into everyday practices
- Standardizes energy management in the areas of
 - energy use
 - energy supply
 - procurement of energy-using equipment and systems
- Measures current energy use
- Includes an action plan that has measurable targets and timelines
- Guides greenhouse gas (GHG) emissions reduction projects
- Builds on the best of existing national and regional standards and other ISO standards, especially ISO 9001 and 14001

The new standard promises to enable organizations of all types and sizes to establish the systems and processes necessary to take a systematic approach to improving energy efficiency, use, consumption and intensity. ISO 50001 will also lead to a reduction in GHG emissions and other environmental impacts.

"Canada is already ahead of the game because of CIPEC. The networking and training infrastructure offered through CIPEC means Canadian business has a leg up on the competition when it comes to implementing the standard," says Ron Morrison, Treasurer of the Board, Canadian Manufacturers & Exporters – Canada's largest industry and trade association.

Morrison, who sits on the CIPEC executive board, also served as Chair of the Canadian delegation to the ISO 50001 negotiations. Canada and 43 countries, including the United States, the United Kingdom, China, Sweden and Spain, worked together to develop the standard. Every country intends to adopt it in whole or in part.

The projected benefits of following the new standard are the main reasons behind the surge in interest. "Companies that implement the ISO 50001 standard can achieve energy savings of 10 to 20 percent in the first five years. Of course, success depends on the ease of integration into a company's culture, as well as supporting factors such as information sharing and training," says Burke.



In fact, successfully adopting ISO 50001 requires a cultural shift within an organization to accept energy management in the same context as any other management process in the organization. "Under ISO 50001, energy management is not just the responsibility of the energy manager. Identifying projects and taking actions to reduce energy intensity is everyone's responsibility," says Burke.

Sean Brady, Director of Business Development at the Ontario Power Authority (OPA) and an architect of the first Canadian pilot implementations, believes that "ISO 50001 is a key element of the energy conservation process in Canada in the future. As we seek to create a brighter and greener environment for ourselves and our children, sustainable energy savings and permanent culture change are essential."

The new standard has the common elements of ISO management standards such as the continual improvement "plan-do-check-act methodology" adopted in earlier ISO management standards. ISO 50001 will establish a framework for industrial plants, commercial facilities or entire organizations to manage energy. ISO estimates that the standard could influence up to 60 percent of the world's energy use.

"ISO 50001 provides a proven framework that helps organizations systematically plan and manage their energy use," Morrison says. "Because it is based on continual improvement, ISO 50001 will improve energy efficiency and encourage prudent energy use. An extremely high level of consensus drove our committee's fast progress toward publication, which I think proves that businesses around the world need and want this standard."

ISO 50001 can be thought of as a standard for energy management systems that provides relevant information to an organization to make energy performance visible. With this information, people at all levels of the organization can make decisions and take effective action to systematically improve energy performance and create value for the organization.

"It is not an overly prescriptive standard. The negotiations focused on building something that would not be driven entirely by auditors. It really is a framework, not a to-do list," says Morrison. He adds that companies can implement the new standard but delay, or even forgo, certification and instead opt for "self-declaration," which entails following the standard and enjoying energy efficiency gains but not submitting to formal audits.

Of course, many companies will opt for formal certification because of the expected benefits of enhancing their environmental reputation with suppliers and investors. Indeed, if ISO 50001 gains the following that standards such as ISO 9001 have, it would be beneficial for businesses to be certified if they want to be considered as suppliers for major corporations.

For example, Walmart expects its suppliers to be certified in several ways to promote corporate social responsibility. Walmart has a sustainable product index, which poses 15 questions in four broad categories (energy and climate; material efficiency; natural resources; and people and community) to 100 000 of its suppliers worldwide. The goal is to translate the data into product sustainability ratings for consumers.

This kind of demand is just one important example of how ISO 50001 will make its presence felt in the years ahead. "We want to use this as a way to ignite another push for even greater energy efficiency among CIPEC members. This standard is good for Canadian business and good for Canadians," says Morrison.

ISO 50001 pilot projects show the way

The Government of Canada showed its global leadership in advancing energy efficiency by supporting three pilot projects to support the implementation of ISO 50001. This important new standard will serve as a tool to help energy users identify energy savings and maximize energy performance.

The global technology firm 3M, in partnership with Enbridge Gas Distribution, is part of a pilot project to identify opportunities to develop and implement actions to maximize energy performance in the 3M Canada tape plant in Brockville, Ontario.

A second pilot project is testing the implementation of ISO 50001 in NRCan buildings in Ottawa, Ontario.

Pilot project success story

"We decided to be part of the pilot project to control energy costs and to follow 3M's corporate energy goals," says Andrew Hejnar, Energy Manager for 3M Canada. Implementation of ISO 50001 at 3M Canada's Brockville plant will provide tools to measure, document and report energy costs and GHG emission intensity, as well as allow 3M to evaluate and prioritize energy efficiency measures. The company expects significant energy savings from adopting ISO 50001.

Mississauga-based Hatch Ltd. is conducting a third pilot project initiated and primarily funded by the OPA. The pilot used the ANSI:MSE Standard as a pre-ISO 50001 model to help five Ontario manufacturing companies prepare for potential certification when the standard is released. The approach included working with all organizational levels of each company. It also involved customized workshops, developed and delivered through CIPEC, about energy management information systems.

The key outcome of the project is a sound business case that highlights the value of implementing the standard for continuous energy performance improvements by using verified energy savings, economic analysis and key lessons learned from the process. The results of these pilots will help with widespread promotion of ISO 50001 in the Canadian manufacturing sector.

"All pilot project stakeholders are seeing that ISO 50001 is about much more than just energy savings," says Robert Storey, a Senior Consultant at Hatch. "Increased adoption of energy management system standards like ISO 50001 will help build energy management capacity in the manufacturing sector and demonstrate leadership toward achieving energy conservation and sustainability goals."



OBSERVATIONS AND LESSONS LEARNED

The pilot projects generated significant information and lessons learned:

- The standard is practical and complements existing best practices for energy management.
- Support and strong interest must exist at all levels, from the shop floor to the executive suite. Facility-wide "ownership" of the project is critical.
- The team must be led by a local senior manager, with dedicated coordination and support on-site.
- Experience with formal management systems is a big advantage.
- Submetering and real-time monitoring are major enablers for producing high-quality data.
- The real test of an energy management system is whether it survives personnel changes.

As interest in ISO 50001 grows, Storey also expects opportunities to grow for metering and software suppliers, who are naturally very interested in this growing demand for energy-related information technology. Property managers for several major commercial and institutional properties are also taking interest in the approach because it complements sustainability standards such as Leadership in Energy and Environmental Design (LEED™) and ISO 14001 that are already well adopted in these sectors.

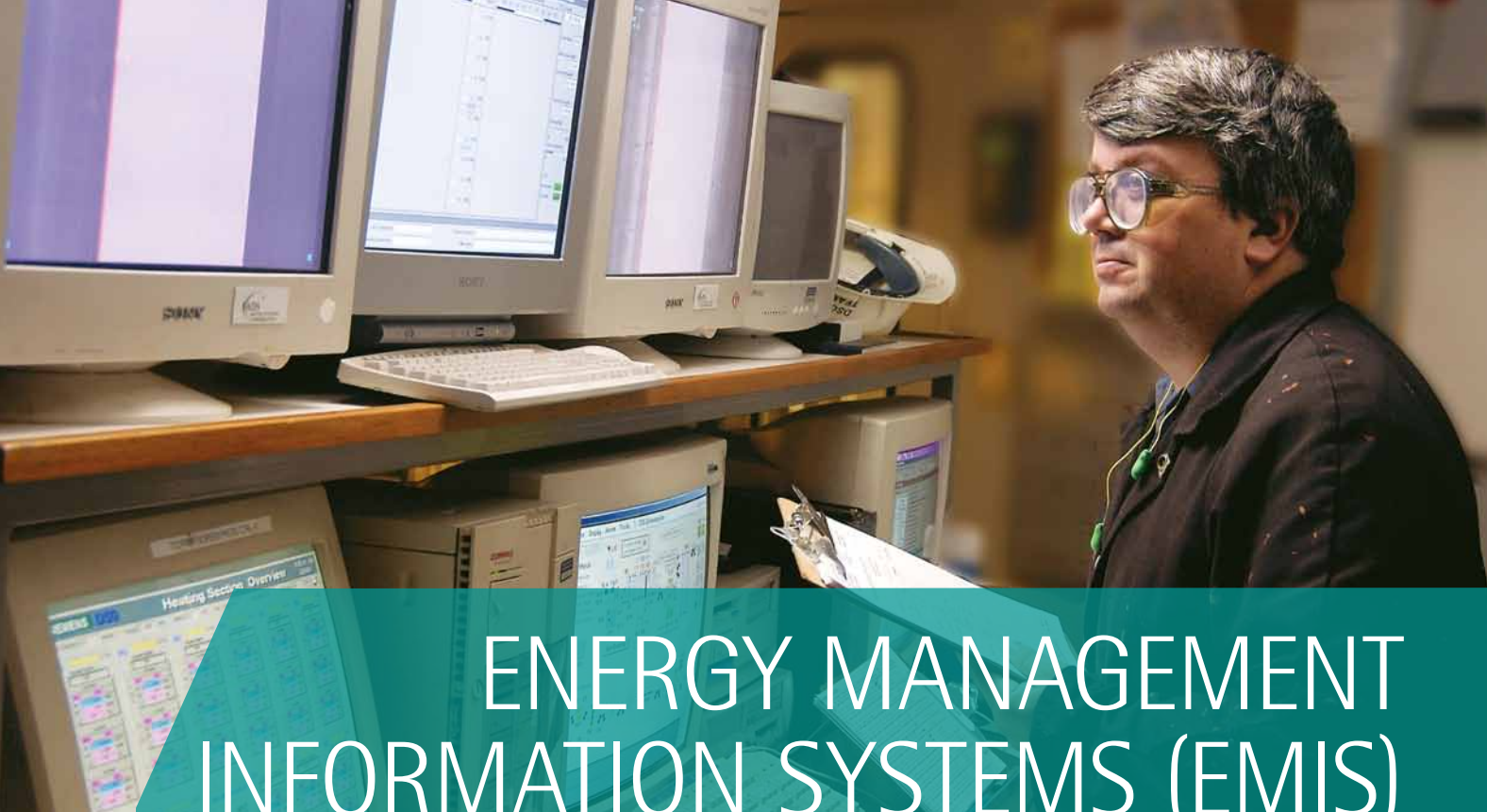
Pilot project success story

Lassonde Beverages Canada identified 22 energy efficiency and 6 environmental efficiency opportunities in the company's compressor and cooling and boiler systems. "We looked for improvement without re-engineering everything," says Daniel Marcoux, Plant Manager at Lassonde. Although ISO 50001 certification is not a requirement, Marcoux says, "Our key customers demand that we have a sustainability program, and this is one we can present to them."

Storey sees a brighter and more stable future for Canadian energy management professionals. "The energy management field has had its ups and downs over the years with energy prices but ISO 50001 provides the energy management process with the high level of attention it has always deserved."

For information on ISO 50001, send an e-mail to info.ind@nrcan-rncan.gc.ca.

To purchase a PDF version of the standard, visit shop.csa.ca/en/canada/energy-efficiency/canca-iso-5000111/inv/27032662011/.



ENERGY MANAGEMENT INFORMATION SYSTEMS (EMIS)

Training options expand with a new workshop about
Energy Management Information Systems.

"You can't manage what you don't measure" message motivates CIPEC Leaders.

Transforming energy data into information about energy performance lies at the heart of the most successful energy efficiency projects. This task got easier for CIPEC Leaders with the launch of a new workshop about Energy Management Information Systems (EMIS) in September 2011. The workshop is based on the Office of Energy Efficiency's (OEE's) *Energy Management Information Systems Planning Manual and Tool*, which was mainly developed by Efficiency NB in collaboration with the provincial and territorial governments.

Using an EMIS is a powerful way to save energy and cut costs by combining management systems and information technology. "With an EMIS, you can make energy performance visible for the right people in your organization. Informed energy management decisions will

create value and enhance competitiveness," says Michael Burke, Director of Industrial Programs at NRCan. The one-day EMIS workshop is the latest addition to the suite of training tools available through the OEE's Dollars to \$ense Energy Management Workshops.

An EMIS converts energy and utility data into energy performance information by using performance equations whose results are compared with dynamic energy performance targets. This means targets can adapt to changing circumstances. The best way to describe an EMIS is as a dashboard view of an organization's energy use that allows energy to be seen as a variable operating cost rather than a fixed overhead charge.

One of the key elements of the EMIS workshop is showing energy managers how to make the business case for an energy data and information system. "We are confident that the workshop will help banish the misconception that an EMIS is divorced from the organizational management of energy," says Burke.

An EMIS gives a company the tools to properly capture, analyze and report data in a systematic and precise manner that will help the company identify problem areas and identify solutions.

"Data by itself is not knowledge. Knowledge only comes when information is learned from patterns in data. An EMIS provides tools to create knowledge by unlocking patterns in energy data," says Susan Olynyk, Senior Specialist, Climate Change at ArcelorMittal Dofasco in Hamilton, Ontario. Olynyk also serves as the CIPEC Task Force Council Chair.

With EMIS training, energy managers can convert information into knowledge so they can make sound business decisions about energy. By focusing on the deliverables that an EMIS offers, participants at the workshop learn how to turn data into knowledge. After data morph into knowledge, that knowledge can be applied in many ways.

"We want to use the workshops to position an EMIS as directly relevant to achieving energy performance improvements under ISO 50001," says Burke. The recent publication of the ISO 50001 Standard for Energy Management Systems will help CIPEC members establish the systems and processes necessary for taking a systematic approach to improving energy efficiency, use, consumption and intensity. An EMIS, by definition, has a systematic approach embedded in it, so companies can use it to help with their compliance with ISO 50001.

For more information on ISO 50001, see page 8.

As the EMIS workshop is rolled out across Canada, the OEE will build on existing partnerships and develop new ones to help extend the reach of the workshop. The OEE will continue to rely on its partners for delivering customized EMIS workshops. On-site, customized workshops – geared to the needs of the individual organization – will run throughout the year.



EMIS training can have a profound effect on an organization's approach to energy efficiency by changing corporate culture. "An EMIS does not save money and energy by itself. It is really about combining human intelligence with information technology," says Burke.

To learn more about an EMIS, review the manual and tool entitled *Energy Management Information Systems – Planning Manual and Tool* at oee.nrcan.gc.ca/industrial/technical-info/index.cfm.

For more information on EMIS training, visit oee.nrcan.gc.ca/industrial/training-awareness.



EMIS deliverables

DETECTING POOR PERFORMANCE EARLY

An EMIS identifies poor operations quickly and effectively. Typical examples are incorrect temperature set-points and equipment left operating unnecessarily. Comparing actual performance with targets usually identifies poor performance. An EMIS alerts staff to a deviation from a target.

SUPPORT FOR DECISION MAKING

Where there is difficulty in deciding how to act on a problem, decision-support systems should be considered as part of an EMIS. Such systems provide supporting information and can take several forms, from guides and charts to sophisticated computer systems.

AUDITING HISTORICAL OPERATIONS

An EMIS can be used to analyze historical performance, as well as provide ongoing information about the current energy performance of processes and equipment.

IDENTIFYING AND JUSTIFYING ENERGY PROJECTS

An EMIS can be the foundation for identifying and justifying energy efficiency projects. Improvements to operations and control settings can be identified. These improvements tend to be low- or no-cost quick fixes.

EVIDENCE OF SUCCESS

An EMIS can clearly show whether or not actions to reduce energy use and costs have been successful.

SUPPORT FOR ENERGY BUDGETING AND ACCOUNTING

An EMIS provides information that facilitates budgeting. Historical relationships between production and energy use can be used with production estimates to forecast future energy use.

PROVIDING ENERGY DATA TO OTHER SYSTEMS

An EMIS can provide data to other systems, including production planning, scheduling, management information systems, corporate systems and environmental reporting.



PROCESS INTEGRATION

Process integration is a proven path to industrial energy efficiency.

Fifty-three CIPEC Leaders show the way.

Process integration is a powerful approach for the design and operation of energy-efficient industrial processes. It is a site-wide approach that can be applied to identify and correct inefficiencies in complex industrial facilities that use significant amounts of thermal energy and operate numerous heat exchangers to heat and cool process streams. And process integration – or PI as it's known by industry – is making waves with medium-sized and large Canadian industrial plants, according to an impact study conducted this year.*

"The survey results show how impressed participating companies were with the energy savings from their PI study. We've even had a company ask to double-check the energy savings because the numbers seemed too good to be true," says Madeline McBride, Deputy Director of Industrial Programs at NRCan.

Since NRCan launched its PI incentive program in 2004, more than 50 CIPEC Leaders have benefited from PI studies at their industrial facilities. Together they have saved 6600 terajoules in fossil fuel and biomass annually, which translates into annual cost savings of \$54 million and a reduction in direct GHG emissions of 311 kilotonnes (kt) per year.

In addition, PI enabled participants to increase their overall electricity generation capacity by 50 megawatts (MW).

NRCan's Process Integration Incentive Program highlights

- Completed more than 50 PI studies in large and medium-sized industries
- Implemented annual fuel savings of \$54 million
- Reduced annual direct GHG emissions by 311 kt
- Increased on-site power generation by 50 MW
- Increased potential water savings and production increases

* Source: NRCan's PI Incentive Program – Impacts Assessment April 2011, CanmetENERGY – Varennes Research Centre

This electricity can be used on-site or exported to the grid to generate a new revenue stream of approximately \$15 million and additional indirect GHG reductions of 95 kt annually. Program participants received funding of up to 50 percent of the cost of the PI study, to a maximum of \$50,000.

"A PI study gives a huge amount of information about how energy is being used in your processes and helps you understand how these processes work and interact with each other, showing where energy should be recovered and where it should be utilized," says Philippe Navarri, a Senior Project Manager with NRCan's CanmetENERGY – Varennes Research Centre. "Canadian industry can benefit tremendously from PI. Typically, cost-effective energy and water savings of 10 percent to 35 percent are possible."

"PI is the best way for us to get the most accurate picture of energy consumption. We are using the results to build our five-year energy reduction plan," says Marc Desaulniers, Manager of Energy Conservation at Kruger Mills.

"We used a PI study to save close to \$1.8 million a year in natural gas and electricity at our Toronto brewery. It's one of Molson's biggest and most complex facilities. We identified about 30 projects, including preheating the mash using a kettle vapour condenser and improving the CO₂ evaporation and liquefaction system," says Jim Pomeroy, the acting Brewery Manager at the Molson Coors Toronto brewery.

The PI impact study revealed that half of the PI studies conducted with CIPEC Leaders involved American consultants. "We expect PI studies to continue to grow in popularity. As demand grows, we want to make sure CIPEC members have access to the specialized engineering consultants they need," says McBride.

CanmetENERGY is working to build capacity among Canadian energy management consultants through a PI training program being piloted in the province of Quebec in collaboration with Quebec's Agence de l'efficacité énergétique (AEE). PI workshops and post-training technical support are offered along with a unique PI software developed by CanmetENERGY.

Process integration is a systematic approach to optimizing industrial processes. PI can

- reduce energy consumption by 10 percent to 35 percent
- reduce GHG emissions
- reduce water use and effluent production
- increase profitability
- increase production capacity at minimal capital cost

Consultants play a critical role during a PI study because they must deliver a comprehensive analysis of how energy is being used throughout complex industrial processes.

This analysis identifies operational and retrofit projects to ensure that the resources required by the industrial activity are used in an optimal way. By considering the entire process or plant and all heat recovery opportunities, PI allows energy consumption to be reduced significantly. Operating costs, GHG emissions and other environmental impacts are also reduced. In addition, the use of resources such as water and raw materials is usually improved.





PI studies go further than traditional audits

A PI study is much more comprehensive than a traditional audit, which generally optimizes an industrial process by considering individual units separately.

Taking a global view of a site's processes leads to big-picture thinking about energy efficiency.

"One of the beautiful things about PI studies is that they identify a range of no-cost, low-cost and capital projects. Then you can prioritize projects and draw up an investment roadmap that tells you what to do to save energy," Navarri says.

A PI study relies on three main steps to draw this roadmap:

- data acquisition and energy and mass balance
- application of PI techniques
- action plan

Process integration is used to improve existing installations and to design new production units. It can solve a wide range of industrial challenges by

- reducing energy use and air emissions
- identifying sources of waste heat and opportunities for recovery and reutilization
- recovering energy within a given process, between processes or for the entire site
- optimizing the configuration of a utility, including selecting the optimal steam pressure, process steam-generation and cogeneration
- removing bottlenecks from critical processes, equipment and utility systems
- minimizing water consumption and wastewater generation
- increasing production capacity at minimal capital cost
- identifying optimal mid- and long-term investment strategies



DATA ACQUISITION AND ENERGY AND MASS BALANCE

After the study objectives and economic constraints are set, a PI study moves to a detailed analysis of the process. All the streams and points in the process where energy is being used are identified, and an energy and mass balance is built. This stage is very important because without proper data, the study's results will be compromised.

APPLICATION OF PI TECHNIQUES

Next, a PI specialist analyzes the data collected in the previous steps by using specialized software and identifies a set of projects that can fulfill the objectives of the study. In particular, one of the main PI techniques, pinch analysis, can determine the minimum energy requirements of the process, as well as the design changes and capital costs required to achieve them. (See "Putting the pinch on energy waste," page 19) Pinch analysis also helps identify projects that minimize the amount of energy the process uses.

ACTION PLAN

The final set of projects and solutions identified at the completion of the PI study are put into an action plan for the plant personnel. The plan is usually presented as a table that contains a description of the projects and their technical and economic parameters. Each project may also be drawn in a simplified process diagram to illustrate the proposed concept.

It is essential that key personnel clearly understand the recommended solutions. The action plan may include recommendations that are listed in the order in which the projects should be implemented, a description of potential difficulties that might arise and strategies to handle them.

Complex processes, simple cost-effective solutions

The solution that a PI study provides is not inherently complex because the study is comprehensive. "PI solutions include not only heat recovery projects and equipment upgrades but also simple operational measures that focus on energy efficiency gains from harvesting low-hanging fruit," says Navarri. These kinds of projects, such as fixing a hot water tank that overflows repeatedly or adjusting operating conditions according to best practices, can have very short payback periods.

Of course, a PI study can also deliver a much more complex solution that has a longer payback period, such as cogeneration or a heat upgrading application.

Cogeneration is a highly efficient use of fuel. When electricity is produced in a power plant, some energy is lost as waste heat. But in cogeneration, this thermal energy is put to good use, typically for heating.

Collaboration and incentives

A PI study requires collaboration between senior management, plant personnel, process experts and process integration specialists. Studies typically take between two and six months, depending on the complexity of the process to be analysed and the quality and availability of data. The final action plan includes detailed recommendations encompassed in a strategic vision that typically stretches over three to five years.

Is process integration right for your operation? If you answer "yes" to the following questions, a PI study could be worthwhile:

- Does your plant use more than 100 000 gigajoules (GJ) in thermal energy per year?
- Are there at least four process streams that require heating or cooling?
- Does senior management want to reduce energy costs?
- Is production capacity limited by the capacity of utility systems such as steam or cooling?

NRCan's OEE provides incentives for PI studies. Funding is available to eligible Canadian enterprises for up to 50 percent of the cost of a PI study, to a maximum of \$25,000.

To learn more about the PI incentive program and how a PI study can deliver energy efficiency gains and help your enterprise's bottom line, visit oee.nrcan.gc.ca/industrial/financial-assistance/assessment/index.cfm or send an e-mail to info.ind@nrcan-rncan.gc.ca.



Putting the pinch on energy waste

Pinch analysis is the most widely used PI technique. It is a systematic procedure for investigating the energy flows in a process and for quantifying the minimum, practical utility demands for process heating and cooling. This information is particularly useful because it allows the plant's actual energy consumption to be benchmarked against its minimum achievable energy consumption. Potential for cogeneration, as well as the viability of heat pump applications, can also be analyzed.

After the targets for minimum energy consumption have been identified, pinch analysis can identify where the current design can be improved – accelerating the development of energy-saving projects. It can also be used as the basis for long-term investment planning. Whether for an existing plant retrofit or for a new plant design, pinch analysis generally begins by setting an energy and mass balance. A model is built to represent the energy load for heating or cooling each relevant process stream.

This model is used to

- define the minimum utility consumption targets for process heating and cooling
- identify areas in the process where heat is exchanged inefficiently
- determine possible improvements in the way utilities such as steam, cooling water and electricity are used to heat or cool the process
- identify how to change the existing process operation to further reduce energy consumption

PROCESS INTEGRATION

CASE Studies



KRUGER – PI SHOWS THE WAY FOR TWO MILLS TO SAVE MILLIONS

Tissue production at the Kruger mills in Crabtree, Quebec, and New Westminster, British Columbia, is set to become more energy-efficient after two PI studies were completed early in 2010.

Initial estimates show the two mills could reduce combined energy costs by approximately \$5 million per year. Likely projects include reducing the temperature set point on showers used in the production process and using waste heat to heat water.

TEMBEC – OPTIMIZING WATER CONSUMPTION AND INCREASING POWER GENERATION

The Tembec pulp mill in Skookumchuck, British Columbia, was already one of the most water- and energy-efficient mills in Canada. Despite this fact, a PI study found room to reduce the demand for freshwater by up to 20 percent and, consequently, the effluent volumes. As well, the study identified the potential to reduce the demand for process steam and to increase the power generation capacity for export by approximately 4 MW.

MOLSON COORS CANADA – IDENTIFIES SAVINGS OF \$1.8 MILLION

The Molson Coors brewery in Toronto, one of the company's largest and most complex facilities, used a PI study to identify approximately 30 cost-saving projects. The projects would reduce the consumption of natural gas and electricity for a combined potential savings of approximately \$1.8 million per year. The projects included preheating the mash by using a kettle vapour condenser and improving the carbon dioxide evaporation and liquefaction system.

MAPLE LEAF FOODS – PI STUDY SHOWS \$1.1 MILLION IN SAVINGS

A PI study at the Maple Leaf Rothsay rendering operation in Dundas, Ontario, identified several projects to reduce energy consumption. The potential savings could be \$1.1 million with a payback period of less than two years. Other projects that offer \$1.5 million in annual savings but have longer payback periods were also identified.

The PI study highlighted that waste heat streams could preheat incoming material, provide a source of hot water and heat the buildings in winter. Another potential source of savings is to use a boiler economizer to preheat the boiler feed water and the combustion air. Many of the findings have been applied at five other operations in Ontario, Quebec, Manitoba and Nova Scotia.

DOUBLETEX – POTENTIAL FOR A 17 PERCENT CUT IN THE ENERGY BILL

The Doubletex textile dye house in Montréal, Quebec, did a PI study that found 14 projects that have the potential to yield \$300,000 per year in energy savings, or 17 percent of the plant's energy bill. Another \$160,000 per year in water savings was also identified.



ecoENERGY RETROFIT – SMALL AND MEDIUM ORGANIZATIONS

Innovative program leaves its mark.

NRCan's ecoENERGY Retrofit program has helped industrial facilities overcome financial barriers to improving the energy efficiency of their operations. The four-year program, launched in 2007, provided a financial incentive of up to 25 percent of project costs to a maximum of \$50,000 per application and \$250,000 per corporate entity. It helped small and medium-sized industrial facilities implement energy-saving projects.

The program ended March 31, 2011.

ENERGY EFFICIENCY AND ENVIRONMENTAL GAINS

- More than 500 projects were funded.
- \$11 million in annual energy costs were saved by CIPEC members.
- 130 000 tonnes per year of GHG emissions were avoided.

PROGRAM HIGHLIGHTS

- Lighting retrofits were the most popular project category, followed by heating, ventilating and air conditioning (HVAC) and boilers.
- The general manufacturing sector had the most projects, followed by the food and beverage sector.
- The average annual energy savings were 3000 GJ per project.
- The average incentive amount was \$20,000 per project.

ENERGY EFFICIENCY PROGRAMS AND TOOLS FOR INDUSTRY

Natural Resources Canada (NRCan) offers several energy efficiency and renewable energy programs and services to meet the needs of Canadian industry.

Networking opportunities

- Canadian Industry Program for Energy Conservation (CIPEC)

Employee-training assistance

- Dollars to \$ense Energy Management Workshops

Financial support

- Assessment incentives: cost-shared assistance for industrial companies to perform ISO 50001 implementation pilots and energy assessments
- Tax incentives: Classes 43.1, 43.2 and 29 and Canadian Renewable and Conservation Expenses (CRCE) tax incentives program

Technical support

- Canadian Industry Program for Energy Conservation

Canadian Industry Program for Energy Conservation

CIPEC is a voluntary industry-government partnership that promotes improvements in energy efficiency and reductions in greenhouse gas emissions across Canada's industrial sectors. CIPEC, which is funded under the ecoENERGY Efficiency for Industry initiative, comprises 25 sector task forces that include more than 50 trade associations. For more information, including how to join CIPEC, see page 3.

ISO 50001 – New Energy Management Systems Standard

Published in June 2011, the ISO 50001 Energy Management Systems Standard establishes an energy management framework for all types of organizations and companies. This new voluntary standard could quickly become a de facto requirement for businesses competing in today's globalized world.

ISO 50001 highlights

- standardizes energy management practices
- measures current energy use
- documents, reports and validates continuous improvement in energy management
- guides procurement of energy-using equipment and systems
- provides direction for emissions-reduction projects

Incentives

The people behind CIPEC know how to implement energy management programs. Performance measurement, baselines and best practices are what CIPEC is all about. So it was only natural that CIPEC representatives were involved in the negotiations for ISO 50001.

CIPEC members can begin to leverage CIPEC resources now to prepare to implement ISO 50001. The ecoENERGY Efficiency for Industry program is offering cost-shared assistance to industrial companies to perform ISO 50001 implementation pilots and energy assessments.

NRCan will provide an incentive of up to 50 percent of the cost, to a maximum of \$25,000, for

- ISO 50001 implementation pilots
- process integration studies
- computational fluid dynamics studies

To be eligible for an incentive, a company must have written approval from NRCan of its technical proposal before beginning the project.

For more information, contact NRCan:

Tel.: 613-947-1594

Fax: 613-992-3161

E-mail: bob.fraser@nrcan-rncan.gc.ca

Dollars to \$ense Energy Management Workshops

Hundreds of organizations have reduced operating costs by adopting energy-saving practices offered through NRCan's Dollars to \$ense Energy Management Workshops. The workshops are facilitated by leading experts in energy efficiency. The workshops give owners, managers and operators of industrial facilities a competitive edge in managing energy costs.

The six one-day Dollars to \$ense workshops are

- Energy Management Planning – identifies how to get support and spot cost-saving opportunities in many places you might not have considered
- Spot the Energy Savings Opportunities – shows how to identify, and capitalize on, immediate savings opportunities through practical exercises and hands-on demonstrations
- Energy Monitoring – shows companies how to measure and analyze energy use
- Energy Efficiency Financing – improves awareness of financing options and skills in obtaining financing for energy efficiency projects
- Energy Management Information System (EMIS) – makes energy performance visible and helps organizations apply a systematic approach to energy efficiency
- Recommissioning – increases awareness and knowledge of the fundamentals of building recommissioning

The workshops can also be customized to meet the needs of industrial sector organizations and companies. Professional instructors will consult with the company to identify specific requirements and then assemble the information and resource materials for the target audience.

Register online by visiting the workshop Web site or contact NRCan to find out more about workshop customization.

Tel.: 613-996-6585

Fax: 613-943-5380

**oee.nrcan-rncan.gc.ca/industrial/training-awareness
DollarstoSenseWorkshops@nrcan-rncan.gc.ca**

Classes 43.1, 43.2 and 29 and CRCE Tax Incentives

Canadian tax law makes specified clean energy generation and conservation equipment, such as photovoltaic panels, wind turbines and bio-fuel production equipment, more fiscally attractive for industry.

Under Classes 43.1 and 43.2 of the *Income Tax Regulations* (the Regulations), certain capital expenditures on systems that produce heat or electric power efficiently from fossil fuels or from alternative renewable energy sources are eligible for Accelerated Capital Cost Allowance (ACCA) at 30 percent and 50 percent respectively on a declining balance basis.

Without the accelerated write-offs, many of these assets would be depreciated at annual rates of only 4, 6, 8 or 20 percent. NRCan is the technical authority for Classes 43.1 and 43.2.

Budget 2011: A Low-Tax Plan for Jobs and Growth expanded eligibility for ACCA for Clean Energy Generation equipment under Classes 43.1 and 43.2. The expanded eligibility includes equipment that generates electricity by using thermal waste.

For a limited time, companies that invest in manufacturing and processing equipment may take advantage of Class 29 in Schedule II of the Regulations. It provides a 50 percent, straight-line ACCA for certain manufacturing and processing equipment. Budget 2011 proposed to extend this temporary incentive for two years to eligible machinery and equipment acquired before 2014.

In addition to Class 43.1 or Class 43.2 capital cost allowance, the Regulations allow expenses incurred during the development and start-up of renewable energy and energy conservation projects (i.e. CRCE) to be deducted fully or financed through flow-through shares.

To qualify as CRCE, expenses must be incurred for a project in which it is reasonable to expect at least 50 percent of the capital costs incurred would be for equipment described in Class 43.1 or Class 43.2.

Tel.: 613-996-0890

oee.nrcan-rncan.gc.ca/industrial/financial-assistance/tax-incentives.cfm

Energy Management Information Systems – Planning Manual and Tool

The Energy Management Information Systems Tool makes energy performance visible to different levels of the organization so that actions can be taken to create financial value for the company. The tool is also a performance management system that helps reduce energy consumption and cost.

Tel.: 613-996-6891

Fax: 613-992-3161

cipec.peeic@nrcan-rncan.gc.ca

oee.nrcan.gc.ca/industrial/technical-info/tools/emis.cfm

THE YEAR IN REVIEW

CIPEC members continued to make advances in energy efficiency during the past year. These impressive gains came thanks to strong leadership and dedication from the CIPEC Executive Board, the Task Force Council and the 25 task forces, together with support from the Office of Energy Efficiency.

Highlights

- The four-year ecoENERGY Retrofit Incentive for Industry program ended March 31, 2011. More than 500 agreements were funded, saving CIPEC members approximately \$11 million in annual energy costs and avoiding 130 000 tonnes per year of greenhouse gas (GHG) emissions.
- Over two hundred organizations signed on as CIPEC Leaders, bringing the total to more than 2400 CIPEC Leaders.
- Dollars to \$ense Energy Management Workshops were delivered to 2400 people, bringing the total to 22 000 attendees since the workshops were first offered in 1997.
- More than 6600 publications were distributed.
- CIPEC's estimated total annual energy savings exceeded 4.4 petajoules.
- CIPEC's estimated reductions in annual GHG emissions totalled 433 kilotonnes.



INDUSTRY SECTOR PROFILES

Good data, good energy management, solid savings

Accurate measurement and meaningful data are fundamental to measuring energy improvements. Data used in this annual report are collected by Statistics Canada, with funding from Natural Resources Canada (NRCan) and Environment Canada, and supplemented by information received from associations that participate in the Canadian Industry Program for Energy Conservation (CIPEC), as well as other private and government organizations.

Statistics Canada data for the manufacturing sector are collected through the annual *Industrial Consumption of Energy (ICE)*¹ survey, which covers approximately 4300 establishments in the manufacturing sector in 87 manufacturing industries. For each establishment, the survey gathers information on energy fuel consumption for 13 fuel types. Survey results are used to track energy efficiency improvements, calculate carbon-dioxide emissions and inform the Canadian public about energy conservation.

Statistics Canada began streamlining the questionnaire and data collection process in 2004. The changes included standardizing some special industry questionnaires, making provisions for respondents to explain major changes in energy consumption to minimize follow-up inquiries, and converting fuels to a standard unit of measure.

Data analysis and interpretation involves the collective effort of NRCan's Office of Energy Efficiency (OEE), CIPEC trade associations and the Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC) at Simon Fraser University in Burnaby, British Columbia. CIEEDAC produces energy intensity indicators for each sector based on production and gross domestic product. Primary funding for CIEEDAC comes from the OEE, with additional contributions from industry associations that participate in CIPEC and from the provinces of Quebec and British Columbia.

¹ The data from the *ICE* survey (preliminary) are for the 2009 calendar year.



Much of the *ICE* data is available online. Statistics Canada data are published in CANSIM table 128-0005 – *Energy fuel consumption of manufacturing industries in natural units, by North American Industry Classification System (NAICS)*; and CANSIM table 128-0006 – *Energy fuel consumption of manufacturing industries in gigajoules, by North American Industry Classification System (NAICS)*.

For more information, see the Statistics Canada Web site at cansim2.statcan.ca.

The OEE publishes *Energy Efficiency Trends in Canada* annually at oee.nrcan.gc.ca/corporate/statistics/neud/dpa/data_e/publications.cfm.

Data from CIEEDAC are available at www.cieedac.sfu.ca/CIEEDACweb/mod.php?mod=userpage&menu=16&page_id=9.



ALUMINUM

Profile

The aluminum sector comprises companies engaged primarily in extracting alumina from bauxite ore; producing aluminum from alumina; refining aluminum by any process; and rolling, drawing, casting, extruding and alloying aluminum and aluminum-based alloy basic shapes.

Canada's aluminum sector is ranked fourth in the world in annual primary aluminum production after the United States, Russia and China and is the second largest exporting country after Russia. The combined output of the 16 aluminum plants in Quebec, 10 in Ontario and 12 in British Columbia is a major contributor to Canada's national and local economies. Although production growth increased the industry's total energy use, energy intensity continues to improve compared with 1990 benchmark levels.

Challenges/actions

Aluminum-producing companies continue their efforts to reduce energy consumption. For example, the Aluminum Association of Canada signed a framework agreement with the Quebec Ministère du Développement durable, de l'Environnement et des Parcs and three Quebec aluminum refineries in 2007. The agreement commits members to voluntary greenhouse gas (GHG) reductions.

Additionally, experts specifically identified refinement of the Hall-Héroult process as one of the preferred approaches to reduce energy consumption in the production of aluminum. They also identified primary transformation branches (extrusion, rolling, casting) as important consumers of electricity. Implementation of energy-efficient measures such as more effective equipment and processes are expected to decrease energy consumption.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/aluminum.cfm.

Highlights

The aluminum sector's energy consumption declined by 7 percent between 2008 and 2009.

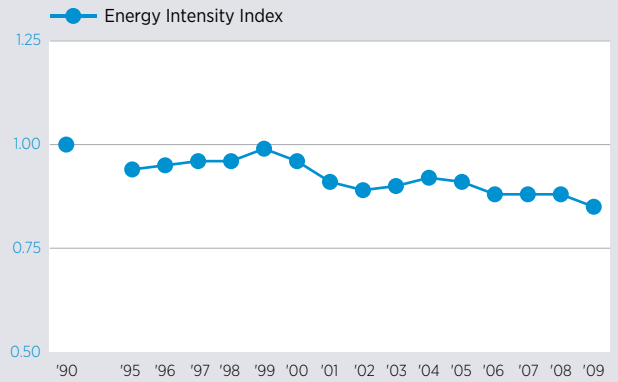
Aluminum production decreased 3 percent in 2009, primarily due to the worldwide economic slowdown.

The energy intensity improved by a net 4 percent because the sector's production declined less than its energy consumption did.

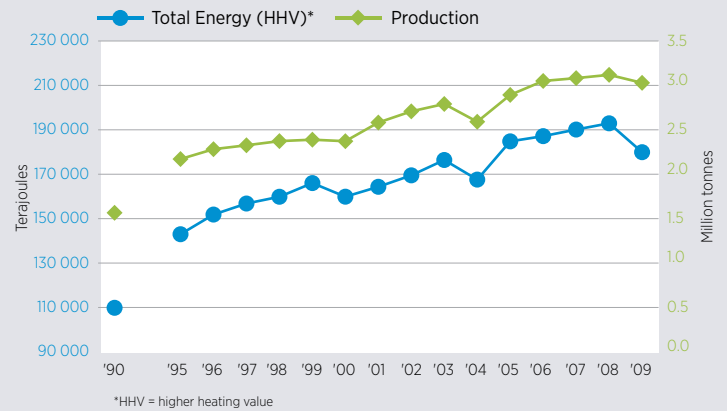
Most of the aluminum sector (92 percent) uses electricity for energy while 5 percent use natural gas.

Electricity consumption declined by 6 percent between 2008 and 2009.

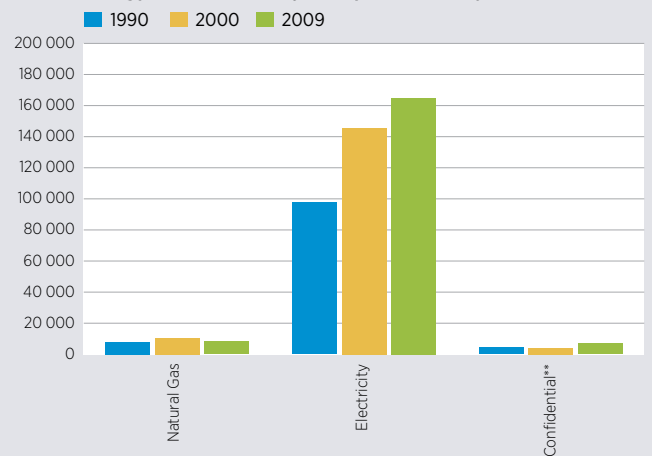
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Production (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:

Energy Use – Statistics Canada, *Industrial Consumption of Energy Survey*, Ottawa, December 2010.

Production – Natural Resources Canada, *Production of Canada's Leading Minerals*, December 2010.

**Confidential includes: Heavy Fuel Oil (HFO), Middle Distillates (LFO) and Propane (LPG).



BREWERY

Profile

Canadian brewers pride themselves on many things: their world-class beers; their leadership in educating consumers to drink responsibly; their three-century history in Canada; their diversity; and their impressive environmental record.

The Canadian brewery industry is the largest component of the alcohol beverage sector, followed by distillery products and the wine industry. The industry brews beer, ale, malt liquors and non-alcoholic beer.

Approximately 160 breweries, large and small, operate in Canada. The majority of the establishments are located in Ontario, followed by British Columbia and Quebec, with the remaining located across Canada. The Brewers Association of Canada (BAC), established in 1943, is a voluntary association of 22 brewers that represents 97 percent of the beer brewed in Canada.

The Canadian industry has rationalized considerably through mergers, acquisitions and new microbrewery spinoffs, and continues to do so. Over the years, the structure of the industry has changed, and there has been considerable growth in microbreweries. According to the Canadian Business Patterns database, the largest firms could have more than 500 employees at one establishment while a small microbrewery may consist of one establishment and have fewer than 50 workers. The production, marketing and sale of Canadian beer generate more than 205 000 jobs, which amounts to 1.2 percent of the Canadian workforce.¹

The typical costs of energy and utilities are between 3 percent and 8 percent of a brewery's budget, depending on the brewery size and production variables.

¹ Beverage Marketing Corporation

Challenges/actions

The 2011 update of the BAC publication *Energy Efficiency Opportunities in the Canadian Brewing Industry* captured the latest developments to support energy efficiency efforts at both the individual company and industry levels. The guide includes information on water use and conservation; reduction in GHG emissions; process innovations and integration; funding opportunities; new technologies; and equipment.

The guide also explores the benefits of monitoring and targeting (M&T). Molson Coors Canada in Toronto-Etobicoke was the first to implement M&T methodology in their plants with rather spectacular results. With an initial \$200,000 investment, savings of about \$1.5 million on water charges alone were realized in the first year of implementation. Since then, other breweries in Canada have implemented the M&T methodology.

Another example is Les Brasseurs du Nord. The company implemented 10 projects over the last four years, which resulted in 42 percent savings in electricity consumption. This 3700-square metre microbrewery in Blainville, Quebec, now uses less energy, despite expanding its facility and increasing production. The projects include a solar wall that passively heats incoming air; a non-traditional geothermal system that uses cool groundwater for the majority of air conditioning and dehumidification needs; and 100 percent heat recovery from refrigeration unit compressors used in the fermentation process to heat the plant.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/brew/login.cfm.

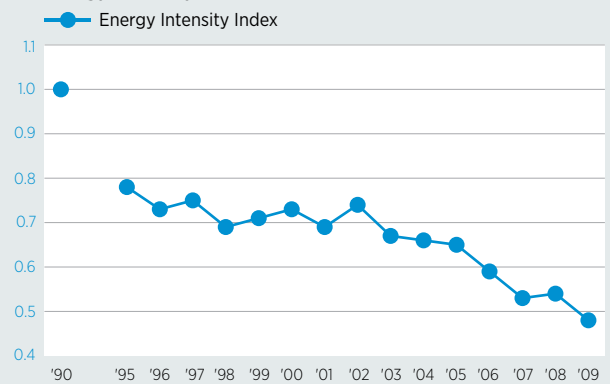
Highlights

The energy intensity of the brewery sector declined 11 percent compared with 2008.

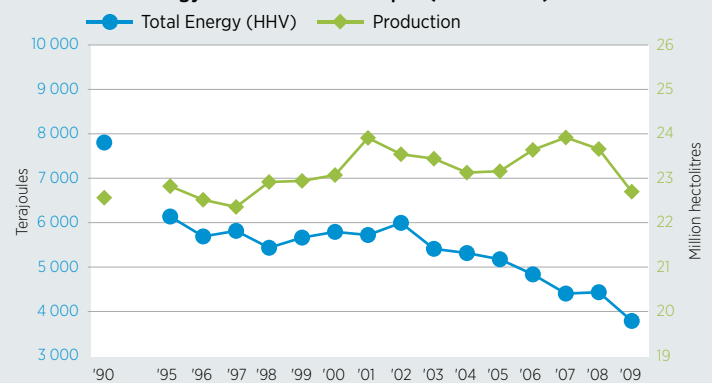
The major factor that contributed to this reduction was the sizeable decline in energy consumption of 15 percent.

The brewery sector uses natural gas for most of its energy consumption (64 percent). However, the use of natural gas decreased in 2009 to slightly more than half (56 percent) of that consumed in 2000.

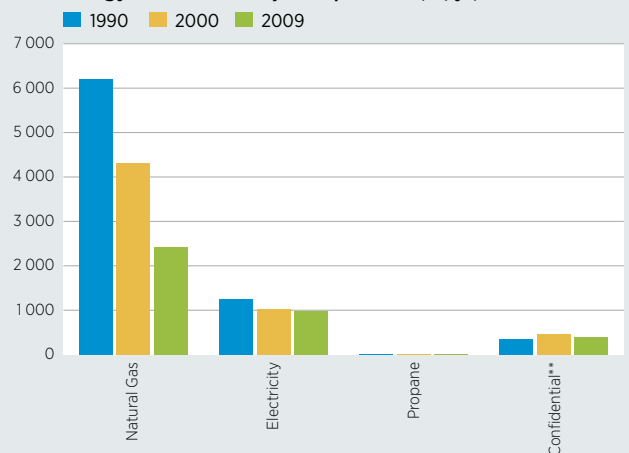
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Production Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use – Statistics Canada, *Industrial Consumption of Energy Survey*, Ottawa, December 2010.
 Production – Brewers Association of Canada, Ottawa, October 2010.

**Confidential includes: Heavy Fuel Oil (HFO) and Middle Distillates (LFO).



CEMENT

Profile

The cement industry is the cornerstone of Canada's domestic construction industry and a significant exporter that contributes substantially to the country's economy. The industry employs more than 27 000 Canadians in the production of cement, ready mix concrete and concrete construction materials. The industry's eight cement companies operate 15 processing facilities that produced 15 million tonnes of cement in 2008. Approximately 27 percent of this production was exported to the United States.¹

Cement manufacturing is energy-intensive. Energy costs account for approximately 40 percent of input costs in the manufacturing process. The relatively low cost of thermal (fossil-fuel based) energy that supplies more than 89 percent of the total energy needs is fundamental to the competitiveness of the industry.

Challenges/actions

The industry's focus is on reducing CO₂ emissions and promoting the use of different types of fuels. Approximately 60 percent of greenhouse gas emissions (GHG) associated with the industry is irreducible because they are created from the chemical process that occurs to produce cement. Innovation will also be key to the viability and competitiveness of the sector.

Such innovation is industry-driven. For example, St Marys Cement Inc. piloted a transformational way to capture exhaust gases and use algae as a fuel source. Oil is extracted from the algae for biodiesel production. The algal biomass is also converted to dried pellets for fuel or other high-value products. The company is perfecting the process with a view to moving beyond a trial to an industrial scale.

¹ Statistics Canada

Another innovation is to produce concrete in the form of high-performance “green” concrete. The modest initial cost increase is offset by much longer satisfactory use, lower life-cycle costs and a GHG footprint reduced by as much as 70 percent. This innovation may pave the way to a new standard.

To address the challenges of climate change and industry competitiveness, Canadian cement manufacturers are moving forward with their strategy to meet climate change objectives by

- improving the use of alternative and renewable energies in place of virgin fossil fuels
- increasing the use of supplementary cementing materials to replace a portion of cement used to make concrete
- continually improving the energy efficiency of the manufacturing process

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/cem/login.cfm.

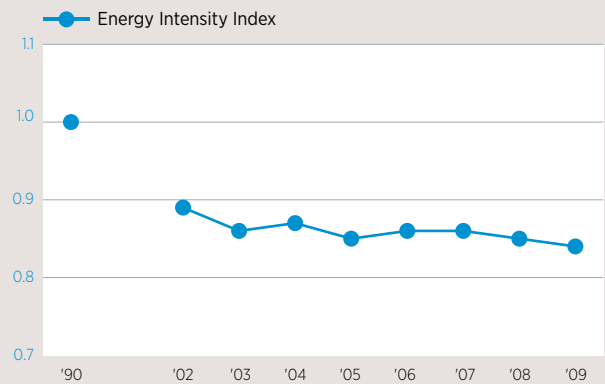
Highlights

The cement sector’s energy intensity improved in 2009 to 3.73 from 3.76 gigajoules per tonne in 2008, mainly due to the decline in energy consumption, as opposed to a reduction in production.

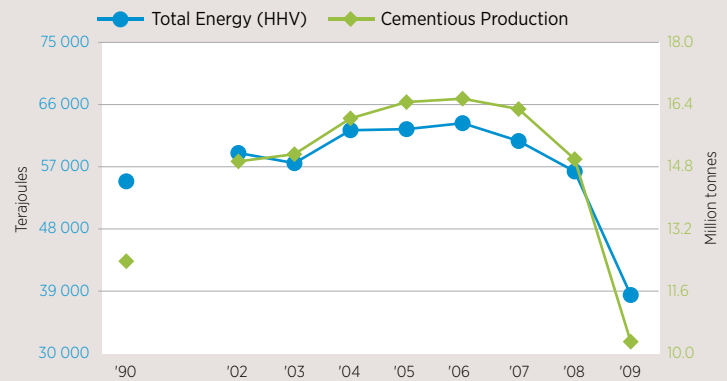
The heat consumption of kilns, which represents 87 percent of energy consumption, declined by 31 percent. Electricity also declined by 30 percent.

The 2009 energy consumption in the cement sector is at an all-time low for the decade.

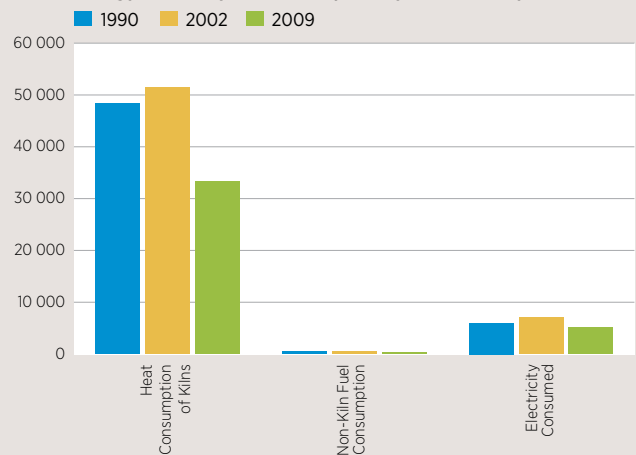
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy Consumption and Production Output (1990–2009)



Energy Consumption in Terajoules per Year (TJ/yr)



Data sources:
 Fuel Consumption and Cementious Production – Portland Cement Association (PCA) Spring 2010.
 Cement Association of Canada – Spring 2011.



CHEMICAL

Profile

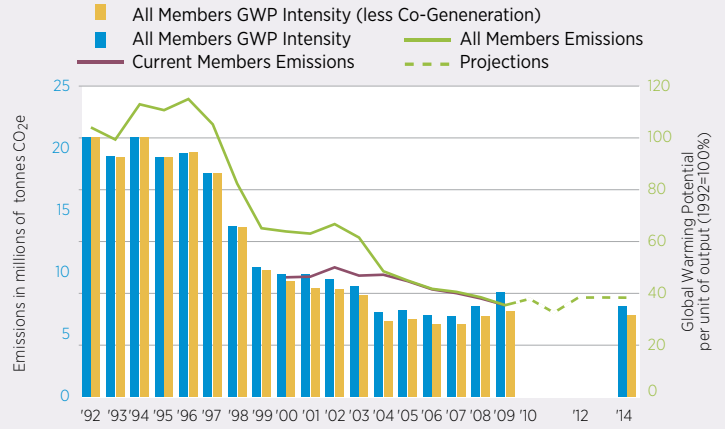
The chemical sector encompasses a diverse industry that produces organic and inorganic chemicals, plastics and synthetic resins. The Chemistry Industry Association of Canada (CIAC) is the trade association that represents manufacturers in this sector. Its member companies produce more than 90 percent of industrial chemicals manufactured in Canada.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/chemicals.cfm.

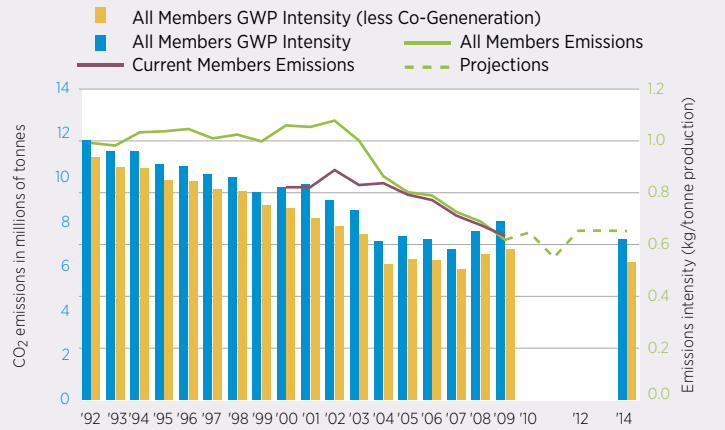
Highlights

CO₂ emissions for all members decreased by 38 percent between 1992 and 2009. Similarly, in 2009, member companies' GHG emissions – in millions of tonnes of carbon dioxide equivalent (CO₂e) emissions – declined by 66 percent compared with those in 1992.

Global Warming Potential vs. Production



Carbon Dioxide Emissions vs. Production





CONSTRUCTION

Profile

Construction is Canada's largest industry, comprising a diverse array of companies whose work touches every economic sector and region of the country. The construction sector employs a workforce of more than 1.2 million people, generates approximately 7 percent of Canada's annual gross domestic product (GDP) and purchases goods and services in every region of the country and every sector of the economy. Hence, this sector serves as a good barometer of the overall economic health of the country.

The construction sector is represented within CIPEC by the Canadian Construction Association (CCA), the national voice of the construction industry, with a membership of more than 17 000 across Canada. CCA members represent all segments of the industry and are responsible for the construction of industrial, commercial, institutional and civil engineering projects.

Challenges/actions

The construction industry is keenly aware of the importance of energy efficiency and the role it plays in lower energy costs, improved competitiveness and reduced GHG emissions. Construction sector companies are continually on the lookout for equipment, materials and practices that can help lower costs and increase energy-use efficiency. There are challenges, however.

For example, the high cost of construction equipment requires the industry to amortize these purchases over 15- to 20-year life cycles, producing relatively long equipment turnover rates. Consequently, the desire to upgrade to state-of-the-art efficient equipment must compete with the need to maximize the return on existing equipment.

CCA is committed to encouraging its members to become CIPEC Leaders and to take advantage of opportunities to improve their energy efficiency.

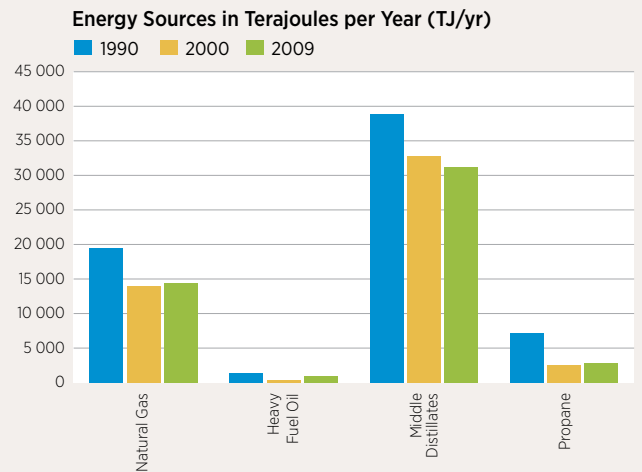
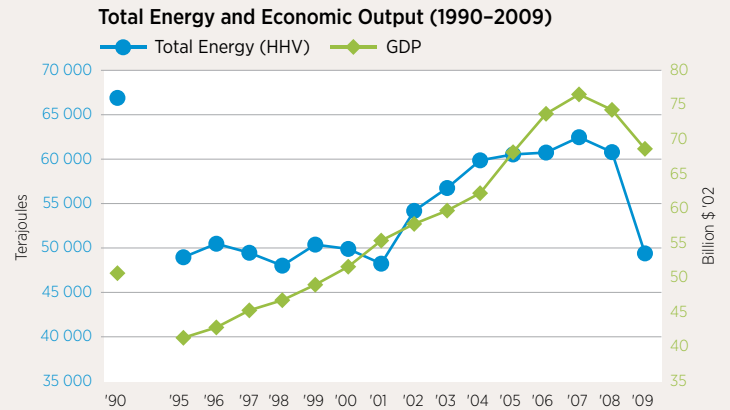
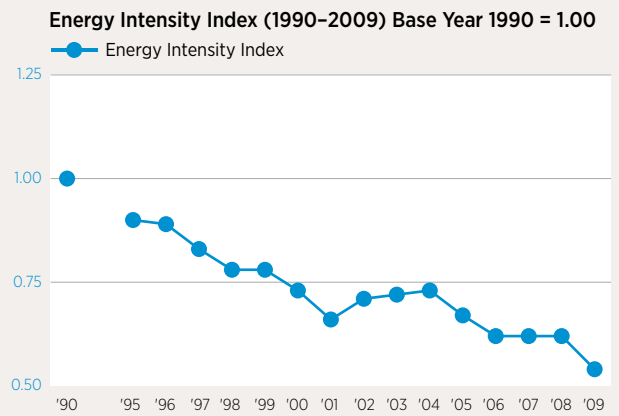
For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/construction.cfm.

Highlights

The construction sector reduced its energy use significantly in 2009 – by 19 percent (49 000 terajoules [TJ]). The reduction was largely related to the 2009 economic slowdown.

Despite an 8 percent decline in GDP caused by the economy, the overall energy intensity of the sector improved (declined) by 12 percent. This change is due to the large reduction in energy consumed.

The consumption of the two fuels used most in the sector (92 percent), middle distillates and natural gas, declined drastically, by 20 percent and 22 percent, respectively, in 2009, compared to 2008.



Data sources:
 Energy Use - Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC) *Development of Energy Intensity Indicators for Canadian Industry 1990–2008*. Simon Fraser University, March 2011.
 Output - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.



DAIRY

Profile

Canada's dairy product manufacturing sector extends from coast to coast, operating more than 450 facilities and employing more than 22 700 people. In 2009, Canadian dairies processed more than 29 million hectolitres (hL) of fluid milk and 47 million hL of manufactured dairy products such as butter, cheese, yogurt and ice cream and shipped an estimated \$5.5 billion worth of milk products.

Approximately 81 percent of dairy farms are located in Ontario and Quebec, with more than 13 percent in the western provinces and 5.5 percent in the Atlantic provinces. The dairy processing sector is relatively concentrated: 14 percent of Canadian plants are owned by the three largest processors, which process approximately 75 percent of the milk produced in Canada.¹

Challenges/actions

Dairy Farmers of Canada (DFC), the Dairy Processors Association of Canada (DPAC), the Canadian Dairy Commission (CDC), provincial marketing boards and Agriculture and Agri-Food Canada (AAFC) work as partners to ensure a strong and dynamic Canadian dairy industry. Research and development of new dairy products are the result of strategic alliances among producers, processors, universities, and federal and provincial/territorial research centres.

As a world leader in food safety, Canada strives to be an international leader in innovation and environmental protection. High standards in these fields contribute to the quality of Canadian milk and dairy products and meet the demands of consumers in Canada and abroad.

¹ Source: dairyinfo.gc.ca

The Canadian dairy industry is currently developing a comprehensive strategy on environmental sustainability related to climate change, aimed at reducing GHG emissions in the dairy sector.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/dairy/login.cfm.

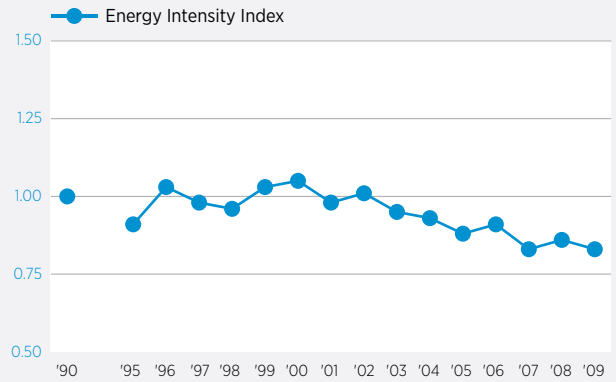
Highlights

A 1 percent increase in milk production coupled with a 3 percent decline in energy consumption resulted in a 4 percent improvement in the dairy sector's energy intensity in 2009 compared to 2008.

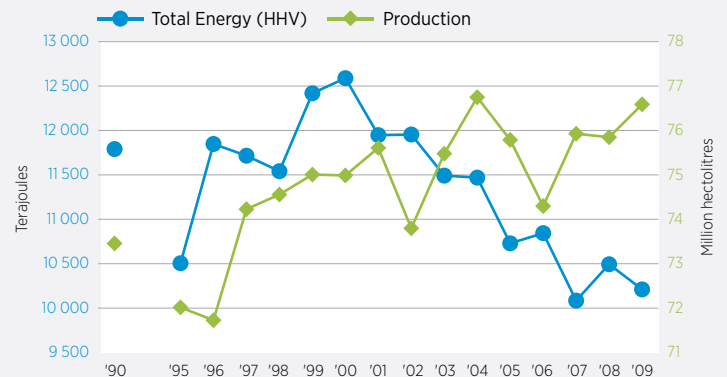
The unusual increase in electricity consumption, related to 2008 data and noted in the 2010 CIPEC annual report, stabilized in 2009; the current 2009 electricity consumption reflects the usual electricity consumption levels observed in the early 2000s.

Natural gas is the fuel used by 65 percent of the dairy sector.

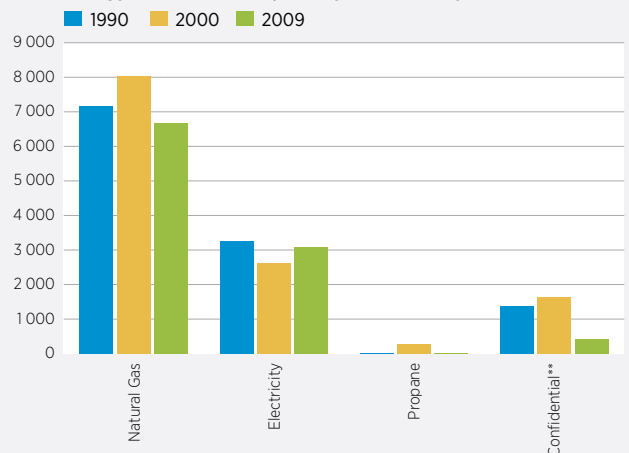
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



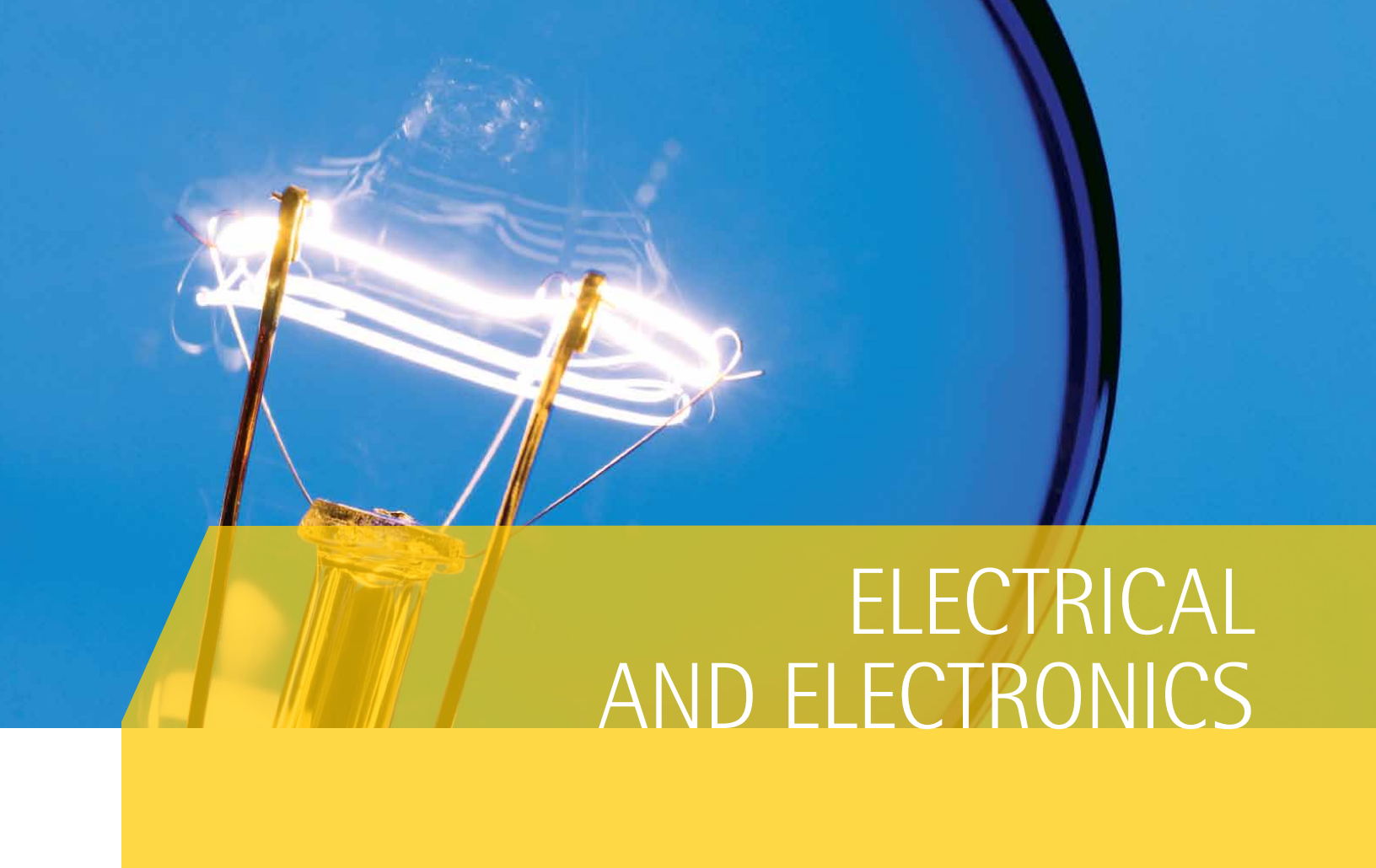
Total Energy and Production Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, Industrial Consumption of Energy Survey, Ottawa, December 2010.
 Production - GDP - Informetrica Limited, T1 Model and National Reference Forecast, November 2010.
 **Confidential includes: Heavy Fuel Oil (HFO) and Middle Distillates (LFO).



ELECTRICAL AND ELECTRONICS

Profile

The electrical and electronics sector includes a diverse array of companies that produce electrical appliances, lighting, consumer electronics, communications and electronic equipment, cabling, office equipment, industrial equipment and other electrical products. These companies operate more than 1400 facilities and employ more than 100 000 workers across Canada. The sector is a major exporter and a vital, growing contributor to the national economy.

Actions

Companies have realized large energy savings because of lighting retrofits and installations of automatic controls.

For example, Sound Design Technologies Ltd. implemented a computerized low-voltage lighting control system to regulate office lighting as a function of occupancy. The project saved approximately \$8,000 in annual electricity costs and has a payback period of just under 2.5 years.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/electrel-electrnecs.cfm.

Electrical and Electronics Sector – NAICS 334, 335

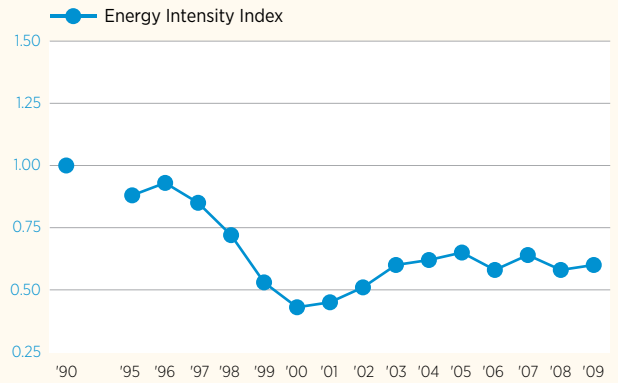
Highlights

Despite a 13 percent decline in energy consumption in the electrical and electronics sector in 2009 compared to 2008, the sector's energy intensity increased to 0.6. The 3 percent increase was due to an even greater decline in the sector's GDP, from \$10.7 billion to \$9 billion, during the same period.

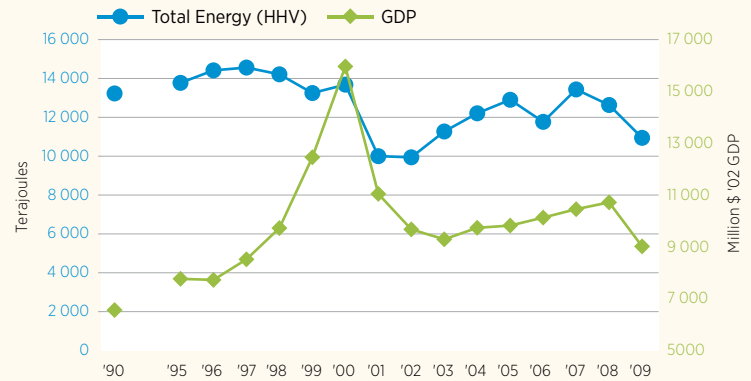
Electricity and natural gas are practically the only two fuels used in the sector, at 60 percent and 39 percent, respectively.

Electricity use in the sector decreased significantly in 2009 compared with 2008, by 16 percent.

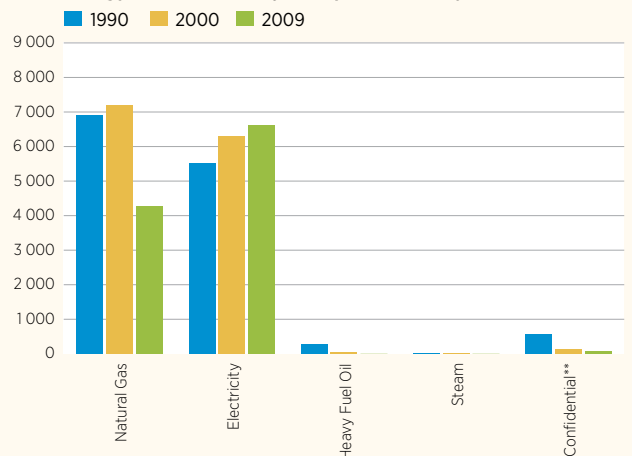
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey*, Ottawa, December 2010.
 Output - GDP - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.

**Confidential includes: Middle Distillates (LFO), Propane (LPG) and Wood Waste.



ELECTRICITY GENERATION

Profile

Electricity supply is an important component of a competitive, robust Canadian economy and high standard of living. Approximately one quarter of the energy used by Canadians is electricity, and there is no substitute in most residential, commercial and industrial applications. The sector's energy resources (renewable or otherwise) are distributed as follows: 60 percent hydroelectric power, 18 percent coal-fired, 14 percent nuclear, 6 percent natural gas and 3 percent other.¹

Challenges/actions

Electric utilities are committed to energy efficiency. They continue to provide energy efficiency programs and information to their customers. Annual energy efficiency expenditures by government and utilities exceed \$400 million.²

A recent Canadian Electricity Association (CEA) survey of chief executive officers in the electricity sector identified energy efficiency as one of the most pressing issues for the industry. Many regions of Canada are being challenged to develop new supply and delivery infrastructures rapidly. Significant requirements for new and replacement infrastructure exist throughout the country, and demand for electricity continues to grow.

A recent view of future scenarios predicts that by 2050, 1700 terawatt hours (TWh) of electricity supply could be needed because of plug-in hybrid vehicles and fuel switching away from fossil fuels to electricity generated by renewable technologies.³ The challenge is to develop that additional capacity.

¹ Source: May 2, 2011 in *Hydroelectricity, Solar, Wind* by tecu in *Renewable Projects Website*, renewableprojects.com/category/hydroelectricity

² *Demand Side Management Potential in Canada: Energy Efficiency Study Summary Report*, ICF Marbek (formerly Marbek Resource Consultants Ltd.) and M.K. Jaccard and Associates Inc, May 2006, page 10.

³ *A Technology Roadmap to Low Greenhouse Gas Emissions in the Canadian Economy*, Prepared for the National Round Table on the Environment and the Economy, J & C Nyboer and Associates Inc., August 2008.

According to the CEA, electric utilities are leading by example by taking steps to ensure their own efficient use of energy. Programs to reduce line loss, encourage system efficiencies and reduce environmental impacts are underway. Utilities are installing smart meters to allow customers to actively manage consumption. At the community scale, utilities are developing plans for grid modernization and smart grid initiatives.

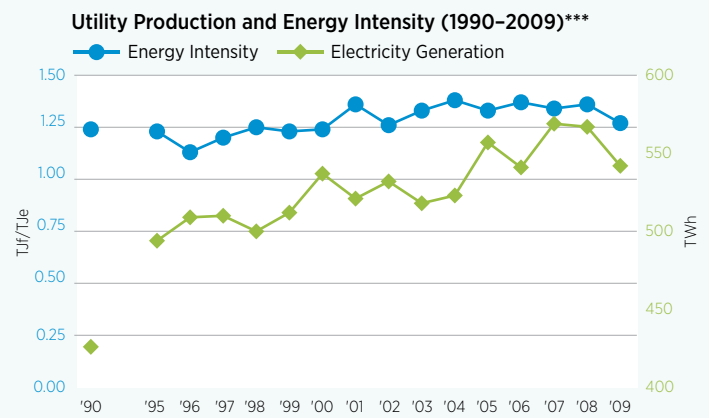
For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/electricity-genratn.cfm.

Highlights

Energy intensity in utility electricity generation improved by 7 percent in 2009 compared with that in 2008.

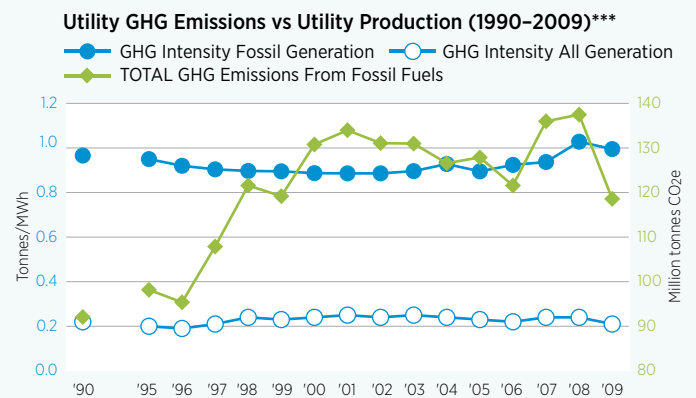
The improvement in energy intensity is due to the increased use of hydroelectric power relative to fossil fuels.

GHG emissions decreased by 14 percent in 2009 compared with those in 2008, mostly because of the decreased use of fossil fuels.



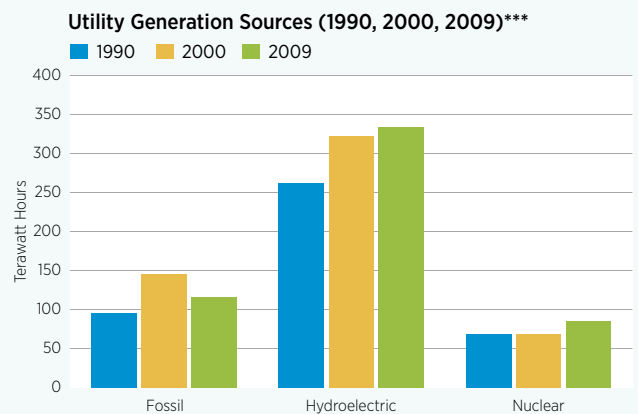
Data source: Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *A Review of Energy Consumption and Production Data: Canadian Electricity Generation Industry 1990-2009*, March 2011.

***This sector excludes industrial electricity generation.



Data source: Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *A Review of Energy Consumption and Production Data: Canadian Electricity Generation Industry 1990-2009*, March 2011.

***This sector excludes industrial electricity generation.



Data source: Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *A Review of Energy Consumption and Production Data: Canadian Electricity Generation Industry 1990-2009*, March 2011.

***This sector excludes industrial electricity generation.



FERTILIZER

Profile

Canada's fertilizer industry is one of the world's major producers and exporters of nitrogen, potash and sulphur fertilizers, manufacturing 12 percent of the world's fertilizer product. Companies in this sector operate more than 30 production facilities and are among the world's most energy-efficient producers.

Actions/opportunities

Member companies of the Canadian Fertilizers Institute (CFI) have made significant investments over the years to improve energy efficiency in the manufacturing process and reduce air emissions. They shifted focus in 2009–2010 from federal climate change protocols to provincial GHG emissions reduction and climate change initiatives, particularly in Alberta, Saskatchewan and Ontario.

An innovative approach for reducing GHG emissions from farm fertilizer has been approved by the Government of Alberta for use in its offset system. The Nitrous Oxide Emission Reduction Protocol (NERP) has been accepted after three years of development and consultation with the farming industry, soil scientists and government official stakeholders. The NERP reduces on-farm emissions of nitrous oxide in a quantifiable, credible and verifiable way that will allow farmers to earn carbon credits.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/fertilizer/login.cfm.

Highlights

The energy intensity of the nitrogenous fertilizer and potash sectors improved in 2009 compared to 2008 by 2 percent and 19 percent, respectively.

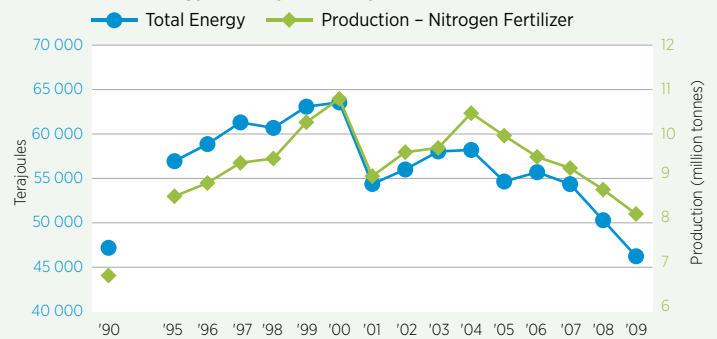
The improvement in energy intensity in the nitrogenous fertilizer sector was influenced by an increase in the production of the finished product urea, which is less energy-intensive.

Although less potash was produced, energy improvements reflect the use of more efficient processes throughout the sector.

The 2009 decline in potash sector production was pronounced, at 32 percent, relative to 2008; the nitrogenous fertilizer sector's production was down by 6 percent.

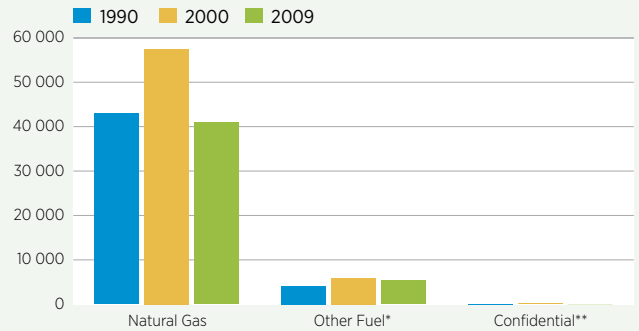
Despite the economic downturn of 2009, both sectors managed their energy consumption extremely well over time; the 2009 energy consumption remains below 1990 levels for both nitrogenous fertilizer and potash sectors.

Total Energy and Physical Output (1990–2009)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995-2009*, Ottawa, December 2010.
 Production - GDP - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.

Energy Sources in Terajoules per Year

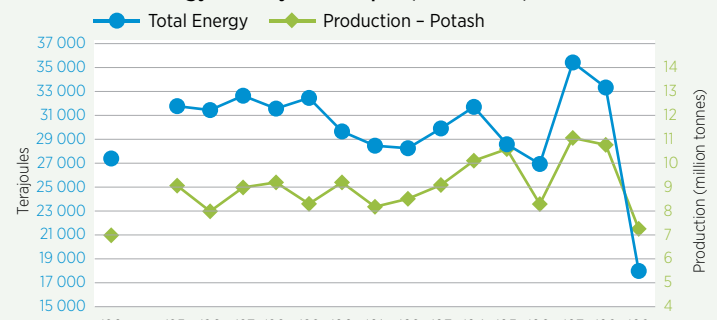


Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995-2009*, Ottawa, December 2010.
 Production - GDP - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.

*Other Fuel includes: Electricity, Middle Distillates (LFO) and Propane (LPG).
 **Confidential includes: Heavy Fuel Oil (HFO) and Steam.

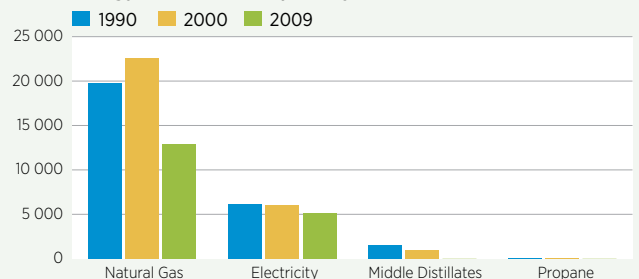
Fertilizer Sector (Potash) – NAICS 212396

Total Energy and Physical Output (1990–2009)



Data sources:
 Canadian Fertilizer Institute (CFI), 1990, 1999-2009, November 2010.
 Canadian Fertilizer Institute (CFI), 1995-1998, March 2006.
 Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *Development of Energy Intensity Indicators for Canadian Industry 1990-2009*, Simon Fraser University, March 2011.

Energy Sources in Terajoules per Year



Data sources:
 Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *Development of Energy Intensity Indicators for Canadian Industry 1990-2009*, Simon Fraser University, March 2011.
 (1) Natural Gas - 1990, 1999-2006, Canadian Fertilizer Institute, November 2010.
 Natural Gas - 1995-1998, Canadian Fertilizer Institute, March 2011.
 (2) Other Fuels 1990-2005, Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC), *Development of Energy Intensity Indicators for Canadian Industry 1990-2009*, Simon Fraser University, March 2011.



FOOD AND BEVERAGE

Profile

Canada's food and beverage sector includes manufacturers that produce meat, poultry, fish, fruit and vegetables, flour and bakery products, oils and sugars, coffee, snack foods, soft drinks and confectionery. It is the second largest manufacturing industry in Canada after transportation equipment.

Challenges/actions

Consumer demand for more energy-intensive "ready to heat and eat" meals and other products has created a substantial challenge for food processors seeking to improve their energy costs per unit of production. To accommodate consumer demand while contributing to its goal of greater energy efficiency, the sector must seek out and adopt new technologies and better energy management practices.

Food and beverage companies are finding and implementing many cost-effective solutions to reduce energy use and generate large energy cost savings. The following are successful CIPEC Leader projects:

- Old Dutch Foods, Inc. retrofitted its compressed air and nitrogen system and anticipates energy cost savings of approximately \$27,000 per year.
- Kraft Canada Inc.'s air diffusion tubes project will save an estimated 210 000 cubic metres (m³) of natural gas annually.
- Hiram Walker and Sons' energy team identified \$1,100-a-day savings through activities such as replacing steam traps; managing compressed air; metering the heating, ventilating and air-conditioning system; testing combustion; and reducing oxygen use.
- A refrigeration project at Lally Farms Inc. saves about \$38,000 a year.

- Lassonde Beverages Canada has implemented several audit recommendations: installing a new dry sterilization process from Sidel called Predis™, implementing a heat recovery project, repairing steam trap leaks and economizers, insulating steam and condensate lines, installing new controllers, reducing natural gas pressure and shutting down one boiler.
- Oxford Frozen Foods implemented a \$200,000 heat recovery system that uses heat from the plant's refrigeration system to pre-heat boiler feed water, which saves \$100,000 annually. The distributed control system was also updated for \$30,000 for an estimated annual savings of \$52,000.
- Weston Bakeries incorporated building and process best practices to control energy consumption at its new Winnipeg bakery and distribution centre.
- Simplot Canada's \$500,000 heat recovery project saved approximately \$360,000 in natural gas use annually.
- Frito Lay Canada introduced new zero-emissions electric delivery trucks to its increasingly efficient delivery fleet.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/fandb/login.cfm.

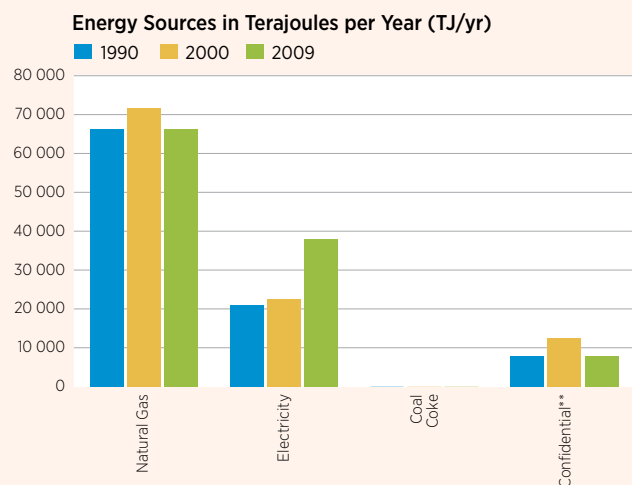
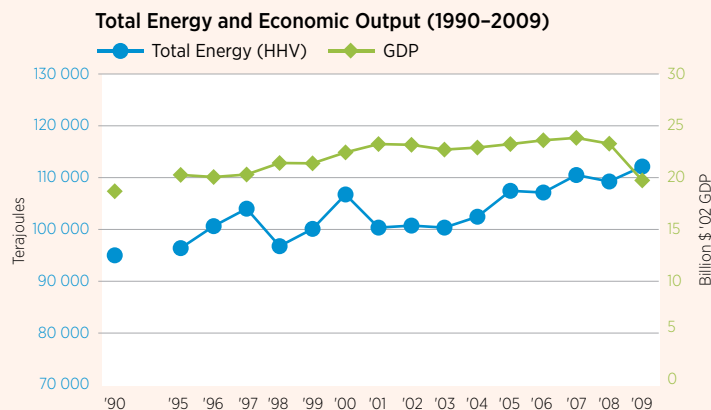
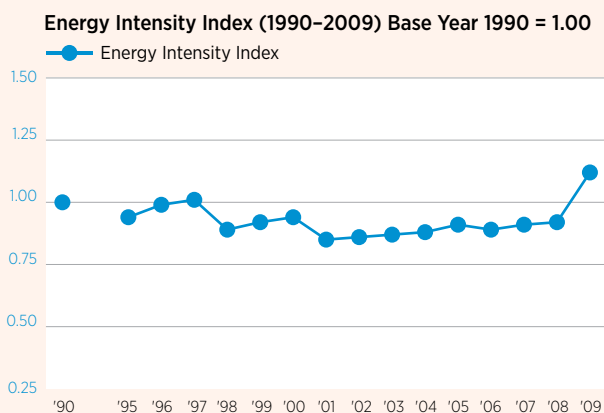
Highlights

A 10 percent increase in electricity consumption contributed to a 3 percent increase in total energy use in the food and beverage sector compared to 2008, to more than 112 100 TJ in 2009.

The GDP for the sector, on the other hand, declined by 15 percent, to \$19.7 billion.

The two factors combined to increase energy intensity by a significant 21 percent in 2009.

Electricity use increased from 31 percent in 2008 to 34 percent in 2009; the increase in electricity use occurred at the expense of heavy fuel oil, middle distillates and propane.



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey*, Ottawa, December 2010.
 Production - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.
 **Confidential includes: Heavy Fuel Oil (HFO), Middle Distillates (LFO), Propane (LPG), Wood Waste and Steam.



FOUNDRY

Profile

Metal castings are the first step in the value-added manufacturing chain and are utilized in the manufacture of most durable goods. Markets and industries served by foundries include the automotive sector, construction, agriculture, forestry, mining, pulp and paper, heavy industrial machinery and equipment, aircraft and aerospace, plumbing, soil pipe, municipal road casting, defence, railway, petroleum and petrochemical, electricity distribution and a myriad of specialty markets. Canadian foundries primarily engage in pouring molten metal into moulds or dies to form castings.

There are approximately 150 foundries in Canada, and they provide direct employment for approximately 10 000 people. There is also the employment multiplier effect of times three because foundries supply machine shops and machine shops supply assembly plants.

Approximately 80 percent of the foundry sector's production is exported. Casting markets are intensely competitive on a global basis. Consequently, the cost structure and competitive position of all Canadian foundries are affected by economic policies as well as by developments in environmental, social and labour relations through government regulations.

The foundry industry is the original recycling industry, and raw material is typically recycled metal, thereby conserving precious natural resources and energy.

Challenges/actions

Energy efficiency has always been, and continues to be, good for the environment and has a direct impact on the bottom line. As the foundry industry works to recover from the deepest recession in 70 years, there is a renewed focus on energy conservation.

Sector members have been leaders in adopting new technologies and management practices to continually improve efficiency and productivity, product quality, quality of the workplace and protection of the environment.

The Canadian Foundry Association has partnered with CIPEC since 1999. In 2003, this partnership produced the *Guide to Energy Efficiency Opportunities in Canadian Foundries*, and in 2011, it produced the *Energy Benchmarking Study for Canadian Foundries*.

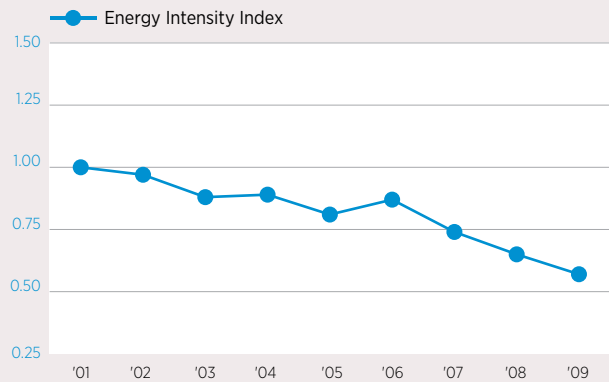
For more information on the sector, visit www.oee.nrcan.gc.ca/industrial/opportunities/sectors/foundry.cfm.

Highlights

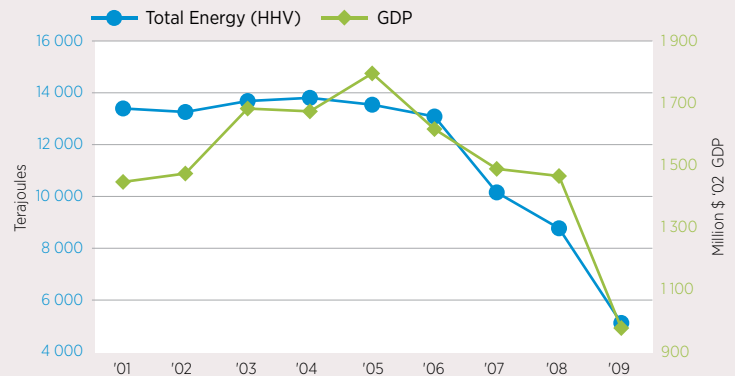
Despite a large reduction in the sector's GDP from \$1.5 billion in 2008 to \$980 million in 2009, the energy intensity of the foundry sector improved by 12 percent in 2009 compared to 2008.

The 12 percent improvement in energy intensity occurred because of the unprecedented decline in energy consumption in the sector of 42 percent.

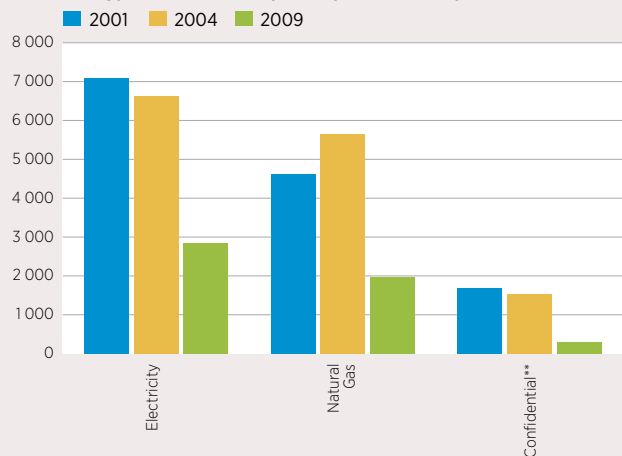
Energy Intensity Index (2001–2009) Base Year 2001 = 1.00



Total Energy and Economic Output (2001–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995-2009*. Ottawa, December 2010.
 Production - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.
 **Confidential includes: Coal Coke, Heavy Fuel Oil (HFO), Middle Distillates (LFO) and Propane (LPG).



GENERAL MANUFACTURING

Profile

Ontario and Quebec have sizable manufacturing sectors, and there is a strong sectoral presence in the Atlantic, prairie and west coast regions of Canada. The general manufacturing sector includes a variety of industries not otherwise covered in the sector descriptions of this report, including leather, clothing, furniture, printing activities, glass and glass products, adhesives, tobacco products and pharmaceuticals, as well as construction materials such as floor coverings and insulation.

More than 1.8 million Canadians are employed in manufacturing – about 15 percent of the workforce. Manufacturing accounts for 12 percent of the total Canadian GDP.¹

Challenges/actions/opportunities

Access to capital for project implementation is a key challenge for all manufacturing companies. However, energy management can generate savings and short

payback periods if it is integrated into financial and engineering plans. Energy management expertise is often lacking, particularly in small and medium-sized companies.

To help develop expertise and awareness of energy savings tools and technologies, Canadian Manufacturing & Exporters (CME) partnered for the second time with NRCan to organize the national Energy 2011 conference held in Toronto.

CME has been very active in the development of the ISO 50001 International Standard for Energy Management Systems and in the subsequent development of the Canadian version under the auspices of the Canadian Standards Association (CSA). A member of the CME board of directors co-chaired the Canadian delegation to the International Organization for Standardization (ISO) Technical Committee. CME believes implementation of ISO 50001 in facilities will demonstrate its commitment to sustainable practices – an emerging requirement by large international corporations.

¹ Source: www.cme-mec.ca/?action=show&lid=MWPF1-MRN3N-T1IDH

General Manufacturing Sector – NAICS***

*** NAICS Category Name

Leather & Allied Product	316	Miscellaneous Manufacturing	339
Clothing & Manufacturing	315	Chemical Manufacturing	
Furniture & Related Product	337	not Elsewhere Classified	
Printed and Related Support Activities	323	32522, 325314, 32532, 3254, 3255, 3256, 3259	
Fabricated Metal Product	332	Tobacco Product Manufacturing	3122
Machinery	333	Converted Paper Product Manufacturing	3222
Non-metallic Mineral Product not Elsewhere Classified			
3271, 3272, 32732, 32733, 32739, 32742, 3279			

A March 2010 CME report entitled *Advancing Opportunities in Energy Management in Ontario Industrial and Manufacturing Sector* describes significant opportunities for energy management. It affirmed that energy management can help sustain the productive sectors of the economy and reduce industry's influence on climate change. The report estimated that total Ontario industrial energy use could decrease by 29 percent per year by 2030 if Ontario industry adopted economically feasible best practices. GHG emissions would be 27 percent lower than the reference case projection, and criteria air contaminant emissions would be 25 percent lower.

A study conducted for the Alberta region entitled *Improving Energy Efficiency for Alberta's Industrial and Manufacturing Sectors* found similar results and identified similar opportunities. Studies by CME Nova Scotia (Dec. 2007) and CME New Brunswick (July 2006) identified energy performance benchmarks to assist companies in situating their performance relative to their peers and to industry best practices.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/gen-mfg.cfm.

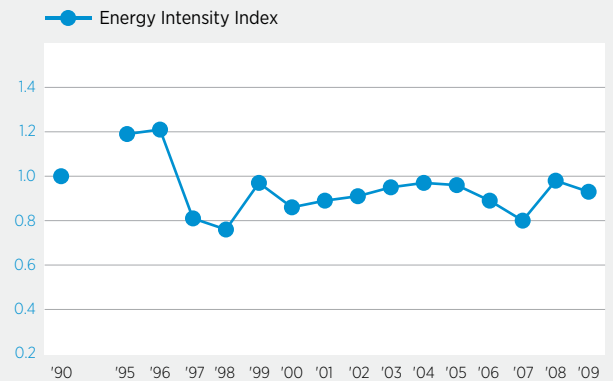
Highlights

Energy consumption in the general manufacturing sector declined 18 percent in 2009 compared to 2008.

The energy intensity in the Canadian general manufacturing sector improved by as much as 5 percent despite a deteriorating economic environment that pre-empted Canada's export markets and caused declines in GDP in virtually all subsectors of Canadian manufacturing.

The sector's energy intensity improved in 2009 compared with that in 2008. The recession caused a decline of 18 percent in energy consumption and a decline of 14 percent in the GDP for the sector.

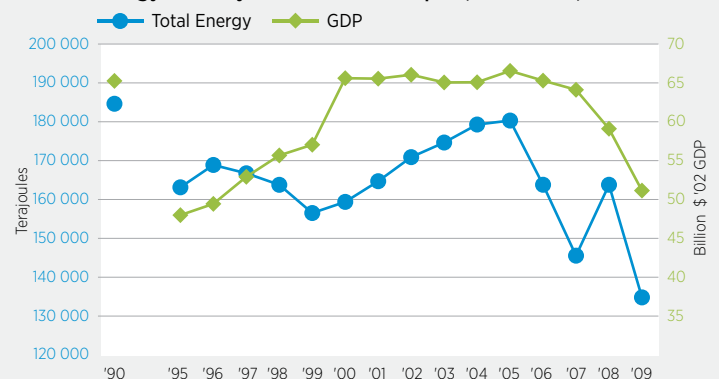
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



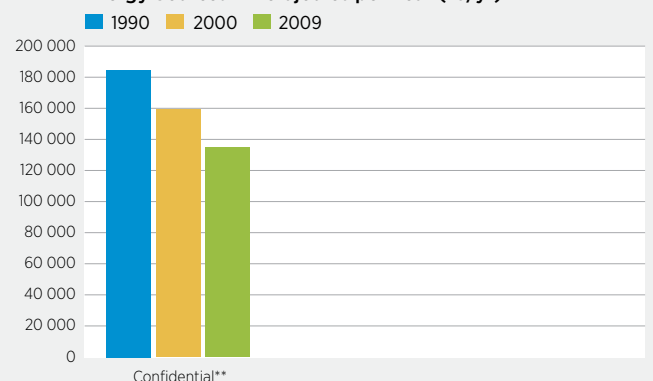
Data sources:

Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey*, Ottawa, December 2010.
Production - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010;
Statistics Canada National Accounts: Industry-based.

Energy Intensity and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



** Confidential includes: Coal, Coke, Petroleum Coke, Heavy Fuel Oil (HFO), Middle Distillates (LFO), Propane (LPG), Wood Waste, Steam, Natural Gas and Electricity.



LIME

Profile

Canada's merchant lime sector supplies essential raw materials for the steel and mining industry, the pulp and paper industry, water treatment, environmental management and other basic industries. It manufactures quicklime, hydrated lime and dead burned dolomite by crushing, screening and roasting limestone, dolomite shells or other sources of calcium carbonate. The Canadian Lime Institute represents all merchant lime manufacturers in Canada. The sector's four companies operate 17 facilities and employ more than 750 people.

Challenges/actions

Lime is produced at very high temperature (more than 1200°C), which requires combustion fuels for the main energy source. Petroleum coke and coal are now the principal fuel sources used to make lime, with natural gas comprising the balance.

The industry's heavy dependence on fuel makes energy efficiency a top priority and a major challenge. Although incremental improvements continue to be made to existing manufacturing equipment, large-scale gains require substantial capital investments in new, more efficient kiln installations. Unfortunately, excess capacity and low capital turnover within the industry limit the ability of lime manufacturers to make such investments.

In addition, although switching fuels and using high-efficiency kiln technology provide advantages for energy intensity, they are not always compatible with the need to meet the product quality levels required by some of the sector's largest consumers.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/lime.cfm.

Highlights

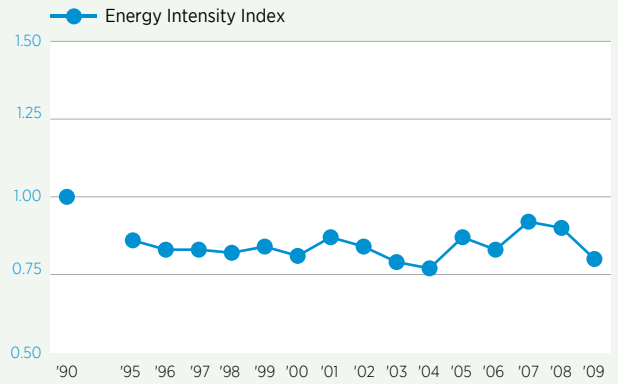
The energy intensity in the lime sector improved in 2009 compared to 2008 primarily because of the significant decline in energy consumption of 22 percent.

The full impact of this energy use reduction was mitigated by a 13 percent reduction in demand for production of lime caused by the economic slowdown.

Energy intensity in the sector improved from 7.52 gigajoules per tonne in 2008 to 6.68 in 2009, a decrease of 11 percent.

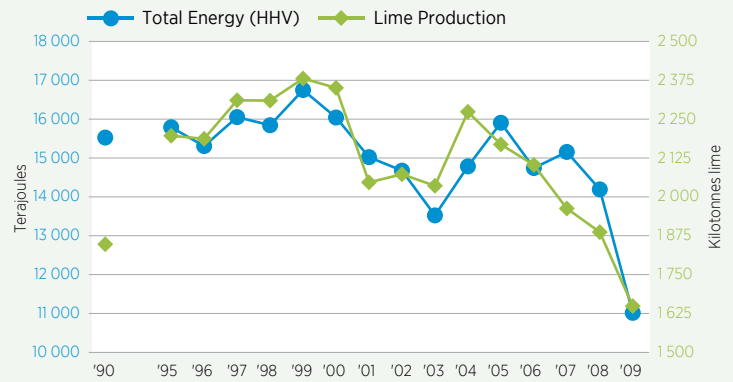
The lime sector has well managed its energy requirement, in view of the economic downturn, and has implemented efficiencies despite the adverse economic conditions.

Energy Intensity Index (1990–2009) Base Year 1990 = 1.00

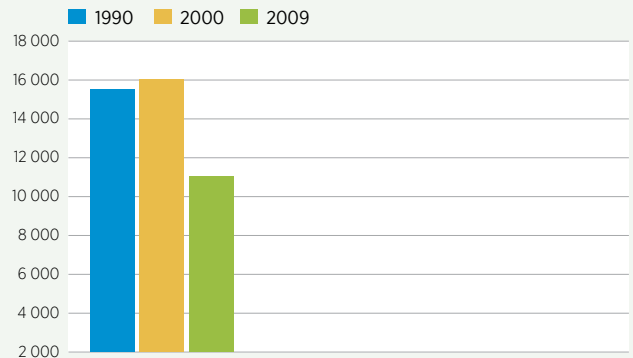


Data source: Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey 1990, 1995-2009*. Ottawa, December 2010.

Total Energy and Physical Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Confidential**
 **Confidential includes: Heavy Fuel Oil (HFO), Middle Distillates (LFO), Propane (LPG), Coal Coke, Petroleum Coke, Coal, Electricity and Natural Gas.



MINING

Profile

Canada's minerals and metals industry engages in extracting, beneficiating or otherwise processing metallic and non-metallic minerals. Approximately 70 metal mine establishments produce base and precious metals, while 5 produce diamonds, 10 produce potash and 22 produce coal. On a smaller scale, 800 quarries produce sand, gravel and related products. Canada is among the world's largest producers of uranium, potash, nickel, cobalt, titanium, platinum, aluminum, diamonds and zinc. Canadian companies also have important international operations in commodities such as gold, nickel, copper and zinc.

The Canadian mining industry has historically been one of the key contributors to Canada's economic strength. Today, the industry accounts for 19 percent of Canadian exports, contributes more than \$10 billion in annual payments to governments and provides business for 3200 supplier companies, including half of the freight revenue of Canada's railroads.

The Mining Association of Canada has indicated that many investments in the Canadian mining industry during the past decade have been connected to burgeoning economic activity in China. Thirty consecutive years of near to double-digit economic growth have seen China's influence rise to the point where it consumes more than 30 percent of the world's base metals, compared with only 5 percent in the 1980s. As a result, global mineral prices have increased significantly since 2000, and it has become economically feasible for companies to mine at greater depths and in more remote regions than in past decades.

Challenges/actions

Mining companies continue to focus on improving energy efficiency. Ventilation consumes a large amount of energy in the extraction phase. For example, operating a ventilation system in a large underground mine can cost \$10 million annually. Companies are investing in ventilation-on-demand systems. As well, improved

logistics and systems for more efficient blasting, drilling, hoisting and transportation remain priorities. Future operations may see use of hydrogen vehicles, and in some cases, the use of on-site generation of wind and solar power may become cost-effective. The move toward mining at greater depth has increased energy demand for ventilation, hoisting and transportation uses.

In mineral processing facilities, where companies face ever-tighter air pollutant standards, there can be an energy cost associated with compressing emitting gas streams to better capture the pollutants. Improving the efficiency of millers, driers, furnaces, acid plants and oxygen plants remains an important objective for companies at the smelting and refining stages.

The significant savings possible with energy-efficient upgrades were demonstrated by the Vale Thompson Mine in Thompson, Manitoba. It replaced the manual electricity meters with electronic metering systems, enabling the company to shed load and to switch off selected temperature setbacks, saving 10 000 megawatt hours (MWh) per year. They also initiated a waste-heat recovery system that produced annual savings of 27 000 MWh. A new combined refrigerated/desiccant air dryer is saving 1500 MWh a year.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/mining.cfm.

Highlights

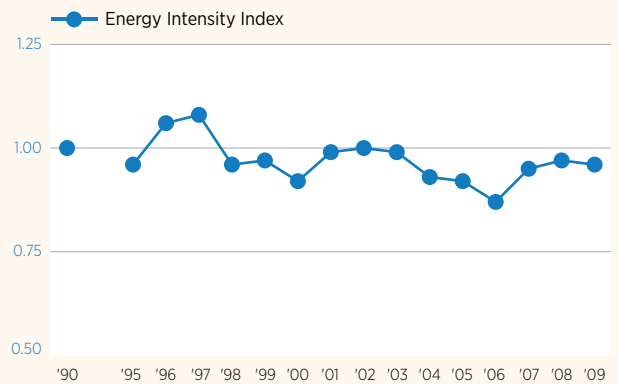
The energy consumption in the mining sector decreased by 10 percent in 2009; the decrease in production, on the other hand, was similar at 9 percent.

The energy intensity, as a result, improved by 1 percent in 2009 from 2008.

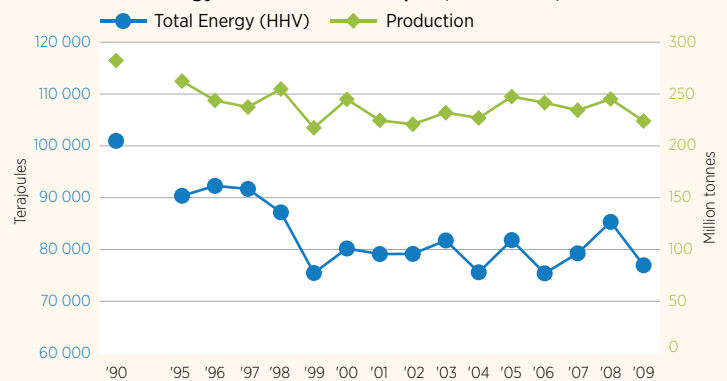
Electricity consumption, which is 46 percent of all fuels used, increased by 6 percent in 2009.

Most other fuels showed decreases in 2009 compared to 2008; however, the largest percentage decreases occurred in middle distillates and heavy fuel oil, at 22 percent and 21 percent, respectively.

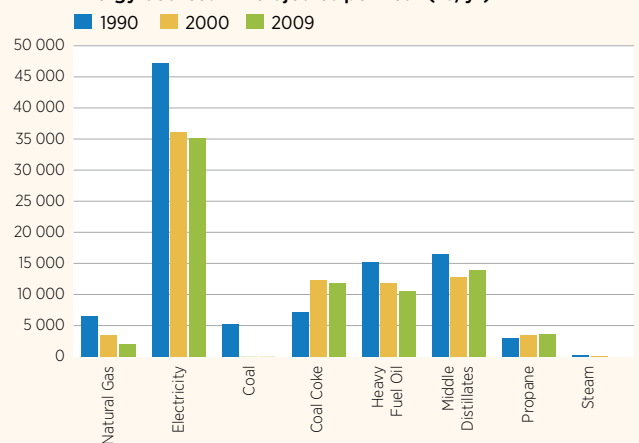
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Production Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data source: Energy Use - Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC). Development of Energy Intensity Indicators for Canadian Industry 1990–2009. Simon Fraser University, January 2011.



OIL SANDS

Profile

Oil sands contain naturally occurring mixtures of sand or clay, water and an extremely dense viscous form of petroleum called bitumen. Oil sands are a major source of unconventional oil. Producing liquid fuels from oil sands requires energy for steam injection and refining. Canada's oil sands sector includes several plants in northern Alberta and one heavy oil upgrader in Saskatchewan. With huge reserves and plans for expansion to serve domestic and international markets, the sector is an important contributor to Canada's GDP.

The mining and oil and gas extraction sectors employ 139 000 people in Alberta alone – 1 in 14 jobs are directly related to energy. Over the next 25 years, oil sands are forecasted to require more than 11.4 million person-years (450 000 positions) of employment across Canada to support the growth in the sector.¹

Challenges/actions

The oil sands industry is a technologically complex and capital-intensive business. To sustain their progress toward improved energy efficiency, sector companies must continue to combine major investments in innovative technologies with continual improvements in operating systems and practices.

The sector's success relies heavily on its ability to develop and implement better extraction methods and its capacity to improve material-handling and emissions management systems in line with increased production – key challenges.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/oilsands.cfm.

¹ Source: oilsands.alberta.ca/economicinvestment.html

Highlights

Energy use in the oil sands sector increased in 2009 by 24 percent compared to 2008 because bitumen production increased by 18 percent, to 325 million barrels.

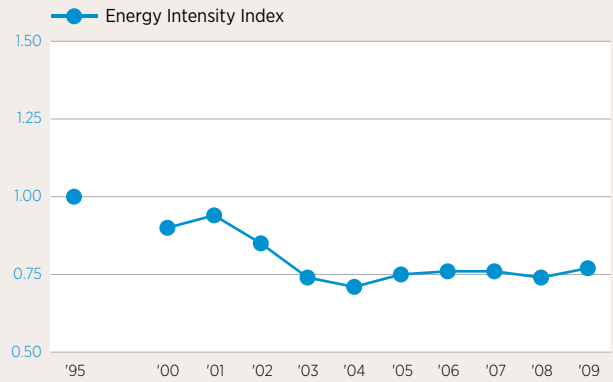
Between 2000 and 2009, bitumen production increased by 135 percent. By comparison, the associated energy use increased by only 101 percent – indicating an energy intensity improvement from 1.56 gigajoules per barrel in 2000 to 1.34 in 2009, or 14 percent over the nine years (an average of 1.6 percent per year).

The associated increases in bitumen production and energy use combined for an increase in energy intensity of 5 percent in 2009 from 2008. However, the increase is relatively slight considering the significant increase in bitumen production.

Natural gas remains the prime source for energy use at 49 percent of total energy sources, followed by process gas at 26 percent. These two fuels make up more than 75 percent of all energy sources in the oil sands sector.

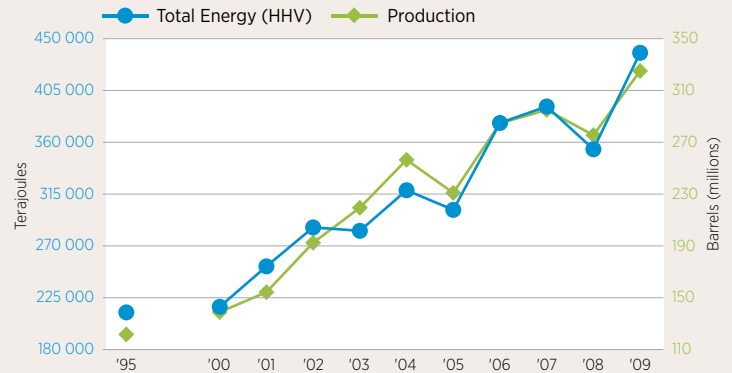
From 2000 to 2009, the use of natural gas increased more than four-fold. All fuel use increased in 2009 from 2008 because of the production increase. The two major fuel sources of natural gas and process gas increased by 18 percent and 29 percent, respectively.

Energy Intensity Index (1995–2009) Base Year 1995 = 1.00

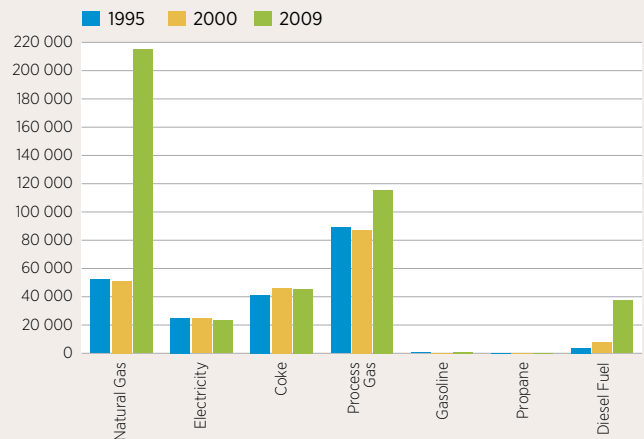


Data source: Alberta Energy and Utilities Board 2010 (Fort McMurray office). [Data exclude in-situ production]

Total Energy and Production (1995–2009)



Energy Sources in Terajoules per Year (TJ/yr)





PETROLEUM PRODUCTS

Profile

Canada's petroleum products sector markets gasoline, diesel, heating oil, jet fuel, lubricating oil, grease, food-grade white oils, asphalts and aromatic hydrocarbons through a network of more than 14 000 wholesale and retail outlets nationwide. There are 18 oil refineries across the country.

Challenges/actions

The energy consumption of the petroleum products sector fell approximately 2 percent in 2009 compared to the previous year and remains 1 percent below 1990 levels. The sector CO₂ emissions also declined by 2 percent in 2009 compared to 2008 and are currently 3 percent lower than 1990 levels.

As a result of the economic downturn, production declined by 4 percent in 2008 and was lower by an additional 3.5 percent in 2009. Current production remains 11 percent higher than in 1990. The overall energy intensity index (2009) for the sector is 10 percent better than in 1990.

Upcoming industry challenges include the completion of diesel fuel desulphurization, an energy-intensive process, as well as the implementation of a national renewable fuel standard scheduled to take effect between 2010 and 2012.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/petroleum.cfm.

Highlights

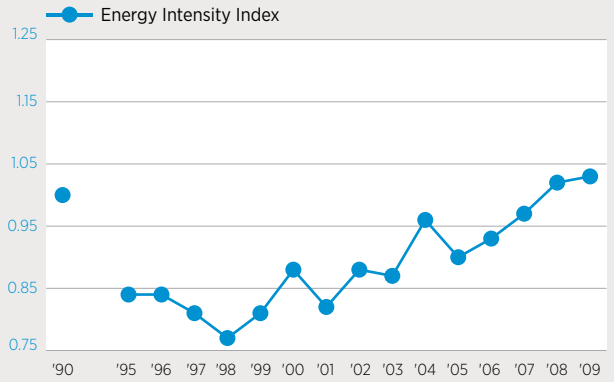
The energy intensity of the petroleum products sector increased marginally by 1 percent in 2009 compared to 2008, mostly because of the decrease in GDP.

Total energy consumption and consumption of most major fuel sources declined in 2009, in line with the economic slowdown.

Refinery fuel gas is the largest source of fuel at 57 percent; natural gas is a distant second at 13 percent, followed by coke and heavy fuel oil.

The use of refinery fuel gas, the largest source of fuel, has increased 61 percent since 2000.

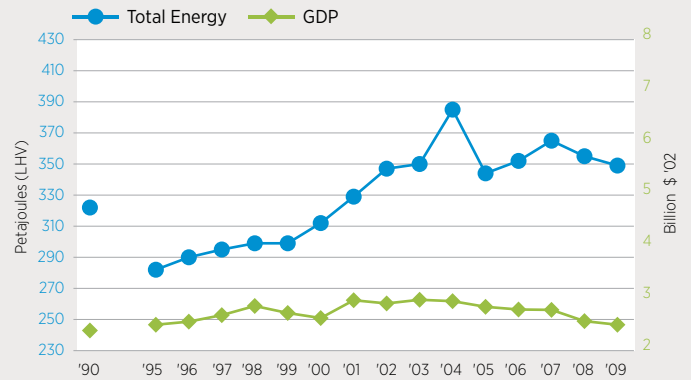
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



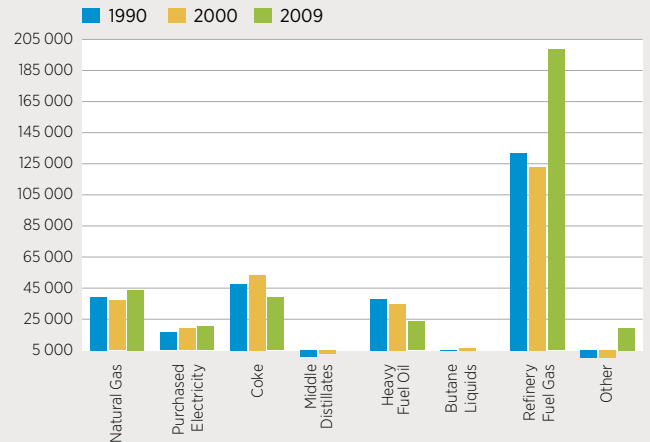
Data sources:

Review of Energy Consumption in Canadian Oil Refineries: 1990, 1994 to 2009. Prepared for the Canadian Petroleum Products Institute (CPPI) and Canadian Industry Program for Energy Conservation. Canadian Industrial Energy End-Use Data and Analysis Centre (CIEEDAC). Development of Energy Intensity Indicators for Canadian Industry 1990–2009. Simon Fraser University, March 2011.

Total Energy and GDP (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr) (LHV*)



* Lower Heating Value



PLASTICS

Profile

The Canadian plastics processing sector is characterized by many processes and applications that use a variety of raw materials, including recycled resins. The major markets served by the plastics industry are packaging, construction and automotive. Plastics industries manufacture intermediate or final products from plastics resins by using such processes as compression moulding, extrusion moulding, injection moulding, blow moulding, calendaring and casting. The sector also produces resin and manufactures machinery and moulds. This sector employs more than 113 000 people in 3400 companies.

Actions/opportunities

The plastics industry energy conservation program has achieved measurable results, according to the Canadian Plastics Industry Association (CPIA). The program consisted of an outreach program, NRCan's Dollars to \$ense customized energy management workshops and free mini-energy assessments, as well as awareness and educational webinars.

The assessments provided companies with action plans for 5 to 10 low- or no-cost energy efficiency projects. Opportunities identified for savings included fixing compressed air leaks and turning lights off, the latter representing a potential of up to \$130,000 in annual savings based on 15 randomly selected companies. Load shifting was also identified as an opportunity, with one company having potential annual energy savings of \$118,000. Improved compressor performance and power factor corrections are other measures that lead to significant reductions in energy costs.

CIPEC Leader companies in the sector continue to take action to improve energy efficiency and improve their bottom lines. For example, Soniplastics Inc., in Boucherville, Quebec, upgraded a cooling system for savings of \$10,000 a month. IPEX Inc. and BC Hydro partnered on projects that generated 1.4 million kilowatt hours in annual savings.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/plastics.cfm.

Highlights

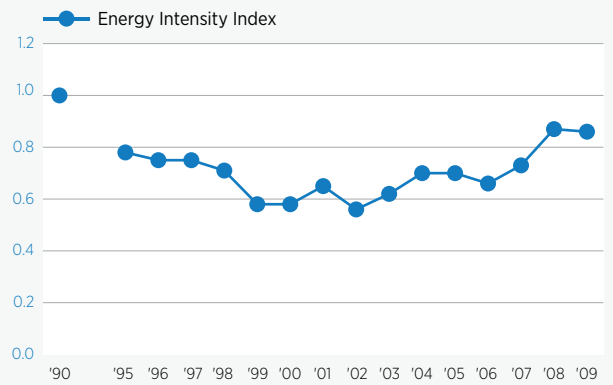
The energy intensity of the plastics sector improved slightly in 2009 compared to 2008, by 1 percent.

The improvement was due to the greater decrease in energy consumption compared to the decrease in the sector's GDP.

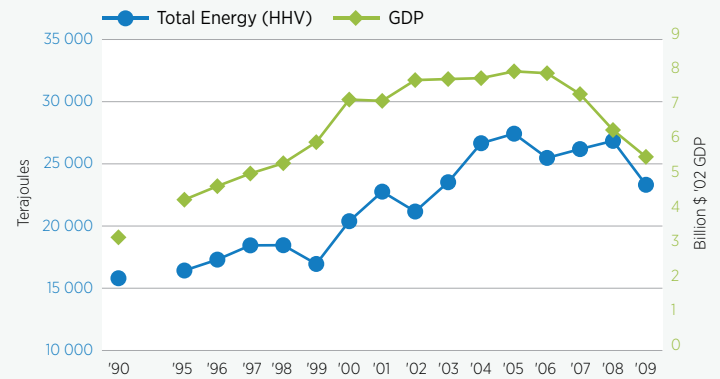
The 13 percent reduction in energy consumption is in line with the drop in GDP in 2009. The GDP of the plastics sector has been decline for a few years, from a high of \$8.1 billion in 2005 to \$5.6 billion in 2009.

Electricity and natural gas are the two main sources of fuel in the plastics sector, and consumption of both has decreased.

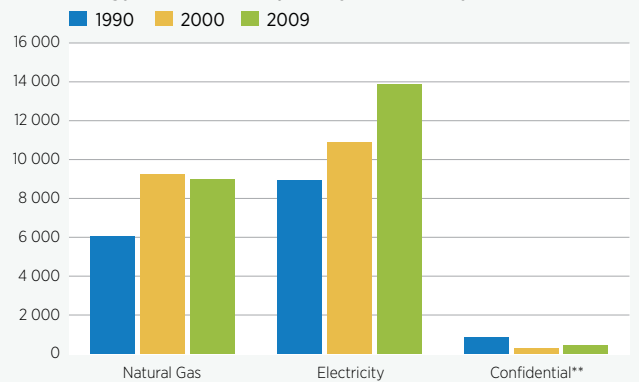
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, Industrial Consumption of Energy Survey, 1990, 1995-2009. Ottawa, December 2010.
 Production - GDP - Informetrica Limited, T1 Model and National Reference Forecast, November 2010.
 **Confidential includes: Heavy Fuel Oil (HFO), Middle Distillates (LFO), Propane (LPG) and Steam.



PULP AND PAPER

Profile

Pulp and paper, a key segment of the forest products industry, is a major contributor to Canada's economy. Besides market pulp, the sector produces newsprint, specialty papers, paperboard, building board and other paper products. Facilities are located across Canada, with the majority in Quebec, Ontario and British Columbia.

Challenges/actions

The economic challenges facing the sector in recent years have resulted in changes to the sector's energy profile. For example, as newsprint mills have closed due to structural market declines, the sector has become slightly more energy-intensive. At the same time, the sector's performance is getting a boost from NRCan's Pulp and Paper Green Transformation program. Several mills are implementing projects to increase renewable

energy production and optimize processes to make more thermal energy available for electricity generation. In the future, the industry's transformation and continued adoption of bioenergy and biorefinery technologies will further improve its energy profile.

In 2011, FPInnovations completed a benchmarking study that compares the energy use in 35 mills that produce pulp, paper and board from chemical, mechanical and recycled pulp for the period 2008 to 2010. The study is a follow-up to a 2002 study that was conducted by the Pulp and Paper Research Institute of Canada (Paprican), with the financial support of NRCan's OEE. These benchmarking studies identify best practices and enable companies to compare their energy use with that of other mills to prioritize areas for improvement.

Individually, companies are finding innovative ways to achieve success in energy conservation and GHG emissions reduction. Recent projects such as the following will generate on-going savings, benefiting the bottom line and the environment.

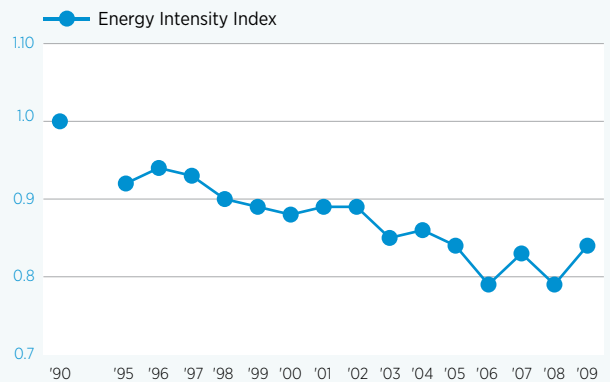
- West Fraser Timber Co. Ltd. will host an innovative community heat and power project in Quesnel, British Columbia – a combined heat and power project that will take advantage of an existing industrial biomass energy system. The system will incorporate an organic Rankine cycle (ORC) turbine to generate power from waste heat and modest incremental use of residuals from milling.
- Tolko Industries Ltd. is using its biomass to produce pyrolysis oil. It has partnered with Manitoba Hydro to use the pyrolysis oil as a replacement for fossil fuels used in Tolko's boiler.
- Kruger Products L.P. has implemented the first commercial demonstration of a new direct-fired boiler biomass gasification system. The system is reducing CO₂ emissions by 22 000 tonnes. It is also displacing 422 000 MMBtu of natural gas while producing 40 000 pounds per hour of low-pressure steam for process use from 78 000 green tonnes of wood fuel per year.
- J.D. Irving, Limited's paper mill in Saint John, New Brunswick, completed a \$4.1-million heat recovery project that reduces energy consumption by maximizing use of recovered heat for water and air heating, utilizing low-pressure steam for process heating and consuming heat generated by fossil fuels only where necessary. The project resulted in annual energy savings of \$2.3 million.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/pp/login.cfm.

Highlights

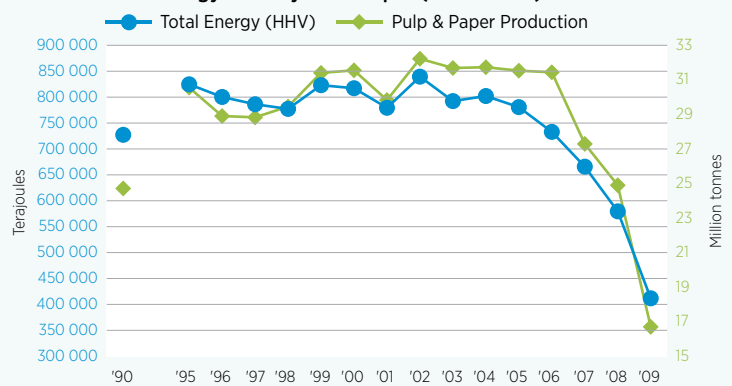
Significant rationalization of capacity occurred during 2009. Poor economic conditions were one contributing factor, while the continued decline in the North American newsprint market was the other. The deeper rationalization in the newsprint sector has resulted in a structural shift, with more energy-intensive product processes representing a higher proportion. This change is illustrated by the increase in overall energy intensity. However, fossil fuel use continues to decline.

Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



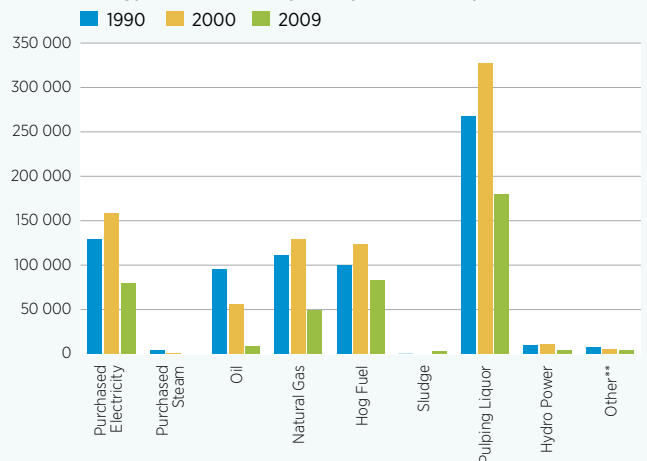
Data source: Forest Products Association of Canada's Annual Energy Survey, 1990-2009.

Total Energy and Physical Output (1990–2009)



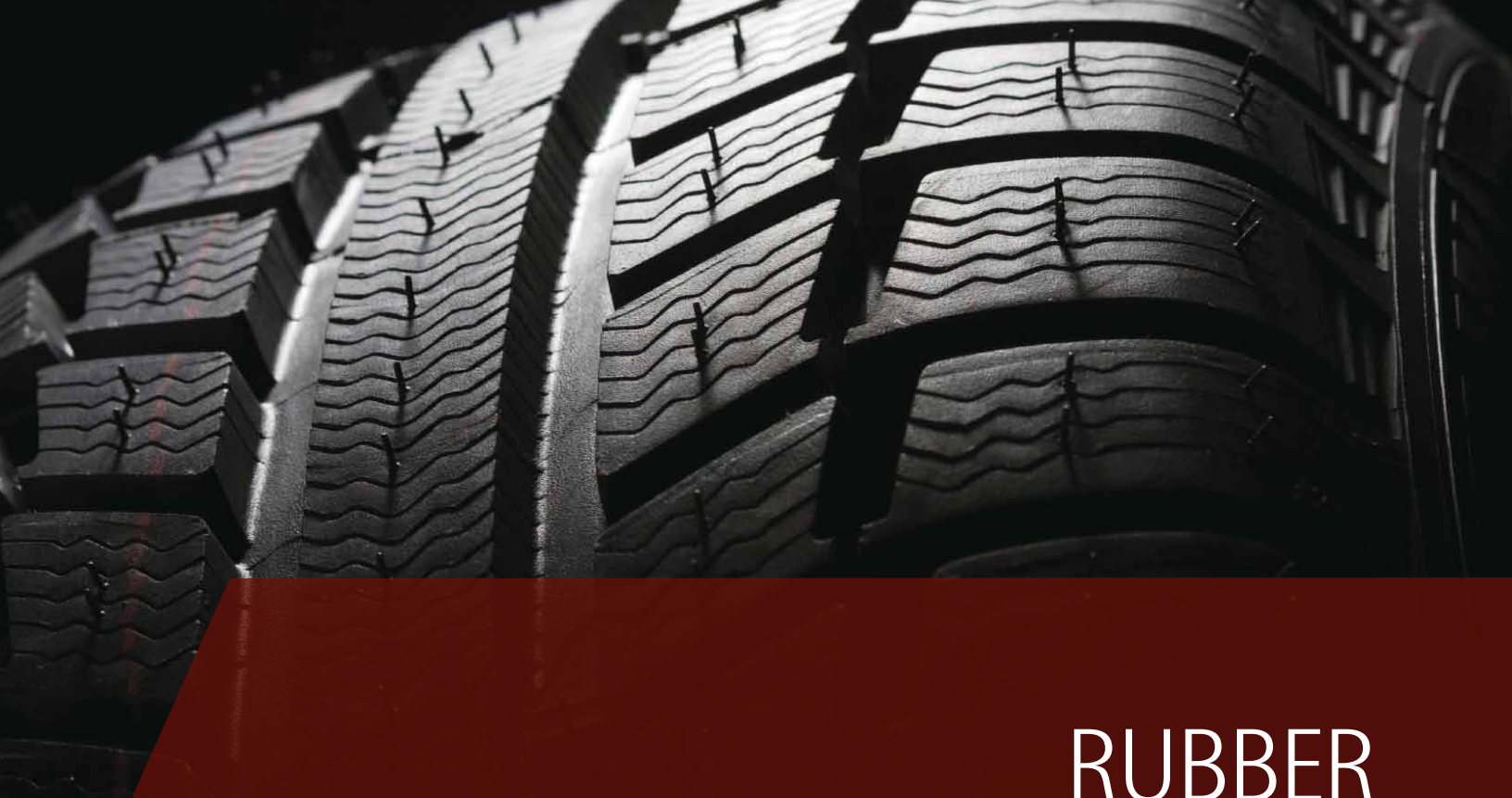
Data source: Forest Products Association of Canada's Annual Energy Survey, 1990-2009.

Energy Sources in Terajoules per Year (TJ/yr)



Data source: Forest Products Association of Canada's Annual Energy Survey, 1990-2009.

** Other includes: Coal, Middle Distillates (LFO), Diesel, Propane (LPG), other purchased energy and other self-generated energy.



RUBBER

Profile

The rubber products sector comprises establishments that are engaged in processing natural, synthetic or reclaimed rubber materials into intermediate or final products by using such processes as vulcanizing, cementing, moulding, extruding and lathe cutting. The sector's products include manufacturing tires and tubes, automotive parts, rubber hoses and belting, mechanical rubber goods, household products, and a wide variety of other products. It employs just over 17 000 people in 320 facilities nationwide.

Challenges/actions

The rubber industry faces several challenges that affect its efforts to improve energy efficiency, among them rising energy costs, international uncertainties and increasing foreign competition. Although higher energy prices provide a strong incentive to make long-term investments in energy efficiency, weak international markets and intensifying competition from producers that benefit from low labour costs make it difficult for many companies to find the needed capital.

However, CIPEC Leaders have implemented some energy-saving projects. For example, the new dust collector at the AirBoss Engineered Products Inc. plant in Acton Vale, Quebec, has dramatically improved air quality and reduced energy consumption. The \$75,000 project was completed in the summer of 2009 and is expected to save the company approximately \$13,000 in annual natural gas and electricity costs. Funding from NRCan's ecoENERGY Retrofit Incentive for Industry shortened the project payback period to approximately five years.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/rubber.cfm.

Highlights

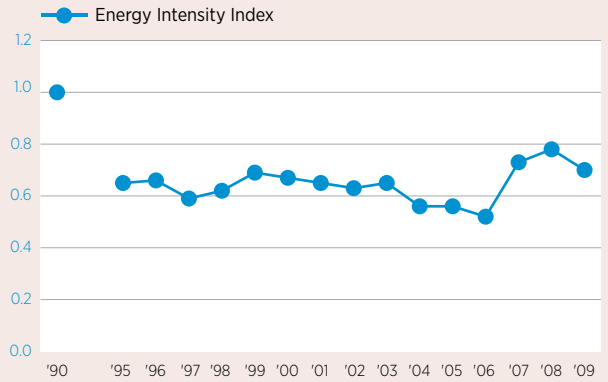
The energy intensity in the rubber sector improved 10 percent in 2009 from 2008.

The slowdown in the economy caused declines both in the energy consumption and in the GDP of the rubber sector.

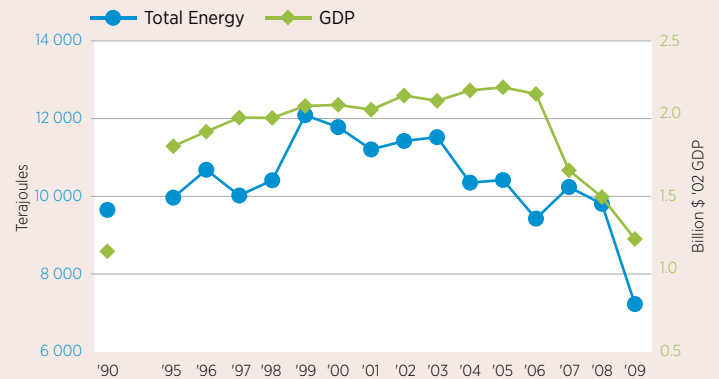
The greater decline in energy consumption (26 percent) compared to the GDP (18 percent) helped to improve the energy intensity of the sector.

Electricity is the fuel of choice, at 47 percent of all fuels consumed in 2009.

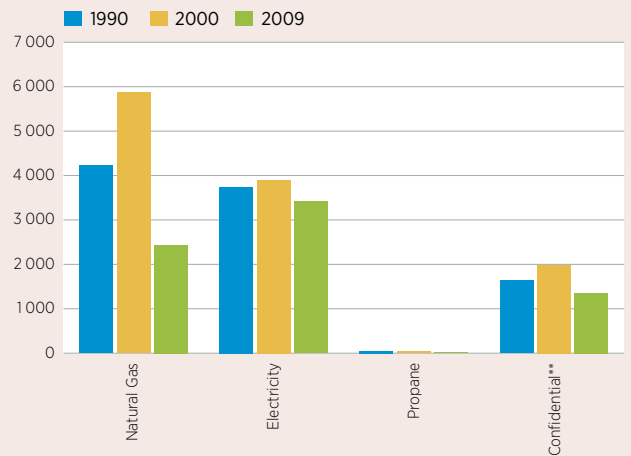
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995–2009*. Ottawa, December 2010.
 Production - GDP - Informetrica Limited, *TJ Model and National Reference Forecast*, November 2010.

**Confidential includes: Heavy Fuel Oil (HFO) and Middle Distillates (LFO).



STEEL

Profile

There are two major ways to produce steel in Canada: the basic oxygen furnace (BOF) process and the electric arc furnace (EAF) process. The BOF process uses virgin materials (notably iron ore and coal), combined with 25 percent to 35 percent recycled steel to make new steel. The EAF process uses almost 100 percent recycled steel to make new steel. The BOF and EAF processes produce different products for different applications such as plates, sheets, strips, rods and bars.

Although there are economic and environmental incentives to produce new steel from recycled steel, additional demand for steel products cannot be met fully through finite scrap supplies. However, the steel industry does maximize the consumption of available scrap steel. In 2009, Canadian steel producers recycled more than 5 million tonnes of steel.

With \$12 billion to \$14 billion in annual sales, Canada's steel industry is at the root of the Canadian industrial tree, providing the key material for many industries including automotive, construction, energy, packaging and advanced manufacturing. Steel is also an important customer for many other industries, including raw materials and transportation.

Challenges/actions

While Canada's steel producers continue to maintain high standards of energy performance in all aspects of operations, it is important to recognize that the 2009 global economic crisis affected the energy performance of many manufacturing sectors, including Canada's steel industry. Overall, energy consumption decreased in 2009 compared with the previous year because of reduced production levels. However, the low capacity utilization rate resulted in reduced energy efficiency performance compared to normal rates. The Canadian Steel Producers Association (CSPA) expects these energy metrics to improve as the economy recovers, leading to higher and more efficient capital utilization rates.

Significant strides in energy efficiency have already been made in Canada's steel sector. The CIPEC Steel Task Force completed energy intensity benchmarking with the support of NRCan and is developing tools to track federal and local energy efficiency programs available for the industry to further enhance its energy performance. In addition, the task force developed a standardized energy reporting protocol to ensure thorough and consistent methodologies for reporting sector energy-related data to the Canadian public through Statistics Canada.

Although much of the "low-hanging fruit" energy conservation opportunities have already been harvested, the steel sector will continue to work with governments for the sustainable development of Canada's steel industry.

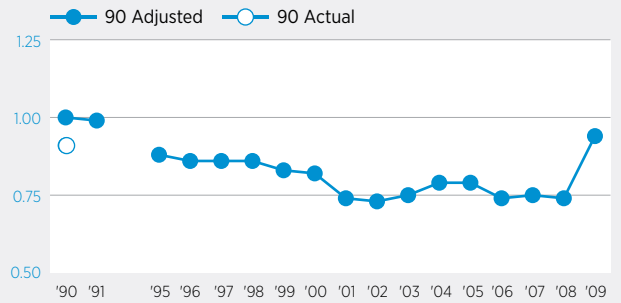
For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/cipec/meetings/steel/login.cfm.

Highlights

The 2009 global economic crisis affected the energy performance of many manufacturing sectors, including Canada's steel industry. In addition, a labour dispute at one of the facilities also contributed to lower industry production levels. As a result, the Canadian steel sector shipments decreased to 8.6 million tonnes, the lowest level in more than 30 years. This was a 42 percent decline from 2008 levels.

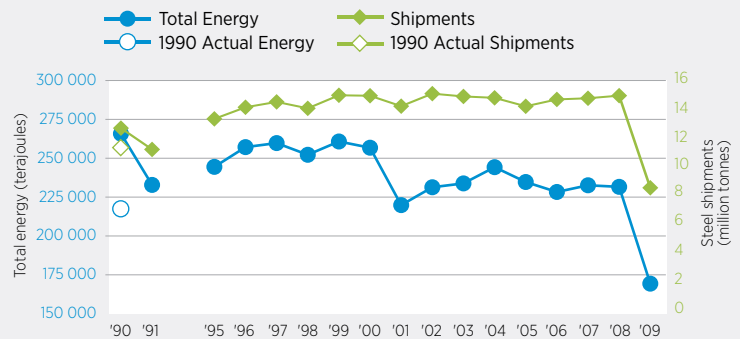
Correspondingly, energy consumption of the steel sector in 2009 decreased by 25 percent compared to the year 2008 because of reduced production levels. This low capacity utilization rate resulted in a 30 percent change in energy efficiency performance compared to normal rates.

Energy Intensity Index (1990–2009) Base Year 1990 (adjusted) = 1.00



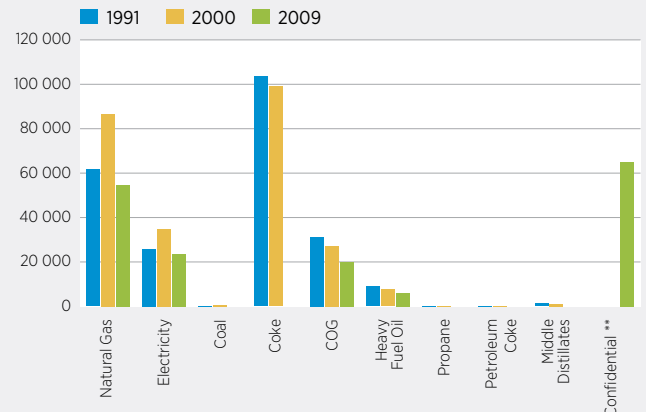
Data source:
 1990 Adjustments for Energy, Shipments & Intensity: *A Review of Energy Consumption and related Data Canadian Iron and Steel and Ferro-alloy Manufacturing Industries 1990-2006*; Canadian Industrial Energy End-use Data and Analysis Centre (CIEEDAC) March 2008, Section 5.1 Table 5.1.
 Intensities 1991-2005; Canadian Industrial Energy End-use Data and Analysis Centre (CIEEDAC) NAICS 331100 accessed July 2008.
 2006 Intensity: Coke 2006: *Coal & Coke Statistics Catalogue 45-002-XPB*
 HFO 2006: *Report on Energy Supply & Demand, Catalogue 57-003-XIB*
 All Others: CIEEDAC Energy Consumption and Energy Intensity Indicators NAICS 331100 accessed July 2008.
 2007 Intensity: Coke 2007: *Coal & Coke Statistics Catalogue 45-002-XPB*
 COG 2007: *Report on Energy Supply & Demand, Catalogue 57-003-XIB*
 All Others: Statistics Canada ICE, March 2010.
 2008 Intensity: Coke 2008: *Coal & Coke Statistics Catalogue 45-002-XPB*
 COG 2008: *Report on Energy Supply & Demand, Catalogue 57-003-XIB*
 All Others: Statistics Canada ICE, March 2010.
 2009 Intensity: Coke 2009: *Coal & Coke Statistics CANSIM Table 135-0001*
 All Others: Statistics Canada ICE, April 2011.

Total Energy and Physical Output (1990–2009)



Data sources:
 Energy: Coke 2006, 2007, 2008: *Coal & Coke Statistics Catalogue 45-002-XPB*, CANSIM Table 135-0001
 COG 2007, 2008: *Report on Energy Supply & Demand, Catalogue 57-003-XIB*
 All Others: CIEEDAC Energy Consumption and Energy Intensity Indicators NAICS 331100.
 Shipments: Primary iron & steel; Statistics Canada Catalogue 41-001-XIB.
 Steel, tubular products and steel wire: Statistics Canada, Cat. No. 41-019-XIE.
 1990 Adjustments for Energy & Shipments: *A Review of Energy Consumption and related Data Canadian Iron and Steel and Ferro-alloy Manufacturing Industries 1990-2006*; Canadian Industrial Energy End-use Data and Analysis Centre (CIEEDAC) March 2008, Section 5.1 Table 5.1.

Energy Sources in Terajoules per Year (TJ/yr)



**Confidential includes: Coal, Coke, Middle Distillates (LFO), Propane (LPG) and others.



TEXTILES

Profile

Established more than 150 years ago, the Canadian textile industry facilities were located in small, urban communities that offered a stable labour supply and rivers ideally suited for water-generated power and the dyeing/finishing processes. They manufactured yarns and fabrics from natural fibres.

Today Canadian textiles facilities are located mainly in Quebec and Ontario. Companies convert synthetic and natural fibres into yarn, cloth, felt and other materials for use in manufacturing clothing, upholstery, household linens and similar textile products. The industry supplies a wide range of value-added products to Canadian and international consumer, household and industrial clients in areas as diverse as automotive manufacturing, clothing, construction, environmental protection, road building and retail.

Challenges

Rising energy prices, global competition and lower labour costs in other countries continue to challenge the Canadian textile industry.

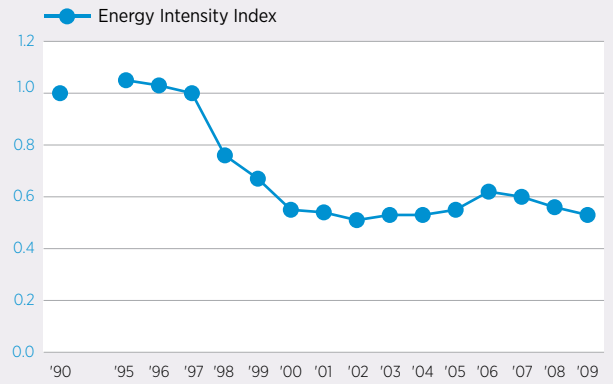
For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/textile.cfm.

Highlights

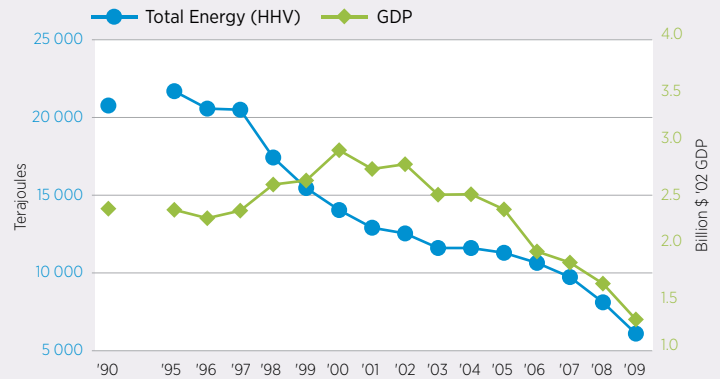
The energy intensity of the textile sector improved in 2009 from 2008. The 5 percent improvement was the result of good management of energy consumption that counteracted the decline in the sector's GDP, which was caused by the economic slowdown.

The textile sector uses primarily natural gas and electricity for fuel. In 2009, natural gas use declined by 33 percent, a decline of significant proportion. Electricity use, on the other hand, declined only half as much natural gas (15 percent). These fuels now represent an almost 50 percent share each of the total fuel consumed by the sector (compared to a higher share for natural gas only a few years ago).

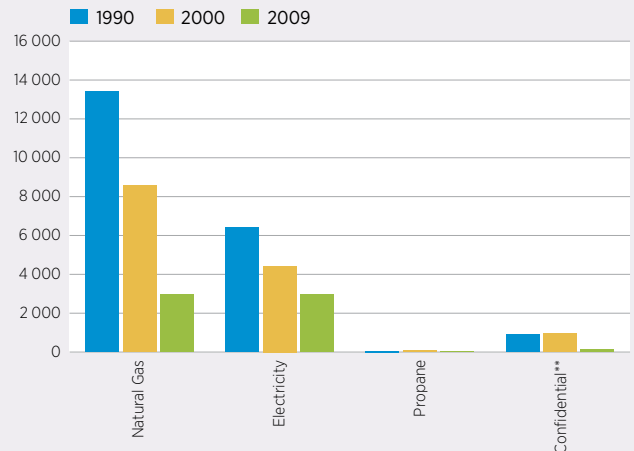
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995–2009*. Ottawa, December 2010.
 Production - GDP - Informetrica Limited, *TJ Model and National Reference Forecast*, November 2010.

**Confidential includes: Heavy Fuel Oil (HFO), Middle Distillates (LFO) and Steam.



TRANSPORTATION EQUIPMENT MANUFACTURING

Profile

The Canadian transportation equipment manufacturing sector includes companies that manufacture aircraft, aircraft parts, automobiles, motor vehicle parts, trucks, buses, trailers, railroad rolling stock, ships and pleasure boats. The sector is a major contributor to the GDP of the Canadian economy. When dealers, parts and distribution networks are included as well as manufacturers, the sector employs more than 500 000 people across Canada.

Challenges/actions

The Canadian and United States automotive sectors were significantly impacted by the 2008–2009 economic recession. In Canada, the weakness in sales led to reduced production, thereby worsening energy intensities despite an overall decrease in energy consumption. However, some companies took the opportunity to consolidate production in underutilized facilities. For example, Magna International Inc. consolidated production in four plants into one plant,

which resulted in improved energy efficiency and put the facility in a good position as the economy improved.

The Automotive Parts Manufacturers' Association (APMA) developed an energy efficiency program to enable its members to lower their energy costs and GHG emissions. Program participants are expected to lower their energy costs by 5 percent to 7 percent. The program includes in-plant energy assessments and on-line software (featuring 30 calculators and real-time energy use monitors) to identify energy saving opportunities and manage energy-related projects. This APMA cost-shared initiative has helped create the next generation of energy managers by hiring more than a dozen students to deliver this program in approximately 25 plants across Canada.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/transport.cfm.

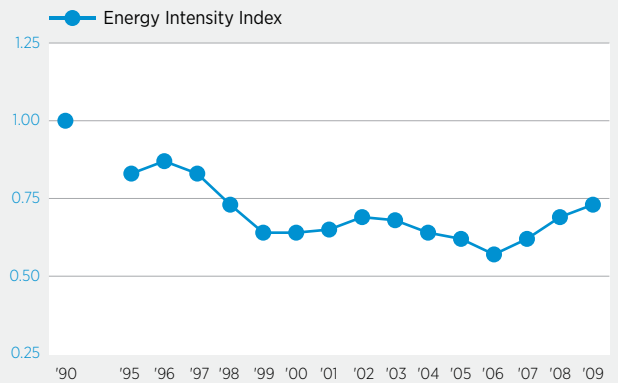
Highlights

The GDP of the transportation equipment manufacturing sector decreased because of the downturn in the economy in 2009. The sector's GDP dropped to below 1995 levels, primarily due to the flat demand for automobiles and trucks.

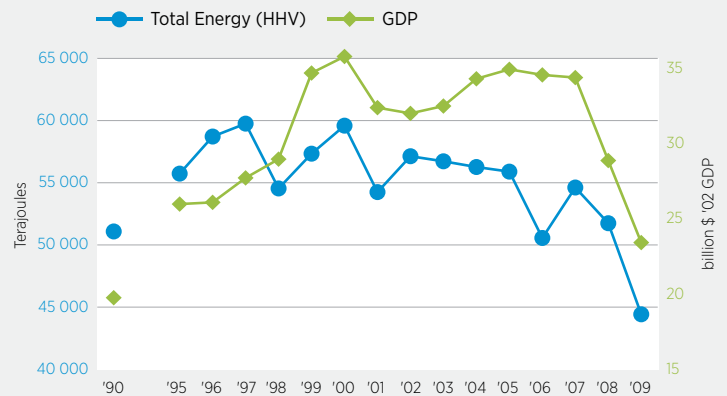
The energy consumption in the sector declined in line with the decrease in demand. The precipitous decline in GDP, from \$34 billion in 2007 to \$23 billion in 2009, a drop of 32 percent, contributed to the rise in energy intensity.

Despite the adverse economic environment, the sector, through better management of its fuel consumption, kept the worsening of energy intensity to 6 percent in 2009 compared to 2008.

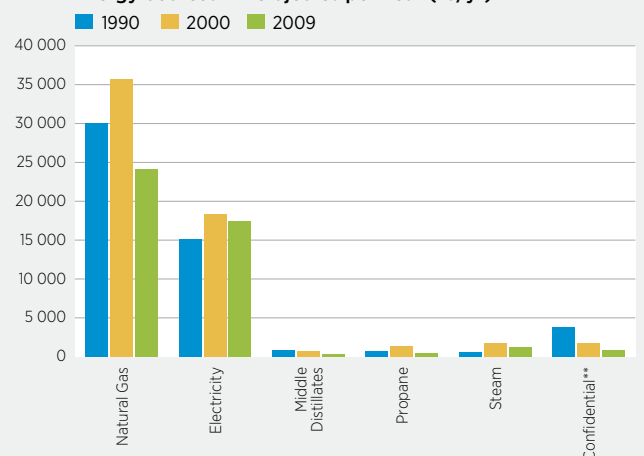
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:
 Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995-2009*. Ottawa, December 2010.
 Production - GDP - Informetrica Limited, *TJ Model and National Reference Forecast*, November 2010.

**Confidential includes: Coal, Coal Coke, Heavy Fuel Oil (HFO) and Wood.



UPSTREAM OIL AND GAS*

Profile

The upstream oil and gas sector includes companies that find and develop Canada's vast oil and gas resources. The sector is broadly divided between conventional oil and gas production and oil sands production and upgrading. This section discusses the conventional oil and gas sector. The oil sands sector is covered separately in this report. Products and services derived by downstream sectors from the output of this industry include heating and transportation fuels, building supplies and materials, clothing, and medicines.

The exploration and production industry is represented by the Canadian Association of Petroleum Producers (CAPP) and the Small Explorers and Producers Association of Canada (SEPAAC). CAPP, for example, represents companies, large and small, that explore for, develop and produce natural gas and crude oil throughout Canada. CAPP's member companies produce more than 90 percent of

Canada's natural gas and crude oil. CAPP's associate members provide a wide range of services that support the upstream crude oil and natural gas industry. Together CAPP's members and associate members are an important part of a national industry with revenues of about \$100 billion per year.

Challenges/actions

CAPP's mission is to enhance the economic sustainability of the Canadian upstream petroleum industry in a safe and environmentally and socially responsible manner, through constructive engagement and communication with governments, the public and stakeholders in the communities in which CAPP operates.

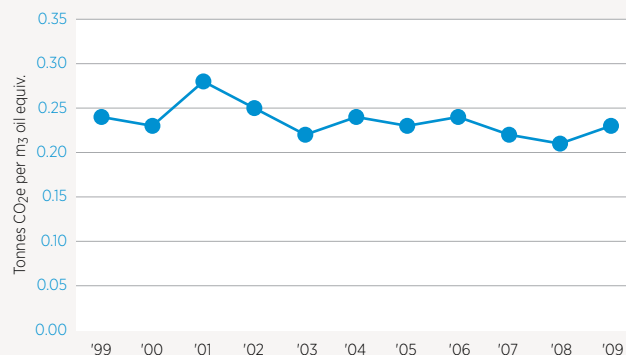
For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/oil-gas.cfm.

* This section deals with the conventional oil and gas sector. The oil sands sector is covered separately elsewhere in this report.

Highlights

Analysis of trends from the data from the CAPP Responsible Canadian Energy program on GHG emissions intensity cannot be performed because of shifting mixes of production, variations in CAPP's coverage of total conventional oil and gas production, and an incomplete dataset on GHG emissions for 1999 to 2006. However, as of the 2007 reporting year, all CAPP members are required to report direct GHG emissions through the Responsible Canadian Energy program.

GHG Emissions Intensity Conventional Oil and Gas



Note:

* 2009 data reflect 60 companies that represent 99 percent of the production of companies required to report the data.

Data source:

The CAPP Responsible Canadian Energy Report 2010 – Canadian Association of Petroleum Producers (www.capp.ca/getdoc.aspx?DocId=186781&DT=NTV).



WOOD PRODUCTS

Profile

The wood products sector comprises approximately 7000 facilities in primary and secondary manufacturing. The primary grouping includes commodity-based production facilities such as lumber and structural panels and more specialized production facilities that manufacture engineered wood products and assemblies. The secondary grouping encompasses a diverse range of facilities that manufacture prefabricated buildings, windows and doors, flooring, mouldings, containers and pallets, other millwork, and numerous other products. The energy data presented here focus on the primary manufacturing grouping.

Challenges/actions

The slow recovery in the United States housing market continues to challenge the wood products sector. Because of this, the sector has been working hard to diversify its markets and products. In particular, the Chinese market has been a lifesaver for many mills, especially

in British Columbia. Moving forward, as the forest products industry transforms, the wood products sector will remain the cornerstone of the broader industry and will continue to diversify and innovate into new markets.

Despite economic challenges, some CIPEC Leader companies implemented energy saving projects. For example, Bois-Franc Inc. in Saint-Philippe-de-Néri, Quebec, which produces wood pallets and skids, installed a new wood-fired boiler that burns woodchips to replace one that burned logs. This dramatically cut the company's energy costs. The estimated energy savings due to the new wood boiler, an EcoBurn model that produces about 3 million British thermal units (Btu) per hour, are about 4800 gigajoules per year, taking into account a small increase in electrical consumption. This represents about \$40,000 in annual energy savings for the company.

For more information on the sector, visit oee.nrcan.gc.ca/industrial/opportunities/sectors/wood.cfm.

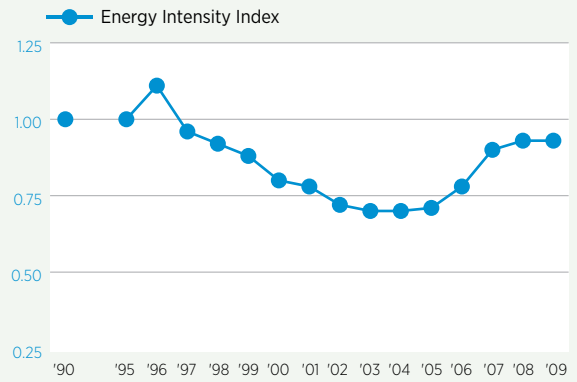
Highlights

The energy intensity in the wood products sector remained virtually unchanged in 2009 compared to 2008, despite an 11 percent decline in the sector's energy consumption. The economic slowdown also caused an 11 percent decrease in the sector's GDP, cancelling out the efficiency gains realized from reduced consumption of energy.

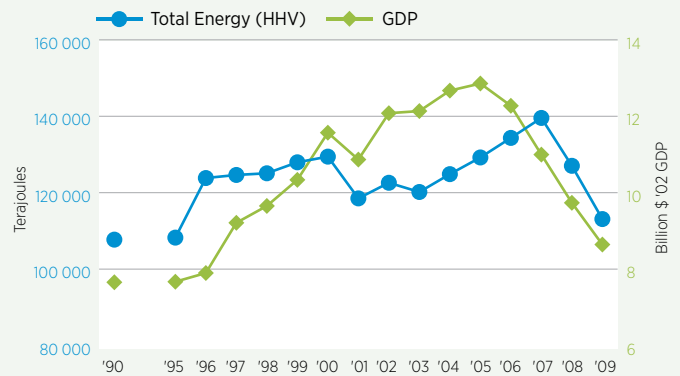
The relative shares of the fuels consumed changed, as companies strived to become more energy-efficient. The sector's consumption of natural gas was partially displaced by higher consumption of wood and electricity. Wood, the fuel source with the highest share at 52 percent, increased to 56 percent in just four years. Electricity moved from 20 percent to 23 percent during the same period (2006 to 2009), whereas the natural gas share of fuels declined to only 15 percent.

In 2009, the wood products sector's consumption of various fuels declined relative to 2008. Natural gas, middle distillates and wood declined 24 percent, 14 percent and 10 percent, respectively, from their 2008 levels.

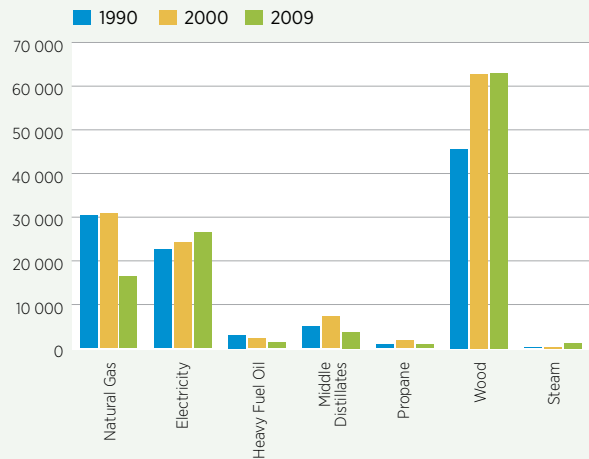
Energy Intensity Index (1990–2009) Base Year 1990 = 1.00



Total Energy and Economic Output (1990–2009)



Energy Sources in Terajoules per Year (TJ/yr)



Data sources:

Energy Use - Statistics Canada, *Industrial Consumption of Energy Survey, 1990, 1995–2009*. Ottawa. December 2010.

Production - GDP - Informetrica Limited, *T1 Model and National Reference Forecast*, November 2010.

CIPEC Who's Who

CIPEC Executive Board Members

The executive board provides leadership for CIPEC's task forces, associations and companies. The board's 11 members are all volunteers with senior management responsibilities and expertise in energy efficiency. They are drawn from across the 25 CIPEC sectors. The executive board has regular teleconferences and meetings throughout the year.

CIPEC Task Force Council Members

The 28-member CIPEC Task Force Council includes volunteer representatives from each of CIPEC's 25 sectors. Members of the Task Force Council benefit from the energy efficiency expertise offered by their council peers. They meet regularly to exchange ideas and recommend ways to address the challenges associated with improving energy efficiency and sustainability reducing greenhouse gas emissions.

CIPEC Leaders

CIPEC Leaders are drawn from CIPEC member companies and trade associations. Every member has access to tools and services offered by Natural Resources Canada's Office of Energy Efficiency. CIPEC Leaders support voluntary initiatives that lead to energy cost savings and assist the Government of Canada in meeting its objectives to save energy and reduce greenhouse gas emissions and air pollution. Every two years, member companies are invited to compete in the CIPEC Leadership Awards showcasing their energy efficiency achievements. The awards are presented during CIPEC's biennial conference.

Natural Resources Canada Industrial Programs Division Contacts

Contact information for the Program's director, chiefs, general enquiries and Dollars to \$ense Energy Management Workshops program.

CIPEC Executive Board Members

Glenn Mifflin (Chair)

Executive Vice President and CFO

North Atlantic Refining

Mike Cassaday

Director

National Fuel Quality & Environmental Planning

Suncor Energy Company

Wayne Kenefick

Vice-President

Sustainable Development

Graymont Western Canada Inc.

Richard Lamarche

Vice-President

Energy Division

Alcoa Canada Primary Metals

Yves Leroux

Vice-President

Regulatory & Government Affairs

Parmalat Dairy & Bakery Inc.

Brenda MacDonald

Andy Mahut

Manager

Energy Practices

U.S. Steel Canada Inc.

Ronald C. Morrison

Treasurer of the Board

Canadian Manufacturers & Exporters (CME)

Susan Olynyk

Senior Specialist, Climate Change

Environmental Department

ArcelorMittal Dofasco Inc.

Tor Eilert Suther

President and General Manager

NewPage Port Hawkesbury Ltd.

John R. Vickers

Sales Manager

Hopper Foundry Limited

CIPEC Task Force Council Members

CIPEC TASK FORCE COUNCIL CHAIR

Susan Olynyk

Senior Specialist
Climate Change
Environmental Department
ArcelorMittal Dofasco Inc.

ALUMINUM SECTOR TASK FORCE

Lorraine Rouisse

Director
Sustainable Development Health & Safety
Aluminium Association of Canada (AAC)

BREWERY SECTOR TASK FORCE

Edwin Gregory

Manager
Research and Analysis
Brewers Association of Canada (BAC)

CEMENT SECTOR TASK FORCE

Martin Vroegh

Environment Manager
St Marys Cement Inc.

Francis Lepage

Director
Sustainability, Business Development &
Stakeholder Relations
Cement Association of Canada (CAC)

CHEMICAL SECTOR TASK FORCE

Fiona Cook

Director
Business and Economics
Chemistry Industry Association of Canada

CONSTRUCTION SECTOR TASK FORCE

Bill Ferreira

Director
Government Relations & Public Affairs
Canadian Construction Association (CCA)

ELECTRICAL AND ELECTRONICS SECTOR TASK FORCE

Wayne Edwards

Vice President
EEMAC Council
Electro-Federation Canada

ELECTRICITY GENERATION SECTOR TASK FORCE

Channa Perera

Manager
Sustainable Electricity Program
Canadian Electricity Association (CEA)

FERTILIZER SECTOR TASK FORCE

David M. Finlayson

Vice President
Science and Risk Management
Canadian Fertilizer Institute (CFI)

FOOD AND BEVERAGE SECTOR TASK FORCE

Doug Dittburner

Managing Chief Engineer
Kraft Foods Inc. – Cadbury Plant

FORESTRY SECTOR TASK FORCE

Jan Michaelsen

Program Leader
Transport & Energy
FPInnovations – Division Feric

FOUNDRY SECTOR TASK FORCE

Judith Arbour

Executive Director
Canadian Foundry Association (CFA)

GENERAL MANUFACTURING SECTOR TASK FORCE – CENTRAL REGION

Jim Armstrong

EHS Specialist
Crown Metal Packaging Canada LP

GENERAL MANUFACTURING SECTOR TASK FORCE – ATLANTIC REGION

John Woods

Vice-President

Energy Development

Minas Basin Pulp & Power Company Limited

GENERAL MANUFACTURING SECTOR TASK FORCE – NEW BRUNSWICK

Mike Bujold

Corporate Energy Manager

J.D. Irving Limited

LIME SECTOR TASK FORCE

Christopher Martin

Regional Environmental Manager

Carmeuse Lime (Canada) – Beachville Operation

MINING SECTOR TASK FORCE

Paul Stothart

Vice President

Economic Affairs

The Mining Association of Canada (MAC)

OIL SANDS SECTOR TASK FORCE

Alisa M. Caswell

Energy Conservation Leader

Syncrude Canada Ltd.

PETROLEUM PRODUCTS SECTOR TASK FORCE

Gilles Morel

Director

Eastern Canada and National

Canadian Petroleum Products Institute (CPPI)

PIPELINES SECTOR TASK FORCE

Bill Tubbs

Climate Change and Energy Efficiency Specialist

Spectra Energy

PLASTICS SECTOR TASK FORCE

Dr. Graham Knowles

Consultant

Canadian Plastics Industry Association (CPIA)

PULP AND PAPER SECTOR TASK FORCE

Bob Larocque

Director, Environment

Forest Products Association of Canada (FPAC)

RUBBER SECTOR TASK FORCE

Ralph Warner

Director of Operations

Rubber Association of Canada (RAC)

STEEL SECTOR TASK FORCE

Chris Della Mora

Energy Manager

Gerdau Ameristeel

TRANSPORTATION EQUIPMENT MANUFACTURING SECTOR TASK FORCE

Zenon Petriw

Manager

Recycling and Energy

Magna International Inc.

UPSTREAM OIL AND GAS SECTOR TASK FORCE

Krista Phillips

Policy Analyst

Environment, Health and Safety

Canadian Association of Petroleum Producers (CAPP)

WOOD PRODUCTS SECTOR TASK FORCE

Bob Larocque

Director, Environment

Forest Products Association of Canada (FPAC)

CIPEC Leader Companies by Sector

Aluminum

Alcan inc. – *Montréal*
Alcan Specialty Aluminas – *Brockville*
Alcoa Canada Première fusion – *Montréal*
Alcoa Ltée – Aluminerie de Baie-Comeau – *Baie-Comeau*
Alcoa – Aluminerie de Deschambault S.E.C. – *Deschambault*
Alcoa Ltée – Alcoa-Usine de Tige – *Bécancour*
Aluminerie de Bécancour inc. – *Bécancour*
Almag Aluminum Inc. – *Brampton*
Alsa Aluminum Canada Inc. – *Bécancour*
Alumicor Limited – *Toronto*
Aluminerie Alouette inc. – *Sept-îles*
Indalex Limited – *Port Coquitlam*
Indalex Limitée – *Pointe-Claire*
Indalloy, a division of Indalex Limited – *North York*
Novelis Inc. – *Toronto*
Recyclage d'aluminium Québec inc. – *Bécancour*
Universal Stainless & Alloys Inc. – *Mississauga*

Brewery

Big Rock Brewery Ltd. – *Calgary*
Columbia Brewery – *Creston*
John Allen Brewing Company (The) – *Halifax*
Labatt Breweries of Canada – *Toronto, Edmonton, London, St. John's*
La Brasserie Labatt – *LaSalle*
Les Brasseurs du nord inc. – *Blainville*
Molson Canada – *Edmonton, Ontario, Montréal*
Molson Coors Canada – *Vancouver*
Moosehead Breweries Limited – *Saint John*
Pacific Western Brewing Company – *Prince George*
Rahr Malting Canada Ltd. – *Alix*
Sleeman Brewing and Malting Co. Ltd. – *Guelph*
Sleeman Maritimes Ltd. – *Dartmouth*
Sleeman Unibroue Quebec – *Chambly*
Sleeman Breweries Ltd. o/a Okanagan Spring Brewery – *Vernon*
Steelback Brewery Inc. – *Tiverton*

Cement

Advanced Precast Inc. – *Bolton*
Arriscraft International – *Saint-Étienne-des-Grès, Cambridge*
ESSROC Canada Inc. – *Picton*
Gordon Shaw Concrete Products Ltd. – *Windsor*
Groupe Permacon inc.-Div. des Matériaux de Construction Oldcastle Canada Inc. – *Ville d'Anjou, Quebec*
Permacon Group Inc. – *Milton*
Permacon Ottawa – *Stittsville*
Permacon Group Inc. – *Bolton, Oshawa*
Groupe Permacon inc. – Division Trois-Rivières – *Trois-Rivières*

Groupe Permacon (Sherbrooke) – Div. des Matériaux de Construction Oldcastle Canada inc. – *Sherbrooke*
Decor Precast – Div. of Oldcastle Building Products Canada – *Stoney Creek*
Holcim (Canada) Inc. – *Mississauga, Joliette*
Dufferin Concrete – *Concord*
International Erosion Control Systems – *West Lorne, Rodney*
Lafarge Canada inc. – *Montréal*
Lehigh Inland Cement Limited – *Edmonton*
Lehigh Northwest Cement Limited
Pre-Con Inc. – *Brampton*
St Marys Cement Inc. – *Bowmanville*

Chemicals

Abrex Paint & Chemical Ltd. – *Oakville*
Apotex Pharmachem Inc. – *Brantford*
Arclin Canada Ltd. – *North Bay*
Avmor Ltée – *Laval*
Banner Pharmacaps (Canada) Ltd. – *Olds*
Bartek Ingredients Inc. – *Stoney Creek*
Becker Underwood – *Saskatoon*
Benjamin Moore & Cie Limitée – *Montréal*
Big Quill Resources Inc. – *Wynyard*
BioVectra Inc. – *Charlottetown*
BOC Gaz – *Magog*
Celanese Canada inc. – *Boucherville*
Charlotte Products Ltd. – *Peterborough*
Church & Dwight Canada – *Mount Royal*
Colgate-Palmolive Canada Inc. – *Mississauga*
Collingwood Ethanol L.P. – *Toronto, Collingwood*
Commercial Alcohol Inc. – *Chatham, Tiverton, Varennes*
Diversey Canada, Inc. – *Edmonton*
Dominion Colour Corporation – *Ajax, Toronto*
Dyno Nobel Nitrogen Inc. – *Maitland, North Bay*
Eka Chimie Canada inc. – *Salaberry-de-Valleyfield, Magog*
Eli Lilly Canada Inc. – *Scarborough*
Emery Oleochemicals Canada Ltd. – *Toronto*
Estée Lauder Cosmetics Ltd. – *Scarborough*
Evonik Degussa Canada Inc. – *Brampton, Burlington, Gibbons*
Fibrex Insulations Inc. – *Sarnia*
Fielding Chemical Technologies Inc. – *Mississauga*
Galderma Production Canada inc. – *Baie d'Urfé*
Germiphene Corporation – *Brantford*
Grace Canada inc. – *Valleyfield*
GreenField Ethanol Inc. – *Tiverton*
Honeywell – *Amherstburg*
Hostmann-Steinberg Limited – *Brampton*
ICI Canada Inc. – *Concord*
International Group Inc. (The) – *Toronto*

Jamieson Laboratories Ltd. – *Windsor*
Kronos Canada Inc. – *Varennes*
L'Oréal Canada inc. – *Montréal*
Les Emballages Knowlton inc. – *Knowlton*
Mancuso Chemicals Limited – *Niagara Falls*
Nalco Canada Co. – *Burlington*
Nordion Inc. – *Ottawa*
NOVA Chemicals Corporation – *Calgary, Corruna, Joffre, Moore Township, St. Clair River*
Oaksides Chemicals Limited – *London*
OmegaChem inc. – *Lévis, Saint-Romuald*
Orica Canada Inc. – *Brownsburg*
Osmose-Pentox Inc. – *Montréal*
Oxy Vinyls Canada Inc. – *Niagara Falls*
Petro-Canada – *Oakville*
Pharmascience inc. – *Montréal*
PolyOne Canada Inc. – *Orangeville*
Powder Tech Ltd. – *Brampton*
PPG Canada Inc. – *Beauharnois*
Procter & Gamble Inc. – *Brockville*
Prolab Technologies Inc. – *Thetford Mines*
Purdue Pharma – *Pickering*
Reagens Canada Ltd. – *Bradford*
Rhema Health Products Limited – *Coquitlam*
Rohm and Haas Canada Inc. – *Scarborough*
Saskatchewan Minerals Inc. – *Chaplin*
Sifto Canada Corp. – *Goderich, Unity*
Soucy Techno inc. – *Sherbrooke*
Tech Blend s.e.c. – *Saint-Jean-sur-Richelieu*
Tri-Tex Co. Inc. – *Saint-Eustache*
Trillium Health Care Products Inc. – *Perth, Brockville, Prescott, Newmarket*
Westbrook Technologies Inc. – *Scarborough*
Wyeth-Ayerst Canada Inc. – *Saint-Laurent*

Construction

AnMar Mechanical & Electrical Contractors Ltd. – *Lively*
ATCO Structures Inc. – *Calgary, Spruce Grove*
Basin Contracting Limited – *Enfield*
Battle River Asphalt Equipment Ltd. – *Cut Knife*
Construction DJL Inc. – *Saint-Philippe-de-Laprairie*
Lockerbie & Hole Industrial Inc. – *Edmonton*
M J Roofing & Supply Ltd. – *Winnipeg*
Mira Timber Frame Ltd. – *Stoney Plain*
Moran Mining & Tunnelling Ltd. – *Lively*
Northland Building Supplies Ltd. – *Edmonton*
Pavages Beau-Bassin, division de Construction DJL Inc. – *Gaspé*
Production Paint Stripping Ltd. – *Toronto*
Taggart Construction Ltd. – *Ottawa*
Whitemud Iron Works – *Edmonton*

Dairy

AgriLait Cooperative agricole – *Saint-Guillaume*
Agropur Coopérative – *Beauceville*
Agropur Coopérative, divison Natrel –
Don Mills
Amalgamated Dairies Limited – *Summerside*
ADL O'Leary – *Summerside*
ADL St. Eleanors – *Summerside*
ADL West Royalty – *Charlottetown*
O'Leary and Perfection Foods – *Summerside*
Arla Foods Inc. – *Concord*
Atwood Cheese Company – *Atwood*
Avalon Dairy Ltd. – *Vancouver*
Baskin-Robbins Ice Cream – *Peterborough*
Entreprise Le Mouton Blanc – *La Pocatière*
Farmers Co-Operative Dairy Limited – *Halifax*
Foothills Creamery Ltd. – *Calgary, Didsbury,*
Edmonton
La Fromagerie Polyethnique inc. – *Saint-Robert*
Hewitt's Dairy Limited – *Hagersville*
Kerry Québec Inc. – *Sainte-Claire*
Laiterie Chagnon Ltée – *Waterloo*
Laiterie Charlevoix inc. – *Baie-Saint-Paul*
Neilson Dairy Ltd. – *Halton Hills, Ottawa*
Nutrinor (Laiterie Alma) – *Alma*
Parmalat Dairy & Bakery Inc. – *Etobicoke*
Parmalat Canada Inc. – *Brampton*
Pine River Cheese & Butter Co-operative – *Ripley*
Roman Cheese Products Limited – *Niagara Falls*
S.C.A. de L'île-aux-Grues – *L'île-aux-Grues*
Salerno Dairy Products Ltd. – *Hamilton*
Saputo inc. – *Montréal*
Saputo Foods Limited – *Brampton, Tavistock*
Saputo Cheese, G.P. – *Saint-Léonard*
Silani Sweet Cheese Ltd. – *Schomberg*

Electrical & Electronics

ABB Inc. – *Lachine, Quebec, Saint-Laurent, Varennes*
ABB Bomem Inc. – *Quebec*
Alstom Hydro Canada Inc. – *Sorel-Tracy*
Apollo Microwaves – *Pointe-Claire*
ASCO Valve Canada – *Brantford*
Best Theratronics Ltd. – *Ottawa*
BreconRidge Corporation – *Ottawa*
C-Vision Limited – *Amherst*
Candor Industries Inc. – *Toronto*
Circuits GRM Enr. – *Ville Saint-Laurent*
Crest Circuit Inc. – *Markham*
Cogent Power Inc. – *Burlington*
DALSA Semiconducteur Inc. – *Bromont*
DRS Technologies Canada Ltd. – *Carleton Place*
Duke Electric Ltd. – *Hamilton*
Duplium Corporation – *Thornhill*
Eaton Yale Company – *Milton*
Éclairages PA-CO inc. (Les) – *Laval*
Ecopower Inc. – *London*
Electrolux Canada Corp. – *L'Assomption*
Engizer Canada Inc. – *Walkerton*
EPM Global Services Inc. – *Markham*

Ferraz Shawmut Canada Inc. – *Toronto*
Firan Technology Group – *Scarborough*
G.E. Energy – *Lachine*
General Electric Canada – *Peterborough*
General Dynamics Canada – *Ottawa, Calgary*
GGI International – *Lachine*
Honeywell – *Mississauga*
IBM Canada Ltd. – *Markham*
Ideal Industries (Canada) Corp. – *Ajax*
Master Flo Technology Inc. – *Hawkesbury,*
North Vancouver
MDS Nordion Inc. – *Kanata*
Milplex Circuit (Canada) Inc. – *Scarborough*
Moloney Electric Inc. – *Sackville,*
Spruce Grove, Toronto
Nexans Canada Inc. – *Fergus*
Osram Sylvania Ltd. – *Mississauga*
Osram Sylvania Itée – *Drummondville*
Pivotal Power Inc. – *Bedford*
Powersmiths International Corp. – *Brampton*
Proto Manufacturing Ltd. – *Oldcastle*
Prysmian Systèmes et Câbles –
Saint-Jean-sur-Richelieu
Purifics ES Inc. – *London*
Ralston Metal Products Ltd. – *Guelph*
Real Time Systems Inc. – *Toronto*
Remco Solid State Lighting – *Toronto*
Rheinmetall Canada inc. –
Saint-Jean-sur-Richelieu
Rockwell Automation Canada Inc. – *Cambridge*
S&C Electric Canada Limited – *Toronto*
Sound Design Technologies Ltd. – *Burlington*
Southwire Canada – *Stouffville*
Surrette Battery Company Limited – *Springhill*
Systèmes Electroniques Matrox Ltée – *Dorval*
Tyco Electronics Canada Ltd. – *Markham*
Tyco Safety Products – *Toronto*
Tyco Thermal Controls Canada Limited – *Trenton*
Ultra Electronics Maritime Systems – division of
Canada Defence Inc. – *Dartmouth*
Vansco Electronics Ltd. – *Winnipeg*

Electricity Generation

Ontario Power Generation – *Toronto*
Qulliq Energy Corporation – *Iqaluit*

Fertilizer

Agrium Inc. – *Redwater*
Canadian Fertilizers Limited – *Medicine Hat*
Fafard et Frères Itée – *Saint-Bonaventure*
Mosaic Potash Belle Plaine – *Belle Plaine*
Mosaic Potash Colonsay – *Colonsay*
Mosaic Potash Esterhazy – *Esterhazy*
Profid'Or Coopérative Agricole – *Joliette*
Sherritt International Corporation –
Fort Saskatchewan
Tourbières Berger Itée (Les) – *Saint-Modeste*

Food & Beverage

A. Harvey & Company Limited – *St. John's*
Argentia Freezers – *Dunville*
Browning Harvey Limited – *St. John's,*
Corner Brook, Grand Falls, Windsor
Abattoir Louis Lafrance & Fils Itée –
Saint-Séverin de Proulxville
Abattoir Saint-Germain inc. –
Saint-Germain-de-Grantham
Eastern Protein Foods Limited – *Kentville*
AgEnergy Co-operative Inc. – *Guelph*
Agri-Marché Inc. – *Saint-Isidore*
Alberta Processing Co. – *Calgary*
Alex Coulombe Ltée – *Québec*
9071-3975 Québec inc. o/a Aliments Lucyporc –
Yamachiche
Aliments Ouimet-Cordon Bleu inc. – *Anjou*
Aliments Ultima Foods inc. – *Granby*
Andrés Wines Ltd. – *Grimsby*
Aliments ED Foods inc. – *Pointe-Claire*
Aliments Multibar inc. (Les) – *Montréal*
Aljane Greenhouses Ltd. – *Pitt Meadows*
Alkema Greenhouses Ltd. – *Grimsby*
Allen's Fisheries Limited – *Benoit's Cove*
Amco Farms Inc. – *Leamington*
Andrew Hendriks and Sons Greenhouses –
Beamsville
Freeman Herbs – *Beamsville*
Andrew's Greenhouses Inc. – *Ruthven*
Antigonish Abattoir Ltd. – *Antigonish*
Antonio Bajar Greenhouses Limited – *Newmarket*
2258775 Ontario Inc. o/a Arnold Meat Packers Inc. –
Kitchener
Atrahan Transformation Inc. – *Yamachiche*
Balfour Greenhouses Ltd. – *Fenwick*
Bayview Greenhouses (Jordan Station) Inc. –
Brantford, Jordan Station
Belgian Nursery Limited – *Breslau*
Beothic Fish Processors Limited – *Badgers Quay*
Bevo Farms Ltd. – *Milner*
Black Velvet Distilling Company – *Lethbridge*
Bokestyn Greenhouses – *Jordan Station*
Bonduelle Canada Inc. – *Bedford,*
Sainte-Cécile-de-Granby, Saint-Césaire,
Saint-Denis-sur-Richelieu, Sainte-Martine
Bonduelle Ontario Inc. – *Ingersoll, Stratroy,*
Tecumseh
Border Line Feeders Inc. – *Ceylon*
Boulangerie St.-Méthode inc. – *Adstock*
Boulart inc. – *Lachine*
Breakwater Fisheries Limited – *Cottlesville*
1546866 Ontario Inc. o/a Bridgeview Greenhouses –
Niagara-on-the-Lake
Brookdale Treeland Nurseries –
Niagara-on-the-Lake
Brookside Poultry Limited – *Roundhill*
Browning Harvey Limited – *St. John's, Corner Brook,*
Grand Falls, Windsor
Brunato Farms Limited – *Leamington*
Bunge Canada – *Montréal*

Burnbrae Farms Limited – Lyn, Brockville, Calgary, Mississauga, Pandora, Winnipeg	Cristofari Farms Inc. – Leamington	General Mills Canada Corporation – Midland, Saint-Hubert, Winnipeg
Ferme St.-Zotique – Saint-Zotique	Crust Craft Inc. – Edmonton	George Sant & Sons Greenhouses – Kleinburg
Island Egg – Westholme	Crowley Farms Norwood Ltd. – Norwood	Gonderflex International inc. – Longueuil
Maple Lyn Foods Ltd. – Strathroy	Dallaire Spécialités inc. – Rouyn-Noranda	Good Taste Food Products Inc. – Scarborough
Oeufs Bec-O inc. (Les) – Upton	Dare Foods Limited – Toronto	Green Mountain Gardens – Stoney Creek
C & M Seeds – Palmerston	Dainty Foods – Division of MRRM (Canada) Inc. – Windsor	Greenfield Gardens (Niagara) Inc. – Fenwick
Café Vittoria inc. – Sherbrooke	Dairytown Products Ltd. – Sussex	Greenwood Mushroom Farm – Ashburn, Greenwood
Campbell Company of Canada – Listowel, Toronto	Debono Greenhouses Limited – Waterford	Gregory Greenhouses Inc. – St. Catharines
Canada Bread Company Ltd. – Beauport, Calgary, Chicoutimi, Concord, Delta, Edmonton, Etobicoke, Grand Falls, Hamilton, Langley, Laval, Levis, London, Moncton, Mont-Laurier, Montréal, North Bay, Quebec, Scarborough, Saint-Côme-Linière, St. John's, Toronto, Woodstock	Del Sol Greenhouses Inc. – Kingsville	Griffith Laboratories Ltd. – Toronto
Canada Malting Co. Ltd. – Montréal	Devan Greenhouses Ltd. – Abbotsford	Gull Valley Greenhouses – Blackfalds
Canadian Organic Maple Co. Ltd. – Bath	Diageo Canada Inc. – Gimli	H.J. Heinz Company of Canada Ltd. – Leamington
Cantor Bakery – Montréal	Domric International Ltd. – Ruthven	Handi Foods Ltd. – Weston
Canyon Creek Soup Company Ltd. – Edmonton	Don Chapman Farms Ltd./Lakeview Vegetable Processing Inc. – Queensville	Hanemaayer Greenhouses – Vineland Station
Cargill Animal Nutrition – Camrose, Lethbridge	Dr. Oetker Canada Ltd. – Mississauga	Hans Dairy Inc. – Toronto
Cargill Foods – High River, Toronto	Dykstra Greenhouses – St. Catharines	Harster Greenhouses Inc. – Dundas
Cargill Limited – Winnipeg, Sarnia	E.D. Smith and Sons LP – Seaforth, Winoma	Heritage Frozen Foods Ltd. – Edmonton
Cargill Aghorizons – Melbourne, Albright, Brandon, Canora, Dauphin, Edmonton, Elm Creek, Lethbridge, Nicklen Siding, North Battleford, Princeton, Rosetown, Rycroft, Shetland, Staples, Strathroy, Talbotville, Vegreville, Winnipeg, Yorkton	East Side Acres – Leamington	Hillside Hothouse Ltd. – Ruthven
Cargill Meats Canada – London	Ed Sobkowich Greenhouses – Grimsby	Hiram Walker & Sons Limited – Windsor
Cargill Meat Solutions – Guelph	Elmira Poultry Inc. – Waterloo	Homeland Grain Inc. – Burgessville
Casa Italia Ltd. – Brampton, Port Colborne	Enniskillen Pepper Co. Ltd. – Petrolia	Houweling Nurseries Ltd. – Delta
Cavendish Farms – New Annan	Erievue Acres Inc. – Kingsville, Leamington	Hq Fine Foods – Edmonton
Cedar Beach Acres Ltd. – Kingsville	Exceldor Coopérative Avicole – Saint-Anselme	HSF Foods Ltd. – Centreville
Cedar Field Greenhouses Ltd. – Freulton	Family Muffins & Desserts Inc. – Sherwood Park	Hubberts Industries – Brampton
1573903 Ontario Ltd. o/a Cedarline Greenhouses – Dresden	Fancy Pokket Corporation – Moncton	Humpty Dumpty Snack Foods Inc. – Summerside
Central Alberta Greenhouses Ltd. – Blackfalds	Federated Co-operatives Limited – Saskatoon	Ice River Springs Water Co. Inc. – Feversham
Cericola Farms Inc. – Bradford	Reif Estate Winery Inc. – Niagara-on-the-Lake	Icewater Seafoods Inc. – Arnold's Cove
Sure Fresh Foods Inc. – Bradford	Ferme Daichemin s.e.n.c. – Saint-Damase, Saint-Pie	Imperial Tobacco Canada Ltd. – Montréal
Champion Feed Services Ltd. – Barrhead	Ferme Gilles et Francine Lahaie enr. – Saint-Michel-de-Napierreville	Inovata Foods Corp. – Edmonton
Champion Petfoods Ltd. – Morinville	Ferme Hum-An-Son – Saint-Malachie	Jadee Meat Products Ltd. – Beamsville
Charles A. Heckel Holdings Ltd. o/a Johnson Greenhouses & Garden Centre – Peterborough	Ferme La Rouquine inc. – Chicoutimi	Jayden Floral – Dunnville
Clearwater Seafoods Limited Partnership – Bedford	Fermes Lufa inc. (Les) – Montréal	Jeffery's Greenhouses Plant II Limited – Jordan Station
Clearwater Lobsters Ltd. – Arichat, Clark's Harbour	Fernlea Flowers Limited – Delhi	Jeffery's Greenhouses Inc. – St. Catharines
Continental Seafoods – Shelburne	Fishery Products International Limited – St. John's, Port Union, Triton	617885 Ontario Ltd. o/a Jem Farms – Ruthven
Grand Bank Seafoods – Grand Bank	1266094 Ontario Limited o/a Five Star Farms – Ruthven	John Kouwenberg Floral Inc. o/a Foliara – Beamsville
Highland Fisheries – Glace Bay	Fleischmann's Yeast – Calgary	Jolly Farmer Products Inc. – Northampton
Pierce Fisheries – Lockport	Flora Park Inc. – Sherrington	JTI-Macdonald Corp. – Montréal
St. Anthony Seafoods Limited – Partnership – St. Anthony	1600798 Ontario Inc. – Flower Ranch (The) – Strathroy, London	Kapital Produce Limited – Leamington, Ruthven
Coca-Cola Refreshments Canada – Toronto, Calgary	Freeze-Dry Foods Limited – Oakville	Kejay Farms Inc. – Chatham
Cold Springs Farm Limited – Thamesford	Fresh Sprout International Ltd. – Mississauga	Kern Water Systems Inc. – Sarnia
Colonial Florists Ltd. – St. Catharines	Freshwater Fisheries Society of BC – Victoria	Kraft Canada Inc. – Ville Mont-Royal, Chambly, East York, Toronto
Commercial Alcohols Inc. – Toronto, Brampton	Clearwater Trout Hatchery – Clearwater	Kraft Canada Inc. – Biscuiterie Montréal – Montréal
Compagnie Allan Candy (La) – Granby	Fraser Valley Trout Hatchery – Abbotsford	Kraft Foods Inc. – Toronto
Conestoga Meat Packers Ltd. – Breslau	Kootenay Trout Hatchery – Fort Steele	Cadbury – Toronto
Connors Bros. – Blacks Harbour	Summerland Trout Hatchery – Summerland	Kuyvenhoven Greenhouses Inc. – Brampton, Halton Hills
Continental Mushroom Corporation (1989) Ltd. – Metcalfe	Vancouver Island Trout Hatchery – Duncan	La Coop Fédérée – Montréal, Joliette, Saint-Romuald
Cornies Farms Limited – Kingsville	Freybe Gourmet Foods Ltd. – Langley	Comax Coopérative Agricole – Saint-Hyacinthe
CosMic Plants Inc. – Beamsville	Frisia Flora Greenhouses – Beamsville	Société Coopérative Agricole des Bois-Francis – Victoriaville
County Grower Greenhouse – Medicine Hat	Frito Lay Canada – Mississauga, Ancaster, Cambridge, Lethbridge, Lévis, New Minas, Pointe-Claire, Taber	La Corporation d'aliments Ronzoni du Canada – Montréal
	Froese Vegetables Inc. – Vienna	La Rocca Creative Cakes – Thornhill
	Furlani's Food Corporation – Mississauga	Landmark Feed Inc. – Abbotsford, Brossard, Claresholm, Landmark, Medicine Hat, Otterburne, Rosenort, Strathmore, Winnipeg
	G.E. Barbour Inc. – Sussex	Laprise Farms Ltd. – Pain Court
	Ganong Bros. Limited – St. Stephen	

Larsen Foods – <i>Berwick</i>	Menu Foods – <i>Streetsville</i>	Pepsi-Cola Canada Beverages – <i>Mississauga</i>
Lassonde Beverages Canada – <i>Toronto</i>	Meyers Fruit Farms and Greenhouses – <i>Niagara-on-the-Lake</i>	PepsiCo Foods Canada Inc. – <i>Peterborough, Trenton</i>
Leahy Orchards Inc. – <i>Franklin, Saint-Antoine Abbé</i>	Minor Bros. Farm Supply Ltd. – <i>Dunnville</i>	Petite Bretonne inc. (La) – <i>Blainville</i>
Legacy Cold Storage Ltd. – <i>Chilliwack</i>	Mitchell's Gourmet Foods Inc. – <i>Saskatoon</i>	Planet Bean Coffee Inc. – <i>Guelph</i>
Legal Alfalfa Products Ltd. – <i>Legal</i>	Montréal Pita inc. – <i>Montréal</i>	Poinsettia Plantation (The) – <i>Bothwell</i>
Les Aliments Dare limitée – <i>Sainte-Martine</i>	Mother Parkers Tea & Coffee Inc. – <i>Ajax, Mississauga</i>	Prairie Mushrooms (1992) Ltd. – <i>Sherwood Park</i>
Les Cuisines Gaspésiennes Ltée – <i>Matane</i>	Mt. Lehman Greenhouses (1999) Ltd. – <i>Mt. Lehman</i>	Prism Farms Ltd. – <i>Leamington</i>
Les Distilleries Schenley inc. – <i>Salaberry-de-Valleyfield</i>	Mucci Farms Ltd. – <i>Kingsville</i>	Production Serres Yargeau inc. – <i>Sherbrooke</i>
Les Jardiniers du chef – <i>Blainville</i>	Nadeau Poultry Farm Ltd. – <i>Saint-François-de-Madawaska</i>	Produits Alimentaires Viau inc. (Les) – <i>Montréal-Nord</i>
Les Luzernes Belcan du Lac Saint-Jean inc. – <i>Hébertville Station</i>	Nanticoke Greenhouses Limited – <i>Simcoe</i>	Pyramid Farms Ltd. – <i>Leamington</i>
Les Oeufs d'Or – <i>Val d'Or</i>	Nature Fresh Farms – <i>Leamington</i>	Quark Farms Ltd. – <i>Mossbank</i>
Les Productions Horticoles Demers inc. – <i>Saint-Nicolas</i>	Nature's Finest Produce Ltd. – <i>Pain Court</i>	Redpath Sugar Ltd. – <i>Toronto</i>
Les produits Zinda Canada inc. – <i>Candiac</i>	Nestlé Canada Inc. – <i>Chesterville, Edmonton, North York, Rexdale, Scarborough, Sherbrooke, Toronto, Trenton</i>	Regal Greenhouses Inc. – <i>Virgil</i>
Les Serres Daniel Lemieux inc. – <i>Saint-Rémi</i>	Nestlé Professional – <i>Trenton</i>	Reinhart Foods Limited – <i>Stayner</i>
Les Serres Florinove – <i>Saint-Paulin</i>	Nestlé Purina PetCare – <i>Mississauga</i>	Rekker Gardens Ltd. – <i>Bowmanville</i>
Les Serres Gola – <i>Mont Saint-Grégoire</i>	Nestlé Waters Canada – <i>Guelph</i>	Rich Products of Canada Limited – <i>Fort Erie</i>
Les Serres Granby inc. – <i>Granby</i>	1384380 Alberta Ltd. o/a New West Milling – <i>Bassano</i>	RoL-land Farms Limited – <i>Campbellville</i>
Les Serres Maedler (1989) inc. – <i>Nyon</i>	Nicol Florist Ltd. – <i>Brantford</i>	Rootham's Gourmet Preserves Ltd. – <i>Guelph</i>
Les Serres R. Bergeron inc. – <i>Saint-Apollinaire</i>	Noël Wilson & Fils S.N.C. – <i>Saint-Rémi</i>	Rosa Flora Limited – <i>Dunnville</i>
Les Serres Riel inc. – <i>Saint-Rémi</i>	Norfolk Fruit Growers' Association (The) – <i>Simcoe</i>	Rothmans, Benson & Hedges Inc. – <i>North York</i>
Les Serres Sagami (2000) inc. – <i>Chicoutimi, Sainte-Sophie</i>	Norfolk Greenhouses Inc. – <i>Courland</i>	Rothsay – <i>Dundas, Moorefield, Québec, Saint-Boniface, Truro</i>
Les Serres Nouvelles Cultures inc. – <i>Sainte-Sophie</i>	Norman Jobin Farms – <i>Maidstone</i>	Rothsay, A member of Maple Leaf Foods Inc. – <i>Winnipeg</i>
Les Serres Serge Dupuis – <i>Saint-Élie-de-Caxton</i>	Northern Alberta Processing Co. – <i>Edmonton</i>	Round Hill Poultry Limited – <i>Roundhill</i>
Les Serres Saint-Benoît-du-Lac inc. – <i>Austin</i>	Northumberland Co-operative Limited – <i>Miramichi</i>	Sakai Spice (Canada) Corporation – <i>Lethbridge</i>
Les Viandes du Breton inc. – <i>Rivière-du-Loup</i>	Nunavut Development Corporation – <i>Rankin Inlet</i>	4525663 Canada Inc. o/a Les Salaison Desco inc. – <i>Boisbriand</i>
Lilydale Cooperative Ltd. – <i>Edmonton</i>	Kitikmeot Foods Ltd. – <i>Cambridge Bay</i>	Sanimax ACL inc. – <i>Lévis</i>
Lindy's Flowers – <i>Dunnville</i>	Kivalliq Arctic Foods Ltd. – <i>Rankin Inlet</i>	Sanimax Lom inc. – <i>Montréal</i>
Link Greenhouses – <i>Bowmanville</i>	Pangnirtung Fisheries Ltd. – <i>Pangnirtung</i>	Scotia Garden Seafood Inc. – <i>Yarmouth</i>
Linwell Gardens Ltd. – <i>Beamsville</i>	Oakrun Farm Bakery Ltd. – <i>Ancaster</i>	Scotian Halibut Limited – <i>Clarks Harbour, Lower Woods Harbour</i>
Lucerne Foods – <i>Calgary</i>	Ocean Legacy – <i>L'Étang</i>	Schenck Farms & Greenhouses Co. Limited – <i>St. Catharines</i>
Lyalta Gardens – <i>Lyalta</i>	Ocean Nutrition Canada Ltd. – <i>Dartmouth</i>	Schneider Foods – <i>Ayr, Mississauga, Port Perry, St. Marys, Toronto</i>
Lyo-San inc. – <i>Lachute</i>	Okanagan North Growers Cooperative – <i>Winfield</i>	Schuurman Greenhouses Ltd. – <i>Branchton</i>
Madelimer inc. – <i>Grande-Entrée</i>	Old Dutch Foods Ltd. – <i>Winnipeg</i>	Scotsburn Co-Operatives Services Ltd. – <i>Truro</i>
Maidstone Bakeries Co. – <i>Brantford</i>	Olymel S.E.C. / LP – <i>Red Deer</i>	Scott Street Greenhouses Ltd. – <i>St. Davids</i>
Maison des Futailles – <i>Saint-Hyacinthe</i>	Olymel S.E.C. – <i>Berthierville, Anjou, Brampton, Iberville, Saint-Hyacinthe, Trois-Rivières, Saint-Damase, Saint-Jean-sur-Richelieu</i>	Select Food Products Limited – <i>Toronto</i>
Malteurop Canada Ltd. – <i>Winnipeg</i>	Aliments Prince S.E.C. – <i>Princeville, Cornwall</i>	Sepallo Operations LP – <i>Barrhead</i>
Maple Leaf Consumer Foods Inc. – <i>Hamilton, Laval, Lethbridge, Mississauga, North Battleford, Surrey, Weston, Winnipeg</i>	Machinerie Olymel (1998) inc. – <i>Saint-Valérien-de-Milton</i>	Sepp's Gourmet Foods Ltd. – <i>Delta, Richmond Hill</i>
Maple Leaf Foods Inc. – <i>Burlington, Kitchener</i>	Unidondon inc. – <i>Saint-Jean-Baptiste</i>	Serres du Marais, inc. (Les) – <i>Sainte-Martine</i>
Maple Leaf Fresh Foods – <i>Brandon, Burlington, Charlottetown, Lethbridge, Stoney Creek, New Hamburg, Toronto, Wataskiwin</i>	Omstead Foods Limited – <i>Wheatley</i>	Serres Sylvain Cléroux (Québec) inc. (Les) – <i>Laval</i>
Maple Lodge Farms Ltd. – <i>Norval</i>	OrangeLine Farms Limited – <i>Leamington</i>	Shah Trading Company Limited – <i>Scarborough, Port Williams, Saint-Félix-de-Valois, Saint-Hugues, Saint-Hyacinthe, St. Marys, Saint-Romuald, Stevensville, Summerside, Sussex, Truro, Weston, Yamachiche</i>
Marcel Depratto inc. – <i>Saint-Louis-de-Richelieu</i>	Orchard Park Growers Ltd. – <i>St. Catharines</i>	Sifto Canada Corporation – <i>Goderich Evaporator Plant – Goderich</i>
Marish Greenhouses – <i>Dunnville</i>	Otter Valley Foods Inc. – <i>Tillsonburg</i>	Simplot Canada (II) Limited – <i>Portage La Prairie</i>
Mars Canada Inc. – <i>Bolton, Newmarket</i>	Oxford Frozen Foods Limited – <i>Oxford</i>	Sofina Foods Inc. – <i>London</i>
Marsan Foods Limited – <i>Toronto</i>	Hillaton Foods – <i>Port Williams</i>	Soil Less Growing Systems Inc. – <i>Calgary</i>
Mastron Enterprises Ltd. – <i>Kingsville</i>	P. Ravensbergen & Sons. Ltd. – <i>Smithville</i>	Southshore Greenhouses Inc. – <i>Kingsville</i>
Mastronardi Estate Winery – <i>Kingsville, Grand Falls</i>	Palmerston Grain – <i>Palmerston</i>	Sovereign Farms – <i>Waterford</i>
McCain Foods (Canada) – <i>Portage la Prairie, Borden-Carleton, Carberry, Mississauga, Toronto</i>	Paradise Hill Farms Inc. – <i>Nanton</i>	Spring Valley Gardens Niagara Inc. – <i>St. Catharines</i>
Wong Wing – Division of McCain Foods Limited – <i>Montréal</i>	Paradise Island Foods Inc. – <i>Nanaimo</i>	St. David's Hydroponics Ltd. – <i>Niagara-on-the-Lake, Beamsville</i>
Charcuterie la Tour Eiffel – Division of McCain Foods Limited – <i>Québec, Blainville</i>	Parrish & Heimbecker Limited – <i>Glencoe</i>	
	Parkway Gardens Ltd. – <i>London</i>	
	Pelee Hydroponics – <i>Leamington</i>	
	Pepe's Mexican Foods Inc. – <i>Etobicoke</i>	
	Peppertree Greenhouses Ltd. – <i>Tupperville</i>	

Stag's Hollow Winery and Vineyard Ltd. – *Okanagan Falls*

Stratus Vineyards Limited – *Niagara-on-the-Lake*

Streef Produce Ltd. – *Princeton*

Sucre Lantic Limitée – *Montréal*

1710086 Ontario Limited o/a Sun Harvest Greenhouses – *Glenburnie*

Sunshine Express Garden Centre Ltd. – *Niagara-on-the-Lake*

Suntech Greenhouses Ltd. – *Manotick*

Sunny Crunch Foods Ltd. – *Markham*

Sunrise Bakery Ltd. – *Edmonton*

Sunrise Farms Limited – *Kingsville, Leamington*

Sunrise Greenhouses Ltd. – *Vineland Station*

Sunrite Greenhouses Ltd. – *Kingsville, Wheatley*

Sun-Rype Products Ltd. – *Kelowna*

SunSelect Produce (Delta) Inc. – *Aldergrove, Delta*

Sunshine Peaks – *Leamington*

Sunterra Meats Ltd. – *Trochu*

Sunwold Farms Ltd. – *Acme*
Largie Farm – *Dutton*
Peterborough Farms – *Indian River*

Sysco Canada, Inc. – *Acheson, Calgary, Etobicoke, Lakeside, Kelowna, Kingston, Langford, Milton, Mississauga, Moncton, Montréal, Mount Pearl, Peterborough, Port Coquitlam, Regina, Thunder Bay, Toronto, Vancouver, Winnipeg*

Target Marine Products Ltd. – *Sechelt*

Thomson Meats Ltd. – *Melfort*

Tidal Organics Inc. – *Pubnico*

Transfeeder Inc. – *Olds*

Trevisanatto's Greenhouses – *Thunder Bay*

Trophy Foods Inc. – *Calgary*

Unifeed & Premix – *Lethbridge*

Unilever Canada – *Rexdale, Brampton*

968502 Ontario Inc. o/a United Floral Greenhouse – *Fenwick*

Valleyview Gardens – *Scarborough, Markham*

Van Geest Bros. Limited – *Grimsby, St. Catharines*

Van Houtte S.E.C. – *Montréal*

Van Noort Florists – *Niagara-on-the-Lake*

Vandermeer Greenhouses Ltd. – *Niagara-on-the-Lake*

Vandermeer Nursery Ltd. – *Ajax*

Van Vliet Greenhouses Inc. – *Fenwick*

VanZanten Greenhouses – *Fenwick*

Veri Hydroponics Inc. – *Exeter*

Vermeer's Greenhouses – *Welland*

Versacold Corporation – *Vancouver*

Viandes Kamouraska Inc. – *Saint-Pascal*

Vincor International Inc. – *Niagara Falls*

Virgil Greenhouses Ltd. – *Niagara-on-the-Lake*

Viterra Inc. o/a SWP – *Thunder Bay Terminal Elevator – Viterra "A" – Thunder Bay*
Viterra Inc. o/a SWP – *Thunder Bay Terminal Elevator – Viterra "B" – Thunder Bay*
Viterra Food Processing – *Barrhead*

Vitoeuf inc. – *Saint-Hyacinthe*

Voogt Greenhouses Inc. – *Niagara-on-the-Lake*

Voortman Cookies Ltd. – *Burlington*

Young Street Gardens Ltd. – *Smithville*

W.J. O'Neil & Sons Ltd. – *Maidstone*

W.T. Lynch Foods Limited – *Toronto*

W. Martens Greenhouses Inc. – *Leamington*

Waldan Gardens – *Wainfleet*

Waterloo Flowers Limited – *Breslau*

Weesjes Greenhouses Ltd. – *St. Thomas*

Westland Greenhouses (Jordan) Ltd. – *Jordan Station*

Weston Foods Inc. – *Etobicoke*
Weston Bakeries Limited – *Toronto, Kingston, Kitchener, Orillia, Ottawa, Sudbury, Winnipeg*

Bronson Bakery Limited – *Ottawa*

Crissa Bakery – *Barrie*

Golden Mill Bakery – *Hamilton*

Pepe's Mexican Foods Inc. – *Etobicoke*

Sir Bagel – *Concord*

Weston Fruit Cake Co. – *Cobourg*

Ready Bake Foods Inc. – *Mississauga*

Maplehurst Bakeries Inc. – *Brampton*

Willow Spring Hydroponics Farms Ltd. – *Bothwell*

Willy Haeck et Fils Inc. – *Saint-Rémi*

Willy's Greenhouses Ltd. – *Niagara-on-the-Lake*

Windset Greenhouses Ltd. – *Delta*

Witzke's Greenhouses Ltd. – *Courtice*

Woodhill Greenhouses Inc. – *Lynden*

Foundry

Ancast Industries Ltd. – *Winnipeg*

Bibby-Ste-Croix, Division Tuyauterie Canada Limitée – *Sainte-Croix*

Breyer Casting Technologies Inc. – *Brampton*

Canadian Specialty Castings Incorporated – *Niagara Falls*

Century Pacific Foundry Ltd. – *Surrey*

Crowe Foundry Limited – *Cambridge*

Deloro Stellite Inc. – *Belleville*

Elkem Métal Canada inc. – *Chicoutimi*

ESCO Limited – *Port Coquitlam, Port Hope*

Gamma Foundries Limited – *Richmond Hill*

Grenville Castings Limited – *Merrickville, Perth, Smiths Falls*

J & K Die Casting Ltd. – *Scarborough*

M.A. Steel Foundry Ltd. – *Calgary*

Magotteaux Itée – *Magog*

Mueller Canada – *Saint-Jérôme*

Norcast Castings Company Ltd. – *Mont-Joli*

Ramsden Industries Limited – *London*

Royal Canadian Mint – *Winnipeg*

Supreme Tooling Group – *Toronto*

Vehcom Manufacturing – *Guelph*

Wabi Iron & Steel Corporation – *New Liskeard*

Wabtec Foundry – *Div. of Wabtec Canada Inc. – Wallaceburg*

General Manufacturing

2527-4572 Québec inc. (Les Serres Bergeron) – *Notre-Dame-du-Laus, Notre-Dame-de-la-Salette*

30852030 Québec inc. (Serres Maryvon) – *L'Ascension*

3M Canada Company – *London, Brockville, Etobicoke, Morden, Perth*

A1 Label Inc. – *Toronto*

ABCO Industries Limited – *Lunenburg*

Aberfoyle Metal Treaters Ltd. – *Guelph*

Acuity Innovative Solutions – *Richmond Hill*

Acadian Platers Company Limited – *Etobicoke*

Accuride Canada Inc. – *London*

Active Burgess Mould & Design Ltd. – *Windsor*

Advanced Ag and Industrial Ltd. – *Biggar*

AeroTek Manufacturing Limited – *Whitby*

AirBoss Produits d'Ingénierie inc. – *Acton Vale*

Airex Industries inc. – *Montréal, Drummondville, Mississauga*

Airia Brands Inc. – *London*

Airtek Systems Inc. – *Edmonton*

Airworks Compressors Corp. – *Edmonton*

Alfield Industries, Division of Rea International Inc. – *Woodbridge*

Aluminum Surface Technologies – *Burlington*

American Color Graphics Inc. – *Stevensville*

Anchor Lamina Inc. – *Cambridge, Mississauga, Windsor*
Anchor Lamina Inc. – *Reliance Fabrications – Tilbury*

A.P. Plasman Inc. – *Tecumseh, Tilbury, Windsor*

APC Coatings Limited – *Dartmouth*

A.R. Thomson Group – *Edmonton*

Armtec Limited Partnership – *Woodstock, Guelph*

Art Design International inc. – *Saint-Hubert*

Artopex Plus inc. – *Granby, Laval*

Arva Industries Inc. – *St. Thomas*

Associated Tube Industries – *Markham*

Atlas Industries Ltd. – *Saskatoon*

Automatic Coating Limited – *Scarborough*

Babcock & Wilcox Canada Ltd. – *Cambridge*

Baron Metal Industries Inc. – *Woodbridge*

BASF The Chemical Company – *Georgetown*

Batteries Power (Iberville) Itée – *Saint-Jean-sur-Richelieu*

B.C. Instruments – *Schomberg, Barrie*

Belvedere International Inc. – *Mississauga*

Bentofix Technologies Inc. – *Barrie*

Bernard Breton inc. – *Saint-Narcisse-de-Beaurivage*

Best Color Press Limited – *Vancouver*

Blount Canada Ltd. – *Guelph*

Borden Cold Storage Limited – *Kitchener*

Bosch Rexroth Canada Corp. – *Welland*

Bourgault Industries Ltd. – *St. Brieux*

Braam's Custom Cabinets – *St. Thomas*

Brampton Engineering Inc. – *Brampton*

Brant Corrosion Control Inc. – *Brantford*

Brawo Brassworking Ltd. – *Burk's Falls*

BRC Business Enterprises Ltd. – *Georgetown*

Broan-Nutone Canada Inc. – *Mississauga*

Builders Furniture Ltd. – *Winnipeg*

Building Products of Canada Corp. – *Edmonton, Pont-Rouge*

Burnco Manufacturing Inc. – *Concord*

Butcher Engineering Enterprises Limited (The) – *Brampton*

Byers Bush Inc. – *Mississauga*

CAE Inc. – *Saint-Laurent*

Camfil Farr (Canada) Inc. – *Laval*

Cam-Slide – *Newmarket*

Canada Mold Technology – Woodstock	Dutch Industries Ltd. – Pilot Butte, Regina	Integrated Mechanical Services Inc. – Stratford
Cancoil Thermal Corporation – Kingston	EHC Global – Oshawa	Integria inc. – Saint-Laurent
Cambridge Brass Inc. – Cambridge	Emballages Alcan Lachine – Lachine	Interface Flooring Systems (Canada) Inc. – Belleville
Cambridge Heat Treating Inc. – Cambridge	Emerson Process Management – Edmonton	J.A. Wilson Display Ltd. – Mississauga
Canada's Best Store Fixtures Inc. – Woodbridge	Engauge Controls Inc. – Lakeshore	JAB Produits Récréatifs inc. – Batiscan
Canada-Datum Moulds Ltd. – Etobicoke	Enstel Manufacturing Inc. – Concord	Jay Ge Electroplating Ltd. – Laval
Canadian Curtis Refrigeration Inc. – Stoney Creek	Entreprises Dauphinais inc. (Les) – Sherbrooke	Jervis B. Webb Company of Canada Ltd. – Hamilton
Canwood Furniture Inc. – Penticton	Envirogard Products Ltd. – Richmond Hill	Jobal Industries Ltd. – Brampton
Carrière Bernier Limitée – Saint-Jean-sur-Richelieu	Ezefflow Inc. – Granby	John Gavel Custom Manufacturing Ltd. – Emo
Carrière Union Ltée – Quebec	Fabrication S Houle inc. – Saint-Germain-de-Grantham	Jones Packaging Inc. – London
Casavant Frères s.e.c. – Saint-Hyacinthe	Fasteners & Fittings Inc. – Milton	JTL Integrated Machine Ltd. – Port Colborne
Cascade Canada Ltd. – Guelph	FBT Inc. – St. Catharines	Juliana Manufacturing Ltd. – Winnipeg
CCL Container Aerosol Division – Penetanguishene	Fileco Inc. – Division of Teknion Furniture Systems – Concord	KelCoatings Limited – London
Cello Products Inc. – Cambridge	Flexstar Packaging Inc. – Richmond	KI Pembroke LP – Pembroke
Centerline (Windsor) Limited – Windsor	Floform Industries Ltd. – Winnipeg, Edmonton	KIK Custom Products – Etobicoke
Centre du Comptoir Sag-Lac inc. – Alma	Custom Countertops Ltd. – Regina, Saskatoon	Franke Kindred Canada Limited – Midland
CertainTeed Gypsum Canada Inc – Mississauga	Fournitures Funéraires Victoriaville inc. – Victoriaville	Kobay Tool & Stampings Inc. – Scarborough
Chandelles Tradition Itée – Laval	Futurtek-Bathurst Tool Inc. – Oakville	Korex Canada – Toronto
ChromeShield Co. – Windsor	Garaga Inc. – Barrie	Korex Don Valley ULC – Toronto
Climatizer Insulation Inc. – Etobicoke	Garant – Saint-François	Kwalita Labels Inc. – Richmond Hill
CMP Advanced Mechanical Solutions (Ottawa) Ltd. – Ottawa	Garland Commercial Ranges Limited – Mississauga	KWH Pipe (Canada) Ltd. – Huntsville, Saskatoon
CMP Solutions Mécaniques Avancée Ltée – Châteauguay	Garrtech Inc – Stoney Creek	Kuntz Electroplating Inc. – Kitchener
CNH Canada Ltd. – Saskatoon	General Dynamics Produits de défense et Systèmes tactiques-Canada Inc. – Saint-Augustin-de-Desmaures	La Compagnie Américaine de Fer et Métaux inc. – Montréal
Colonial Tool Group Inc. – Windsor	Genfoot Inc. – Montréal	Lantz Truck Body Ltd. – Port Williams
Colourific Coatings Ltd. – Mississauga	George A. Wright & Son General Services Inc. – Kingston	Larsen & D'Amico Manufacturing Ltd. – Edmonton
Columbia Industries Limited – Sparwood	Georgia-Pacific Canada, Inc. – Thorold	Laser Impressions Inc. – Saskatoon
Comp-Tech Mfg. Inc. – North York	Global Casegoods Inc. – Concord	Laval Tool & Mould Ltd. – Maidstone
Compact Mould Ltd. – Woodbridge	Global Wood Concepts Ltd. – North York	Lee Valley Tools Ltd. – Ottawa, Carp
Compagnies du Groupe DATA (Les) – Granby	Gosco Valves Inc. – Oakville	Les Distributions Option Kit inc. – Québec
Canada Colors and Chemicals Limited – Plastics Division – Colborne	Gregory Signs & Engraving Ltd. – Vaughan	Les industries Peintek inc. – Chesterville
Conference Cup Ltd. – London	Greif Bros. Canada Inc. – Oakville, Stoney Creek	Les Productions Ranger (1988) inc. – Granby
Control Skateboards Inc. – Saint-Nicolas	Groupe Altech 2003 inc. – Pointe-Claire	Les Technologies Fibrox Itée – Thetford Mines
Corporation Emballages Flexible Sonoco Canada – Terrebonne	Groupe Lacasse inc. – Saint-Pie	968502 Ontario Inc. o/a United Floral Greenhouse – Fenwick
Cosella-Dorken Products Inc. – Beamsville	Gunnar Manufacturing Inc. – Calgary	Linamar Corporation – Guelph
Créations Verbois inc. – Rivière-du-Loup	H. Beck Machinery Ltd. – Windsor	Cemtol Mfg. – division of Linamar Corporation – Guelph
Cristini North America Inc. – Lachute	Hallink RSB Inc. – Cambridge	Skyjack Inc. – Guelph
Crown Metal Packaging Canada LP – Concord, Ville Saint-Laurent	Harber Manufacturing Limited – Fort Erie	Lincoln Electric Company of Canada LP – Toronto
CUMI Canada Inc. – Summerside	Hartmann Canada Inc. – Brantford	L'Oréal Canada inc. – Ville Saint-Laurent
D. Repol Enterprises Inc. – Whitby	Hendrickson Spring – Stratford	Lowe-Martin Group (The) – Ottawa, Mississauga
Data Group of Companies (The) – Brampton, Drummondville, Brockville	Henninger's Diesel Limited – Sudbury	Ludlow Technical Products Canada, Ltd. – Gananoque
Davis Wire Industries Ltd. – Delta	Heritage Memorials Limited – Windsor	Luzenac Incorporated – Timmins
DCR Holdings Inc. – Stoney Creek	Hercules SLR Inc. – Dartmouth	Lyn-Jay Holdings Ltd. o/a Brannon Steel – Brampton
Delta Elevator Co. Ltd. – Kitchener	Hilroy, A Division of MeadWestvaCo Canada LP – Toronto	Macleam Engineering & Marketing Co. Limited – Collingwood
Derma Sciences Canada Inc. – Scarborough	Hitachi Canadian Industries Ltd. – Saskatoon	Magnum Signs Inc. – Kent Bridge
Descor Industries Inc. – Markham	Horst Welding Ltd. – Listowel	Maksteel Service Centre – Mississauga
DEW Engineering and Development Limited – Miramichi, Ottawa	Hurteau & Associés inc. (Fruits & Passion) – Candiac	Manluk Industries Inc. – Wetaskiwin
Dipaolo CNC Retrofit Ltd. – Mississauga	Hydroform Solutions – Brampton	Manor Tool & Die Ltd. – Oldcastle
Display Merchandising Group Inc. – Scarborough	Iafrate Machine Works Limited – Thorold	Mansour Mining Inc. – Sudbury
Dixie Electric Ltd. – Concord	IMAX Corporation – Mississauga	Manufacturier TechCraft inc. – Laval
DK-Spec inc. – Saint-Nicolas	Imprimerie Interweb inc. – Boucherville	Maritime Geothermal Ltd. – Petitcodiac
Dortec Industries – Newmarket	Indal Technologies Inc. – Mississauga	Matériaux Spécialisés Louiseville inc. – Louiseville
Durable Release Coaters Limited – Brampton	Independent Mirror Industries Inc. – Toronto	Maverick Canada Limited – Wallaceburg
Dura-Chrome Limited – Wallaceburg	Industrie Bodco inc. – Saint-François-Xavier	McCabe Steel – a division of Russel Metals Inc. – Stoney Creek
Durham Furniture Inc. – Durham	Industries Graphiques Cameo Crafts Limitée – Montréal	McCloskey International Limited – Peterborough
		MeadWestvaCo Packaging Systems LP – Ajax, Pickering, Toronto

Métal Leetwo Inc. – <i>Pointe-Claire</i>	Powercast Manufacturing inc. – <i>Saint-Eustache</i>	Sixpro inc. – <i>Notre-Dame-du-Bon-Conseil</i>
Metal World Incorporated – <i>Torbay</i>	Premier Horticulture Itée – <i>Rivière-du-Loup</i>	SMS Siemag Ltd. – <i>Oakville</i>
Métalus inc. – <i>Drummondville</i>	Prémoulé Comptoirs – <i>Saint-Augustin-de-Desmaures</i>	Snap-on Tools of Canada Ltd. – <i>Newmarket</i>
Metex Heat Treating Ltd. – <i>Brampton</i>	Prestige Glass International – <i>Elliot Lake</i>	Société Industrielle de décolletage et d'outillage Itée – <i>Granby</i>
Metro Label Company Ltd. – <i>Toronto</i>	PrintWest Communications Ltd. – <i>Regina, Saskatoon</i>	Société Laurentide Inc. – <i>Shawinigan</i>
Metro Label Pacific Ltd. – <i>Langley</i>	Pro-Meubles inc. – <i>Granby</i>	SOFAME Technologies Inc. – <i>Montréal</i>
Métro Jonergin ilnc. – <i>Saint-Hubert</i>	Procter & Gamble Inc. – <i>Belleville</i>	Sonaca NMF Canada – <i>Mirabel</i>
Metroland Printing, Publishing & Distributing – <i>Mississauga</i>	Produits D'Acier Hason inc. (Les) – <i>Berthierville, Lanoraie</i>	Soprema inc. – <i>Drummondville</i>
Meubles Idéal Itée – <i>Saint-Charles-de-Bellechasse</i>	Produits Verriers Novatech inc. (Les) – <i>Sainte-Julie</i>	Soudure Germain Lessard inc. – <i>Boucherville</i>
Meubles Canadel inc. – <i>Louiseville</i>	Créations Vernova inc. (Les) – <i>Sainte-Julie</i>	Spartek Systems – <i>Sylvan Lake</i>
MIRALIS inc. – <i>Saint-Anaclet-de-Lessard</i>	Groupe Verrier Novatech – <i>Sainte-Julie</i>	Spec Furniture Inc. – <i>Toronto</i>
MLT International – <i>Saint-Pie</i>	Portes Novatech inc. – <i>Sainte-Julie</i>	Sportspal Products – <i>North Bay</i>
Mobilier MEQ Itée – <i>La Durantaye</i>	ProFile Industries Ltd. – <i>North York</i>	Steelcase Canada Ltd. – <i>Markham</i>
Moli Industries Ltd. – <i>Calgary</i>	Pullmatic Manufacturing – <i>Unionville</i>	Stepan Canada Inc. – <i>Longford Mills</i>
Momentum – <i>Newmarket</i>	QBD Cooling Systems Inc. – <i>Brampton</i>	Suntech Heat Treating Ltd. – <i>Brampton</i>
Mondo America Inc. – <i>Laval</i>	Railtech Ltd. – <i>Baie d'Urfé</i>	Superior Radiant Products Ltd. – <i>Stoney Creek</i>
Montebello Packaging – <i>Hawkesbury</i>	Ramstar Carbide Tool Inc. – <i>Oldcastle</i>	Supremex inc. – <i>Lasalle, Mississauga</i>
Moore Canada Corporation o/a RR Donnelley – <i>Mississauga, Cowansville, Edmonton, Fergus, Montréal, Oshawa, Scarborough, Trenton, Vancouver</i>	Ready Rivet & Fastener Ltd. – <i>Kitchener</i>	Techform Products Limited – <i>Penetanguishene</i>
MS Gregson div. de RAD Technologies Inc. – <i>Drummondville</i>	Reko International Group Inc. – <i>Oldcastle</i>	Teknion Furniture Systems Ltd. – <i>Toronto</i>
Multy Industries Inc. – <i>North York</i>	Concorde Machine Tool – <i>Tecumseh</i>	Teknion Roy & Breton Inc. – <i>Saint-Romuald</i>
Nahanni Steel Products Inc. o/a Jancox Stampings – <i>Brampton</i>	Reko Tool & Mould (1987) Inc. – <i>Oldcastle</i>	RBlogistek – <i>Saint-Romuald</i>
Nexans Canada Inc. – <i>Montréal-East</i>	Reko Automation & Machine Tool – <i>Tecumseh</i>	RBTek – <i>Saint-Romuald</i>
NODMAN Automation Systems – <i>Rockwood</i>	Resco Canada Inc. – <i>Grenville-sur-la-Rouge</i>	Roy & Breton – <i>Saint-Vallier</i>
Nord Gear Limited – <i>Brampton</i>	Reversomatic Manufacturing Ltd. – <i>Woodbridge</i>	Teknion Concept – <i>Lévis</i>
North American Decal – <i>Markham</i>	Ridgewood Industries Ltd. – <i>Cornwall</i>	Teknion Form – <i>Concord</i>
Northern Industrial Plating Ltd. – <i>Saskatoon</i>	RLD Industries Ltd. – <i>Ottawa</i>	Teknion Québec – <i>Montmagny</i>
Norwest Precision Limited – <i>Weston</i>	Royal Building Technologies – <i>Woodbridge</i>	Thermetco inc. – <i>Montréal</i>
Novanni Stainless Inc. – <i>Coldwater</i>	Royal Dynamics Co. – <i>Woodbridge</i>	Timken Canada LP – <i>St. Thomas</i>
Nutech Brands Inc. – <i>London</i>	Royal Machine Manufacturing Co. – <i>Woodbridge</i>	Times Fiber Canada Limited – <i>Renfrew</i>
Oberthur Jeux et Technologies inc. – <i>Montréal</i>	Royal Window Coverings (Canada) Inc. – <i>Boisbriand</i>	Top Grade Molds Ltd. – <i>Mississauga</i>
OCM Manufacturing – <i>Ottawa</i>	Royalbond Co. – <i>Woodbridge</i>	Tri-Graphic Printing (Ottawa) Ltd. – <i>Ottawa</i>
Oetiker Limited – <i>Alliston</i>	Roxul (West) Inc. – <i>Grand Forks</i>	Tractel Limited – <i>Swingstage Division – Scarborough</i>
O-I Canada Corporation – <i>Montréal</i>	Russel Metals Inc. – <i>Calgary, Mississauga</i>	Tranches Polycor inc. – <i>Saint-Sébastien</i>
Olympic Tool & Die Inc. – <i>Mississauga</i>	McCabe Steel – a division of Russel Metals Inc. – <i>Stoney Creek</i>	TransContinental Interweb Toronto – <i>Mississauga</i>
Owens-Corning – <i>Toronto</i>	Russell Industries – <i>St. Catharines</i>	Imprimerie Interglobe inc. – <i>Beauceville</i>
P. Baillargeon Itée – <i>Saint-Jean-sur-Richelieu</i>	Canadian Babbitt Bearings Ltd. – <i>Brantford</i>	Imprimeries TransContinental S.E.N.C. – <i>Boucherville, Saint-Hyacinthe</i>
Padinox Inc. – <i>Charlottetown, Winsloe</i>	CME Protective Coatings – <i>Sarnia</i>	TransContinental de la Capitale – <i>Québec</i>
Paisley Brick & Tile Co. Ltd. – <i>Paisley</i>	Gudgeon Thermfire International Inc. – <i>London</i>	TransContinental Gagné – <i>Louiseville</i>
Pan-Oston Ltd. – <i>Peterborough</i>	S.A. Armstrong Limited – <i>Scarborough</i>	TransContinental RBW Graphics – <i>Owen Sound</i>
Patt Technologies Inc. – <i>Saint-Eustache</i>	S.C. Johnson and Son, Limited – <i>Brantford</i>	TransContinental Printing 2005 G.P. – <i>Saskatoon</i>
Pavage U.C.P. Inc. – <i>Charlesbourg</i>	Sable Marco inc. – <i>Pont-Rouge</i>	Trenergy Inc. – <i>St. Catharines</i>
Pavex Itée – <i>Jonquière</i>	Sabre Machine Tool Inc. – <i>Oldcastle</i>	Tri-Service Metal Products Inc. – <i>Ajax</i>
Piddi Design Associates Limited – <i>Mississauga</i>	Saint-Gobain Ceramic Materials Canada Inc. – <i>Niagara Falls, Paris</i>	Tube-Fab Ltd. – <i>Mississauga, Charlottetown</i>
Pinnacle Finishing – <i>Chatham</i>	Sandvik Materials Technology, Tube Production Unit, Division of Sandvik Canada Inc.– <i>Arnprior</i>	Tuiles Polycor Inc. – <i>Saint-Sébastien</i>
Pinnacle Mold Inc. – <i>Tecumseh</i>	Sandvik Mining and Construction Canada Inc. – <i>Burlington</i>	Ultramet Industries Inc. – <i>Breslau</i>
Placage Chromex inc. – <i>Sainte-Foy</i>	Sandvik Tamrock Canada Inc. – <i>Lively</i>	Uni-Fab – <i>Oldcastle</i>
Plastiques Cellulaires Polyform inc. – <i>Granby</i>	Sani Métal Itée – <i>Québec</i>	Unifiller Systems Inc. – <i>Delta</i>
Polycor Granite Bussière inc. – <i>Saint-Sébastien</i>	Sarjeant Company Ltd. (The) – <i>Barrie, Orillia</i>	Unimotion-Gear – Division of Magna Powertrain Inc. – <i>Aurora</i>
Polycote Inc. – <i>Concord</i>	Scapa Tapes North America Ltd. – <i>Renfrew</i>	Unique Tool & Gauge Inc. – <i>Windsor</i>
Polytainers Inc. – <i>Toronto</i>	Sher-Wood Hockey inc. – <i>Sherbrooke</i>	Unitrak Corporation Limited – <i>Port Hope</i>
Poudrier Frères Itée – <i>Victoriaville</i>	Shorewood Packaging Corp. – <i>Scarborough</i>	USINATECH Inc. – <i>Melbourne</i>
Poutrelles Delta inc. – <i>Sainte-Marie</i>	Siemens Milltronics Process Instruments Inc. – <i>Peterborough</i>	USNR/Kockums Cancar Company – <i>Plessisville</i>
Powell PowerComm Inc. – <i>Edmonton, Grande Prairie, Hardisty, Lloydminster, Nisku, Olds, Provost</i>	SIHI Pumps Limited – <i>Guelph</i>	VA TECH Ferranti-Packard Transformers Ltd. – <i>Hamilton</i>
	Simmons Canada Inc. – <i>Brampton</i>	Van Wyck Packaging Ltd. – <i>Owen Sound</i>
		Vannatter Group Inc. – <i>Wallaceburg</i>
		Velcro Canada Inc. – <i>Brampton</i>
		VeriForm Incorporated – <i>Cambridge</i>

Vesta Marble & Granite Ltd. – *Ottawa*
 Vibac Canada inc. – *Montréal*
 V.N. Custom Metal Inc. – *North York*
 VicWest Steel – *Oakville*
 Vulcan Contenants (Quebec) Itée – *Lachine*
 Wabash Alloys Mississauga – *Mississauga*
 Waiward Steel Fabricators Ltd. – *Edmonton*
 Watts Water Technologies (Canada) Inc. – *Burlington*
 Walsh Brothers Welding – *Mitchell*
 Web Offset Publications Limited – *Pickering*
 Welland Forge – *Welland*
 Welsh Industrial Manufacturing Inc. – *Stoney Creek*
 Wescam Inc. – *Burlington*
 Wheaton's Woodworking Ltd. – *Berwick*
 Wheeltronic Ltd. – *Mississauga*
 Windham Harvest Specialties Limited – *Simcoe*
 Wolverine Tube (Canada) Inc. – *London*
 Woodman Machine Products Ltd. – *Kingston*
 World Color Press – *Islington, Aurora, Concord, Dartmouth, Edmonton, LaSalle, Port Coquitlam, Richmond Hill*
 YKK Canada Inc. – *Montréal*
 York Label Canada, Ltd. / Étiquette York Canada Itée – *Saint-Laurent*
 ZENON Environmental Inc. – *Oakville*
 Zip Signs Ltd. – *Burlington*

Lime

Carmeuse Beachville (Canada) Limited – *Blind River*
 Carmeuse Lime (Canada) Limited – *Dundas, Ingersoll*
 Chemical Lime Company of Canada Inc. – *Langley*
 Ebel Quarries Inc. – *Wiaton*
 Graymont (NB) Inc. – *Havelock*
 Graymont (QC) Inc. – *Bedford, Boucherville, Joliette, Marbleton*
 Graymont Western Canada Inc. – *Calgary, Richmond (C.O.), Cache Creek Summit Plant – Coleman Exshaw Plant – Exshaw Faulkner Plant – Faulkner*

Mining

Aerosion Ltd. – *Aldersyde*
 ArcelorMittal Mines Canada – *Port-Cartier*
 Barrick Gold Corporation – *Rouyn-Noranda*
 BHP Billiton Diamonds Inc. – *Yellowknife*
 Canadian Salt Company Limited (The) – *Pugwash*
 Construction DJL Inc. – *Boucherville, Bromont Continental, division de Construction DJL inc. – Boucherville, Shawinigan*
 De Beers Canada Inc. – *Toronto, Yellowknife, Timmins*
 Démix Agrégats – *Vareennes*
 Démix Agrégats, une division de Holcim (Canada) inc. – *Laval*
 Douglas Barwick Inc. – *Brockville*
 Goldcorp Inc. – *Vancouver Goldcorp Canada Ltd. – Musselwhite Mine – Thunder Bay Goldcorp Inc. – Porcupine Gold Mine Division – South Porcupine*

Hillsborough Resources Limited – *Campbell River*
 Hudson Bay Mining & Smelting Co. Ltd. – *Flin Flon*
 Hy-Tech Drilling Ltd. – *Saskatoon*
 Iron Ore Company of Canada – *Labrador*
 Johnson Matthey Limited – *Brampton*
 Métallurgie Noranda inc. – *Fonderie Horne – Rouyn-Noranda*
 Mines et exploration Noranda inc. – *Division Matagami – Matagami*
 Mines Wabush – *Sept-Îles*
 Newmont Canada Ltd. – *Marathon*
 Teck Metals Ltd. – *Toronto, Trail*
 Teck Resources Limited – *Vancouver*
 Tourbières Berger Itée (Les) – *Baie Sainte-Anne, Baie-du-Vin*
 Vale Inco – *Toronto, Birchtree, Copper Cliff, Creighton, Garson, McCreedy East, Mississauga, Murray, Port Colborne, Stobie, Thompson, Totter, Victor, Voisey's Bay*
 Williams Operating Corporation – *Hemlo*
 Xstrata Canada Corporation – *Toronto*
 Xstrata Coal Canada Donkin – *Glance Bay*
 Xstrata Copper Canada – *CCR – Montréal Kidd Creek – Timmins Horne – Rouyn-Noranda*
 Xstrata Nickel Canada – *Sudbury Operations – Falconbridge Fraser Mine – Sudbury Fraser Morgan – Sudbury Montcalm – Timmins Nickel Rim – Sudbury Raglan – Nunavik territory Sudbury Mines – Sudbury*
 Xstrata Zinc Canada – *Brunswick Mine – Bathurst Brunswick Smelter – Belledune Fonderie Générale du Canada – Lachine Noranda-Matagami – Matagami CEZ Refinery – Valleyfield*

Oil Sands

Suncor Energy Inc. – *Suncor Group – Sarnia*
 Syncrude Canada Ltd. (Oil Sands) – *Fort McMurray*

Petroleum Products

ABC Rive-Nord inc. – *Labelle*
 Asphalte Générale inc. – *Saint-Pierre*
 BA Blacktop Ltd. – *North Vancouver*
 Bitumar Inc. – *Hamilton, Montréal*
 Canadian Tire Petroleum – *Toronto*
 Chevron Canada Limited – *Vancouver, Burnaby*
 Construction DJL inc. – *Montréal, Carigan, Canton de Hatley, Saint-Bruno Pavages Beau-Bassin, division de Construction DJL inc. – New Richmond, Cascapédia Asphalte Trudeau, division de Construction DJL inc. – Île Perrôt*
 Demix Construction, Une Division de Holcim (Canada) inc. – *Laval*
 Husky Energy Inc. – *Calgary*
 Husky Oil Operations Ltd. – *Rainbow Lake*
 IKO Industries Ltd. – *Brampton, Hawkesbury*
 Imperial Oil Limited – *Calgary*

Imperial Paving Limited – *Abbotsford, Delta, Maple Ridge*
 Inter-Cité Construction Ltée – *Chambord, Québec, Saint-Honoré*
 Irving Oil Limited – *Saint John*
 Location Roland Fortier inc. – *L'Ange-Gardien*
 Pavage Centre Sud du Québec inc. – *Thetford Mines*
 Pavage Roxboro inc. / Roxboro Paving inc. – *Vaudreuil-Dorion, Dorval*
 Pavage Sartigan Itée. – *Saint-Georges*
 Pavages Abénakis Itée – *Saint-Georges Est, Saint-Léon-de-Standon*
 Pavages Chenail inc. (Les) – *Saint-Rémi, Saint-Patrick*
 Petro-Canada – *Calgary*
 Pound-Maker Agventures Ltd. – *Lanigan*
 Safety-Kleen Canada Inc. – *Breslau*
 Shell Canada Limited – *Calgary*
 Sintra inc. – *Région Lanaudière – Saint-Paul Construction B.M.L., Division de Sintra inc. – Lévis Construction B.M.L., Division de Sintra inc. – Sainte-Marie de Beauce Lamothe, division de Sintra inc. – Val d'Or Les Pavages Laurentiens, Div. de Sintra inc. – Rimouski Sintra inc. – Saint-Alphonse de Granby*
 Ultramar Ltée – *Montréal*

Pipelines

Enbridge Pipelines Inc. – *Calgary, Edmonton*
 Floating Pipeline Company (The) – *Halifax, Saint John*

Plastics

1 Source Design Ltd. – *Wallaceburg*
 ABC Group Inc. – *Toronto ABC Plastic Moulding – Brydon, Orlando MSB Plastics Manufacturing Ltd. – Etobicoke PDI Plastics Inc. – Etobicoke Polybottle Group Limited – Edmonton, Vancouver Salga Associates – Concord*
 ADS Groupe Composites Inc. – *Thetford Mines*
 Advanced Panel Products Ltd. – *Nisku*
 AMCOR PET Packaging – *Moncton*
 American Biltrite (Canada) Itée – *Sherbrooke*
 Amhil Enterprises – *Burlington*
 Ani-Mat inc. – *Sherbrooke*
 A.P. Plasman Inc. – *Windsor*
 Armstrong World Industries Canada Ltd. – *Montréal*
 Armtec Limited Partnership – *Orangeville*
 Associated Packaging Enterprises Canada Inc. – *Cambridge*
 Atlantic Packaging Products Ltd. – *Scarborough*
 BainUltra inc. – *Saint-Nicolas*
 Baytech Plastics Inc. – *Midland*
 Berry Plastics Canada Inc. – *Waterloo*
 Berry Plastics – *Belleville*
 Blue Falls Manufacturing Ltd. – *Coleman, Thorsby*
 Cam-Slide – *Newmarket*
 Camoplast Inc. – *Richmond*

Camtac Manufacturing – division of Linamar Holdings Inc. – *Guelph*

Canplas Industries Ltd. – *Barrie*

Cascades Inopak – *Drummondville*

CKF Inc. – *Etobicoke, Langley, Rexdale*

Clorox Company of Canada Ltd. (The) – *Brampton, Orangeville*

Co-Ex-Tec – *Concord*

Compact Mould Ltd. – *Brampton*

D & V Plastics Inc. – *Acton*

DDM Plastics – *Tillsonburg*

Deflex Composite inc. – *Saint-Victor*

Domfoam International inc. – *Saint-Léonard*

Downeast Plastics Ltd. – *Cap-Pelé*

Dura-Tech Industrial & Marine Limited – *Dartmouth*

DynaPlas Ltd. – *Scarborough*

Emballage Saint-Jean Itée – *Saint-Jean-sur-Richelieu*

Emballages Poliastic Inc. – *Granby*

Entreprises Hamelin – Division de Groupe Hamelin Inc. – *Boucherville*

Fabrene Inc. – *North Bay*

Fenplast – *Delson*

Fibres Armtex inc. – *Magog*

Flexahopper Plastics Ltd. – *Lethbridge*

Formica Canada inc. – *Saint-Jean-sur-Richelieu*

FRP Systems Ltd. – *Thunder Bay*

Genpak Limited Partnership – *Mississauga*

Greif Bros. Canada Inc. – *Belleville*

Groupe Accent-Fairchild inc. – *Saint-Laurent*

Groupe RCM inc. – *Yamachiche*

GSW Building Products – *Barrie*

High-Q Design Ltd. – *Edmonton*

Hinspergers Poly Industries Ltd. – *Mississauga*

Horizon Plastics International Inc. – *Cobourg*

Husky Injection Molding Systems Ltd. – *Bolton*

Hymopack Ltd. – *Etobicoke*

Les industries de moulage Polytech inc. – *Granby*

Imaflex Inc. – *Montréal*

3645240 Canada Inc. o/a Industries Nigan (Les) – *Cookshire-Eaton*

Injection Technologies Inc. – *Windsor*

Intertape Polymer Group – *Truro*

IPEX Inc. – *Edmonton, Invader, Langley, L'Assomption, London, Mississauga, Saint-Jacques-de-Montcalm, Saint-Joseph-de-Beauce, Saint-Laurent, Scarborough*

Jacobs & Thompson Inc. – *Weston*

Jokey Plastics North America Inc. – *Goderich*

Kal-Trading Inc. – *Mississauga*

Kohler Canada Co. – *Armstrong*

L-D Tool & Die Inc. – Div. of Madix Engineering Inc. – *Stittsville*

Lefko Produits de Plastiques inc. – *Magog*

Les industries de moulage Polymax – *Granby*

Masternet Ltd. – *Mississauga*

Matrix Packaging Inc. – *Mississauga*

Mold-Masters Limited – *Georgetown*

1674571 Ontario Inc. o/a Molded Plastic Consultants – *Shanty Bay*

Neocon International – *Dartmouth*

Newdon Industries Ltd. – *Fergus*

Newell Rubbermaid – *Calgary, Mississauga*

Nigon Technologies Ltd. – *MacTier*

Norseman Plastics Limited – *Etobicoke*

Nu-Co Plastics – *Blenheim*

Ontario Plastic Container Producers Ltd. – *Brampton*

Pano Cap (Canada) Limited – *Kitchener*

Papp Plastics & Distributing Limited – *Windsor*

Par-Pak Ltd. – *Brampton*

Plastiflex Canada Inc. – *Orangeville*

Plastiques Cascades inc. – *Kingsey Falls*

Plastiques GPR inc. – *Saint-Félix-de-Valois*

Plastiques Novaprofil inc. – *Sainte-Julie*

Plastube inc. – *Granby*

PM Plastics Ltd. – *Windsor*

Polar Plastique Itée – *Montréal*

Pollard Windows Inc. – *Burlington*

Polybrite – *Richmond Hill*

Pultrall Inc. – *Theftford Mines*

Reid Canada Inc. – *Mississauga*

Reinforced Plastic Systems – *Mahone Bay, Minto*

Reliance Products LP – *Winnipeg*

Richards Packaging Inc. – *Etobicoke*

Rochling Engineering Plastics Ltd. – *Orangeville*

Ropak Packaging – *Langley, Oakville, Springhill*

Royal Group Technologies Limited – *Woodbridge*

 Candor Plastics Co. – *Woodbridge*

 Crown Plastics Extrusions Co. – *Woodbridge*

 Dominion Plastics Co. – *Woodbridge*

 Dynast Plastics Co. – *Winnipeg*

 Gracious Living Industries – *Woodbridge*

 Imperial Plastics Co. – *Woodbridge*

 Industrial Plastics – *Saint-Hubert*

 Le-Ron Plastics Inc. – *Surrey*

 Majestic Plastics Co. – *Woodbridge*

 Montréal PVC – *Saint-Laurent*

 Prince Plastics Co. – *Woodbridge*

 Regal Plastics Co. – *Woodbridge*

 Residential Building Products – *Saint-Lambert-de-Lauzon*

 Royal EcoProducts Co. – *Concord*

 Royal Flex-Lox Pipe Limited – *Abbotsford*

 Royal Foam Co. – *Woodbridge*

 Royal Group Resources Co. – *Woodbridge*

 Royal Outdoor Products Co. – *Woodbridge*

 Royal Pipe Co. – *Woodbridge*

 Royal Plastics Co. – *Concord*

 Royal Polymers Limited – *Sarnia*

 Royal Tooling Co. – *Woodbridge*

 Roytec Vinyl – *Woodbridge*

 Thermoplast – *Laval*

 Ultimate Plastics Co. – *Woodbridge*

S & O Plastic – Division of Uniglobe (Canada) Inc. – *Mississauga*

SABIC Specialty Extrusion Canada – *Long Sault*

Silgan Plastics Canada Inc. – *Mississauga, Lachine*

Sonioplastics Inc. – *Boucherville*

Sonoco Flexible Packaging Canada Corporation – *Mississauga*

Soucy Baron Inc. – *Saint-Jérôme*

Tarkett inc. – *Farnham*

Technologies d'extrusion appliquées (Canada) inc. – *Varenes*

Truefoam Limited – *Dartmouth*

Valle Foam Industries Inc. – *Brampton*

Vifan Canada inc. – *Montréal, Lanoraie d'Autra*

Vulsay Industries Ltd. – *Brampton*

W. Ralston (Canada) Inc. – *Brampton*

Winpak Heat Seal Inc. – *Vaudreuil-Dorion*

Winpak Portion Packaging Ltd. – *Toronto*

Woodbridge Foam Corporation – *Woodbridge*

Pulp and Paper

AbitibiBowater inc. – *Montréal, Alma, Amos, Baie-Comeau, Bridgewater, Brooklyn, Clermont, Fort Frances, Girardville, Grand Falls-Windsor, Grand-Mère, Iroquois Falls, Jonquière, Maniwaki, Mistassini, Price, Saint-Félicien, Saint-Raymond, Thorold, Thunder Bay*

Abzac Canada Inc. – *Trois-Rivières, Drummondville*

Alberta-Pacific Forest Industries Inc. – *Boyle*

Atlantic Packaging Products Ltd. – *Agincourt, Brampton, Don Mills, Ingersoll, Mississauga, Scarborough*

Alberta Newsprint Company – *Whitcourt*

British Confectionery Company Limited – *Mount Pearl*

Canfor Pulp Limited Partnership – *Intercontinental – Prince George*

 Northwood – *Prince George*

 Prince George – *Prince George*

Cariboo Pulp and Paper Company Limited – *Quesnel*

Caraustar Industrial & Consumer Products Group – *Kingston*

Cascades inc. – *Kingsey Falls*

 Cascades Boxboard Group – *Montréal, East Angus, Jonquière, Toronto, Mississauga*

 Cascades Fine Paper Group – *Saint-Jérôme, Breakeyville*

 Converting Center – *Saint-Jérôme*

 Cascades Tissue Group – *Candiac, Kingsey Falls, Lachute, Agincourt*

 Cascades Enviropac – *Berthierville, Saint-Césaire*

 Cascades Lupel – *Cap-de-la-Madeleine*

 Cascades Multi-Pro – *Drummondville*

 Cascades East Angus – *East Angus*

 Cascades Papier Kingsey Falls – *Kingsey Falls*

 Cascades Conversion inc. – *Kingsey Falls*

Catalyst Paper Corporation – *Campbell River*

Cie Matériaux de Construction BP Canada (La) – *LaSalle, Joliette*

CKF Hantsport – *Hantsport*

Daishowa-Marubeni International Ltd. – *Peace River*

Domtar Inc. – *Montréal, Dryden, Espanola, Terrebonne, Windsor*

Easy Pack Corporation – *Markham*

Emballages Mitchel-Lincoln Itée – *Saint-Laurent, Drummondville*

 Emballages Festival inc. – *Montréal*

Emballages Smurfit-Stone Canada inc. – *La Tuque*

 Smurfit-Stone – *Pontiac*

Emterra Environmental – *North Vancouver, Surrey*

F.F. Soucy Inc. – *Rivière-du-Loup*
 Greif Bros. Canada Inc. – *LaSalle, Niagara Falls*
 Howe Sound Pulp and Paper Limited Partnership – *Port Mellon*
 Industries Ling inc. – *Warwick*
 Interlake Paper – *St. Catharines*
 Irving Forest Services Limited – *Saint John*
 Irving Paper Ltd. – *Saint John*
 Irving Tissue Corporation – *Dieppe*
 Irving Tissue Inc. – *Dieppe*
 Kord Products Inc. – *Brampton*
 Kruger inc. – *Montréal*
 Corner Brook Pulp & Paper Limited – *Corner Brook*
 Division Emballages – *LaSalle*
 Division Emballages – *Brampton*
 Division Carton – *Montréal*
 Division de Papiers Journal – *Sherbrooke*
 Division Bromptonville – *Sherbrooke*
 Gérard Crête & Fils inc. – *Saint-Séverin-de-Proulxville, Saint-Roch-de-Mekinac*
 Kruger Products Ltd. – *Gatineau, Calgary*
 Manufacturing Region East – *Crabtree, Sherbrooke*
 Manufacturing Resion West – *New Westminster*
 Kruger Wayagamack inc. – *Trois-Rivières*
 Longlac Wood Industries Inc. – *Mississauga*
 Longue-Rive Planing and Drying Mill – *Longue-Rive*
 Produits Kruger Limitée – *Lennoxville*
 Scierie Manic, division de Kruger inc. – *Ragueneau*
 Scierie Parent Inc., division de Kruger Inc. – *Parent*
 Lake Utopia Paper – *Utopia*
 Les Cartons Northrich inc. – *Granby*
 Maritime Paper Products Limited – *Dartmouth*
 Master Packaging Inc. – *Dieppe, Borden-Carleton*
 Neucel Specialty Cellulose – *Port Alice*
 NewPage Port Hawkesbury Limited – *Port Hawkesbury*
 Norampac Inc. – *Saint-Bruno, Burnaby, Cobano, Calgary, Drummondville, Moncton, St. Marys, Vaughn*
 Norampac Lithotech – *Scarborough*
 Norampac – Newfoundland, a Division of Cascades Canada Inc. – *St. John's*
 Norampac Inc. OCD – *Mississauga*
 Norampac inc. – *Viau – Montréal*
 Northern Pulp Nova Scotia Corporation – *Abercrombie*
 Paper Source Converting Mill Corp. – *Granby*
 Papiers White Birch, division Stadacona SEC – *Québec*
 Peterboro Cardboards Limited – *Peterborough*
 Rosmar Litho inc. – *Baie D'Urfé*
 SAC Drummond inc. – *Saint-Germain-de-Grantham*
 Smurfit-Stone Container Canada, L.P. – *Burlington, Guelph, Milton*
 Sonoco Canada Corporation – *Trois-Rivières*
 Tembec Paper Group – *Spruce Falls*
 Terrace Bay Pulp Inc. – *Terrace Bay*

Tolko Industries Ltd. – *Armstrong, Heffley Creek, High Level, High Prairie, Kamloops, Kelowna, Lumby, Meadow Lake, Merritt, Quesnel, Slave Lake, The Pas, Vernon, Williams Lake*
 West Fraser Timber Co. Ltd.
 Eurocan Pulp and Paper Co. – *Kitimat*
 Hinton Pulp – *Hinton*
 Quesnel River Pulp Co. – *Quesnel*
 Slave Lake Pulp Corporation – *Slave Lake*
 Zellstoff Celgar Limited Partnership – *Catelgar*

Rubber

AirBoss Rubber Compounding – *Kitchener*
 Bérou International inc. – *Anjou*
 Brenntag Canada Inc. – *Mississauga*
 Compagnie Henry Canada inc. – *Lachine*
 Cooper-Standard Automotive – *Stratford*
 Fuller Industrial Corporation – *Lively*
 GDx Canada Inc. – *Welland*
 Goodyear Canada Inc. – *Napanee*
 Hamilton Kent – *Toronto*
 Johnsonite Canada Inc. – *Waterloo*
 Lanxess Inc. – *Sarnia*
 Metso Minerals Canada Inc. – *North Bay*
 Michelin North America (Canada) Inc. – *New Glasgow*
 National Rubber Technologies Corp. – *Toronto*
 NGF CANADA Limited – *Guelph*
 Soucy Techno inc. – *Forest Rock*
 Technologies Veyance Canada Inc – *Saint-Alphonse de Granby*
 Trent Rubber Corp. – *Lindsay*
 Waterville TG Inc. – *Waterville*

Steel

Abraham Steel Service Ltd. – *Woodbridge*
 Algoma Steel Inc. – *Sault Ste. Marie*
 AltaSteel Ltd. – *Edmonton*
 ArcelorMittal Dofasco Inc. – *Hamilton*
 ArcelorMittal Montréal inc. – *Contrecoeur-Est – Contrecoeur-Ouest – Hamilton East – Longueuil – Saint-Patrick-Montréal*
 ArcelorMittal Tubular Products – *Woodstock*
 Armtec Limited Partnership – *Guelph*
 Bull Moose Tube Limited – *Burlington*
 Gerdau Ameristeel Corporation – *Cambridge*
 Gerdau Ameristeel Whitby – *Whitby*
 Gerdau Ameristeel Manitoba – *Selkirk*
 Infasco – *Marieville*
 Ivaco Rolling Mills LP – *L'Orignal*
 Laurel Steel – *Burlington*
 Nelson Steel – *Nanticoke, Stoney Creek*
 Nova Tube inc. – *Montréal*
 Ontario Chromium Plating Inc. – *Oakville*
 Peninsula Alloy Inc. – *Stevensville, Fort Erie*
 QIT – Fer et Titane inc. – *Tracy*
 Samuel Plates Sales – *Stoney Creek*
 Spencer Steel Ltd. – *Ilderton*
 U.S. Steel Canada Inc. – *Hamilton, Nanticoke*
 Stelco-AltaSteel Ltd. – *Edmonton*
 Lakeside Steel Corp. – *Welland*

Textiles

Albany International Canada Inc. – *Perth*
 Albarrie Canada Limited – *Barrie*
 American Et Efir Canada Inc. – *Montréal*
 Annabel Canada inc. – *Drummondville*
 AYK Socks Inc. – *Saint-Léonard*
 Barrday Inc. – *Cambridge*
 Beaulieu Canada inc. – *Acton Vale*
 Bennett Fleet (Québec) inc. – *Ville-Vanier*
 Bridgeline Ropes Inc. – *Deseronto*
 Calko (Canada) Inc. – *Montréal, Ville d'Anjou*
 Cambridge Towel Corporation (The) – *Cambridge*
 Canadian General-Tower Limited – *Cambridge*
 Cannon Knitting Mills Limited – *Hamilton*
 Cansew Inc. – *Saint-Michel*
 Collingwood Fabrics Inc. – *Collingwood*
 Colorama Dyeing and Finishing Inc. – *Hawkesbury*
 Consoltex Inc. – *Montréal, Cowansville*
 Délavage National inc. – *Asbestos*
 Dentex – *Montréal*
 Di-tech inc. – *Montréal*
 Dorothea Knitting Mills Limited – *Toronto*
 Doubletex inc. – *Montréal*
 Garlock du Canada Ltée – *Sherbrooke*
 Geo. Sheard Fabrics (1994) Ltd. – *Coaticook*
 Hafner Inc. – *Sherbrooke*
 J.L. de Ball Canada inc. – *Granby*
 Jack Spratt Mfg inc. – *Montréal*
 Kraus Carpet Mills Limited – *Waterloo*
 Strudex Fibres Limited – *Waterloo*
 Lac-Mac Limited – *London*
 Lainages Victor Itée – *Saint-Victor*
 Lanart Rug inc. – *Saint-Jean-sur-Richelieu*
 Les Produits Belt-Tech inc. – *Granby*
 Les Tricots Confort Absolu inc. – *Montréal*
 Lincoln Fabrics Ltd. – *St. Catharines*
 Manufacturier de bas de nylon Doris Itée – *Montréal*
 Marimac Group (The) – *Montréal, Iroquois*
 Modern Dyers – *Hamilton*
 Mondor Itée – *Saint-Jean-sur-Richelieu*
 Montréal Woollens (Canada) Ltd. – *Cambridge*
 Morbern Inc. – *Cornwall*
 PGI-DIFCO Performance Fabrics Inc. – *Magog*
 Prescott Finishing Inc. – *Prescott*
 Rayonese Textile inc. – *Saint-Jérôme*
 Spinrite LP – *Listowel*
 St. Lawrence Corporation – *Iroquois*
 Stanfield's Limited – *Truro*
 Stedfast Inc. – *Granby*
 Téléo & Cie – *Montréal*
 Textiles Monterey (1996) inc. – *Drummondville*
 Vitafoam Products Canada Ltd. – *Downsview*
 VOA Canada Inc. – *Collingwood*
 Waterloo Textiles Limited – *Cambridge*
 Zodiac Fabrics Company – *London*

Transportation Equipment Manufacturing

A.G. Simpson Automotive Inc. – Cambridge, Oshawa, Scarborough

ABC Group Inc. – Toronto

ABC Climate Control Systems Inc. – Toronto

ABC Flexible Engineered Product Inc. – Etobicoke

ABC Group Exterior Systems – Toronto

ABC Group Interior Systems – Toronto

ABC Group Product Development – Toronto

ABC Metal Products Inc. – Toronto

LCF Manufacturing Ltd. – Rexdale

LCF Manufacturing Ltd. – Weston

Aalbers Tool & Mold Inc. – Oldcastle

Affinia Canada ULC – Guelph

Anton Mfg. – Concord

Arcon Metal Processing Inc. – Richmond Hill

ArvinMeritor Canada – Tilbury

Avcorp Industries Inc. – Delta

Aviation Lemex inc. – Saint-Hubert

B & W Heat Treating Canada ULC – Kitchener

Blau Autotec Inc. – Brampton

Bombardier Aerospace – Downsview

Bombardier Aéronautique – Mirabel

Bombardier Produits Récréatifs – Valcourt

Bovern Enterprises Inc. – Markham

Burlington Technologies Inc. – Burlington

Cami Automotive Inc. – Ingersoll

Capital Tool & Design Ltd. – Concord

Chalmers Suspensions International Inc. – Mississauga

Chemin de fer Canadien Pacifique – Montréal

Chrysler Canada Inc. – Windsor

Citerne Almac International inc. – Lanoraie

Corvex Mfg. – division of Linamar Corporation – Guelph

CSI Gear Corporation – Mississauga

DaimlerChrysler Canada Inc. – Brampton, Mississauga

Daimler Buses North America – Mississauga

Daimler Trucks North America – St. Thomas

Dana Canada Corporation – Burlington, Cambridge, Oakville

Dana Thermal Products – Mount Forest

Dortec Industries – Division of Magna International – Newmarket

Dresden Industrial – Rodney, Stratford

Dura-Lite Heat Transfer Products Ltd. – Calgary

DYNA-MIG Mfg. of Stratford Inc. – Stratford

Eston Manufacturing – division of Linamar Corporation – Guelph

Eurocopter Canada Limited – Fort Erie

F & P Mfg., Inc. – Tottenham

Faurecia Automotive Seating – Bradford

Ford Motor Company of Canada, Limited – Oakville, St. Thomas, Windsor

Formet Industries – St. Thomas

GATX Rail Canada – Coteau-du-Lac, Moose Jaw, Red Deer, Rivière-des-Prairies, Sarnia, Montréal

General Motors of Canada Limited – Oshawa, St. Catharines, Windsor

Global Emissions Systems Inc. – Whitby

Glueckler Metal Inc. – Barrie

Groupe Environnemental Labrie – Saint-Alphonse

Halla Climate Control Canada Inc. – Belleville

Hastech Mfg. – Guelph

Héroux Devtek inc. – Longueuil, Scarborough

Kingsville Stamping Ltd. – Kingsville

Hitachi Construction Truck Manufacturing Ltd. – Guelph

Honda of Canada Mfg. – Alliston

Honeywell Limited – Stratford

Lafrate Machine Works Ltd. – Thorold

Lunenburg Industrial Foundry & Engineering – Lunenburg

International Truck and Engine Corporation Canada – Chatham

Jefferson Elora Corporation (JEC) – Elora

Johnson Controls LP – Lakeshore, London, Milton, Mississauga, Orangeville, Shelburne, Tillsonburg

Lear Corporation – Mississauga

Leggett & Platt London – London

Schukra of North America – Lakeshore

Linex Manufacturing – division of Linamar Corporation – Guelph

Litens Automotive Partnership – Woodbridge

LPP Manufacturing – division of Linergy Manufacturing Inc. – Guelph

Mancor Canada Inc. – Oakville

Massiv Die-Form – Brampton

Meritor Suspension Systems Company – Chatham, Milton

Métal Marquis inc. – La Sarre

Modatek Systems – Milton

Montupet Ltée – Rivière-Beaudette

National Steel Car Limited – Hamilton

Nemak of Canada – Windsor

Neptunus Yachts Inc. – St. Catharines

Niagara Piston Inc. – Beamsville

Northstar Aerospace (Canada) Inc. – Milton

NTN Bearing Mfg. Canada – Mississauga

Omron Dualtec Automotive Electronics Inc. – Oakville

Ontario Drive & Gear Limited – New Hamburg

Orenda Aerospace Corporation – Mississauga

Orlick Industries Limited – Hamilton

Pilkington Glass of Canada – Collingwood

Platinum Tool Technologies Inc. – Oldcastle

Portec Produits Ferroviaires Ltée – Saint-Jean-sur-Richelieu

Pratt & Whitney Canada Inc. – Longueuil, Enfield, Saint-Hubert

Presstran Industries – St. Thomas

Prévost Car inc. – Sainte-Claire

Prince Metal Products Ltd. – Windsor

Procor Limited – Oakville, Edmonton, Joffre, Regina, Sarnia

Quadrad Manufacturing – division of Linamar Holdings Inc. – Guelph

Remtec Inc. – Chambly

Roctel Manufacturing – division of Linamar Holdings Inc. – Guelph

Rollstamp Mfg., division of Decoma International Inc. – Concord

Satisfied Brake Products Inc. – Cornwall

Simcoe Parts Service Inc. – Alliston

Spinic Manufacturing – division of Linamar Corporation – Guelph

Stackpole Limited – Mississauga

Standard Aero Ltd. – Winnipeg

STT Technologies Inc. – Concord

Summo Steel Corp. – Burlington

Sydney Coal Railway Inc. – Sydney

Tool-Plas Systems Inc. – Oldcastle

Toral Cast Integrated Technologies – Concord

Toyota Motor Manufacturing Canada Inc. – Cambridge

Traxle Mfg – division of Linamar Corporation – Guelph

TRW Automotive – St. Catharines, Woodstock

TS Tech Canada Inc. – Newmarket

UBE Automotive North America Sarnia Plant, Inc. – Sarnia

Unison Engine Components – Orillia

Vehcom Manufacturing – division of Linamar Corporation – Guelph

Ventra Group Co. – Calgary

Flex-n-Gate Bradford – Bradford

Flex-n-Gate Canada – Tecumseh

Flex-n-Gate Seeburn – Beaverton, Tottenham

Veltri Metal Products – Glencoe, Tecumseh, Windsor

Ventra AFR – Ridgeway

Ventra Plastics Kitchener – Kitchener

Ventra Plastics Windsor – Windsor

Volvo Cars of Canada Ltd. – Toronto

Wallaceburg Preferred Partners – Wallaceburg

Woodbridge Foam Corporation – Mississauga

ZF Heavy Duty Steering Inc. – St. Thomas

Upstream Oil and Gas

AltaGas Services Inc. – Wabasca

Baytex Energy Ltd. – Taber

BP Canada Energy Company – Calgary, Edson, Grande Prairie, Rocky Mountain House

Chevron Canada Resources – Calgary

Connacher Oil and Gas Ltd. – Calgary

ConocoPhillips Canada – Calgary, Atlantic French Corridor, Big Valley, Deep Basin, Edson, Foothills, Jenner, Kaybob/Edson, Mackenzie Delta, Morrin, Northern Plains, Rimbey/O'biese, Southern Plains, Vulcan, Wembley

Crescent Point Energy Trust – Calgary, Sounding Lake

Devon Canada Corporation – Calgary, Central, Deep Basin, Fairview, Foothills, Fort McMurray, Fort St.-John, Lloydminster, NE British Columbia / NW Alberta, Northern Plains, Peace River

Duke Energy Gas Transmission – Calgary, Chetwynd, Fort Nelson, Hope, Mile 117, Mile 126, Pink Mountain, Taylor, Vancouver

Cenovus Energy Inc. – *Calgary*
 Keyera Energy – *Rocky Mountain House*
 Newalta Corporation – *Abbotsford, Airdrie, Amelia, Brooks, Calgary, Cranbrook, Drayton Valley, Drumheller, Eckville, Edmonton, Elkpoint, Fort St. John, Gordondale, Grande Prairie, Halbrite, Hays, Hughenden, Nanaimo, Nisky, Nilton Junction, North Vancouver, Pigeon Lake, Prince George, Raymond, Red Earth, Redwater, Regina, Richmond, Sparwood, Stauffer, Stettler, Surrey, Taber, Valleyview, West Stoddart, Willesden Green, Winfield, Zama*
 Nexen Canada Ltd. – *Calgary*
 Nuvista Energy Ltd. – *Calgary*
 Paramount Resources Ltd. – *Calgary*
 Pengrowth Corporation – *Calgary*
 Penn West Petroleum Ltd. – *Calgary*
 Talisman Energy Inc. – *Calgary, Carlyle, Chauvin (AB), Chauvin (SK), Chetwynd, Edson, Grande Prairie, Lac La Biche, Shaunavon, Turner Valley, Warburg, Windsor*
 TAQA North Ltd. – *Calgary, Niton Junction*

Wood Products

9008-6760 Québec inc. (CDEX) – *Val d'Or*
 AbitibiBowater Inc. – *Bridgewater, Girardville, Maniwaki, Mistassini, Price, Saint-Félicien, Saint-Raymond*
 Baytree Logging Ltd. – *Baytree*
 Bois-Francs Div. de 2730-8303 Québec – *Saint-Phillippe-de-Néri*
 Canfor Corporation – *Vancouver*
 Canadian Forest Products Ltd. – *Bear Lake*
 Coldstream Lumber – *Vernon*
 Columbia Forest Products – *Saint-Casimir*
 Commonwealth Plywood Co. Ltd. – *Lachute, Low, Mont-Laurier, Princeville, Rapides-des-Joachims, Sainte-Thérèse, Shawinigan*
 Corporation Internationale Masonite Inc. (La) – *Berthierville*

Dava Inc. – *Tring Junction*
 Domtar Inc. – *Ear Falls, Elk Lake, Kamloops, Matagami, Nairn Centre, Ostrom, Sainte-Marie, Sault Ste-Marie, Timmins, Val-d'Or Sawmill, Val-d'Or Sullivan Mill, Waswanipi*
 Entreprises Interco inc. – *Saint-Germain-de-Grantham*
 Erie Flooring and Wood Products – *West Lorne*
 Finewood Flooring & Lumber Limited – *Baddeck*
 Fiready Inc. – *Clair*
 Flakeboard Company Limited – *St. Stephen*
 George Guenzler & Sons Inc. – *Kitchener*
 Grant Forest Products Inc. – *Earlton*
 Granules L.G. inc. – *Saint-Félicien*
 Greif Bros. Canada Inc. – *Maple Grove*
 Groupe Lebel (2004) inc. – *Rivière-du-Loup, Cacoua*
 Bois Traitel Itée – *Saint-Joseph de Kamouraska*
 Groupe Savoie inc. – *Saint-Quentin*
 J.H. Huscroft Limited – *Creston*
 Harring Doors Ltd. – *London*
 Industries Maibec inc. – *Saint-Pamphile*
 Interforest Ltd. – *Durham*
 J.D. Irving, Limited – *Saint John, Deersdale*
 K&C Silviculture Ltd. – *Red Deer, Oliver*
 Loger Toys Ltd. – *Brantford*
 Louisiana-Pacific Canada Ltd. – *East River, Bois-Franc, Dawson Creek, Golden, Swan River*
 Madawaska Doors Inc. – *Bolton*
 MacTara Limited – *Upper Musquodoboit*
 Marcel Lauzon inc. – *East Hereford*
 Marwood Ltd. – *Tracyville*
 Matt's Inc. – *Wallaceburg*
 MDF La Baie -inc. – *La Baie*
 Muskoka Timber Mills Limited – *Bracebridge*
 Norbord Inc. – *Plaster Rock*
 Papiers Fraser inc. – *Pâtes Thurso – Thurso*
 Orchard International Inc. – *Mississauga*

Palliser Lumber Sales Ltd. – *Crossfield*
 Perfecta Plywood Itée – *Saint-Hyacinthe*
 Planchers Mercier inc. – *Montmagny*
 Poutres et Poteaux Val-Morin inc. – *Sainte-Agathe-des-Monts*
 Princeton Co-Generation Corporation – *Princeton*
 Rip-O-Bec inc. – *Saint-Apollinaire*
 Riverside Forest Products Limited – *Armstrong*
 Roland Boulanger & Cie Itée. – *Warwick*
 Scierie Girard inc. – *Shipshaw*
 Spécialiste du Bardeau de Cèdre inc. (Le) – *Saint-Prosper*
 Tembec inc. – *Témiscaming*
 Tembec Industries inc. – *Chapleau*
 Tembec-Huntsville Sawmill Division – *Huntsville*
 West Fraser Timber Co. Ltd. – *Vancouver*
 Alberta Plywood Ltd. – *Slave Lake*
 Blue Ridge Lumber – *Whitecourt*
 Chetwynd Forest Industries – *Chetwynd*
 Fraser Lake Sawmills – *Fraser Lake*
 Hinton Wood Products – *Hinton*
 Houston Forest Products – *Houston*
 Northstar Lumber – *Quesnel*
 100 Mile Lumber – *100 Mile House*
 Pacific Inland Resources – *Smithers*
 Quesnel Plywood – *Quesnel*
 Quesnel Sawmill – *Quesnel*
 Ranger Board – *Whitecourt*
 Skeena Sawmills – *Terrace*
 Sundre Forest Products Inc. – *Sundre*
 West Fraser LVL – *Rocky Mountain House*
 West Fraser Mills – *Chasm Division – 70 Mile House*
 West Fraser Mills Ltd. – *Quesnel*
 West Fraser Timber – *Williams Lake*
 WestPine MDF – *Quesnel*
 Williams Lake Plywood – *Williams Lake*

For an up-to-date list of CIPEC Leaders, visit
oee.nrcan.gc.ca/industrial/opportunities/cipecleader/list.cfm.

CIPEC Trade Associations

AEROSPACE INDUSTRIES ASSOCIATION OF CANADA (AIAC)

ALBERTA FOOD PROCESSORS ASSOCIATION (AFPA)

ALLIANCE OF ONTARIO FOOD PROCESSORS ASSOCIATION (AOFPP)

ALUMINUM ASSOCIATION OF CANADA (AAC)

ATLANTIC DAIRY COUNCIL

AUTOMOTIVE PARTS MANUFACTURERS' ASSOCIATION (APMA)

BAKING ASSOCIATION OF CANADA (BAC)

BREWERS ASSOCIATION OF CANADA (BAC)

CANADIAN ASSOCIATION FOR SURFACE FINISHING (CASF)

CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS (CAPP)

CANADIAN CHAMBER OF COMMERCE

CANADIAN CHEMICAL PRODUCERS' ASSOCIATION

CANADIAN CONSTRUCTION ASSOCIATION (CCA)

CANADIAN ELECTRICITY ASSOCIATION (CEA)

CANADIAN ENERGY PIPELINE ASSOCIATION (CEPA)

CANADIAN FEDERATION OF INDEPENDENT GROCERS

CANADIAN FERTILIZER INSTITUTE

CANADIAN FOUNDRY ASSOCIATION

CANADIAN GAS ASSOCIATION (CGA)

CANADIAN LIME INSTITUTE

CANADIAN MANUFACTURERS & EXPORTERS (CME)

CME Alberta Division

CME British Columbia Division

CME Manitoba Division

CME New Brunswick Division

CME Newfoundland and Labrador Division

CME Nova Scotia Division

CME Ontario Division

CME Prince Edward Island Division

CME Quebec Division

CME Saskatchewan Division

CANADIAN MEAT COUNCIL (CMC)

CANADIAN PETROLEUM PRODUCTS INSTITUTE (CPPI)

CANADIAN PLASTICS INDUSTRY ASSOCIATION (CPIA)

CANADIAN STEEL PRODUCERS ASSOCIATION (CSPA)

CANADIAN TEXTILES INSTITUTE (CTI)

CANADIAN VEHICLE MANUFACTURERS' ASSOCIATION (CVMA)

CEMENT ASSOCIATION OF CANADA (CAC)

COUNCIL OF FOREST INDUSTRIES (CFI)

ELECTRO-FEDERATION CANADA

FISHERIES COUNCIL OF CANADA (FCC)

FOOD AND CONSUMER PRODUCTS MANUFACTURERS OF CANADA (FCPC)

FOREST ENGINEERING RESEARCH INSTITUTE OF CANADA (FERIC)

FOREST PRODUCTS ASSOCIATION OF CANADA (FPCA)

FPIINNOVATIONS

MINING ASSOCIATION OF CANADA

NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION (NAIMA CANADA)

ONTARIO AGRI BUSINESS ASSOCIATION (OABA)

PACKAGING ASSOCIATION OF CANADA (PAC)

QUEBEC FOREST INDUSTRY COUNCIL

RUBBER ASSOCIATION OF CANADA

SMALL EXPLORERS AND PRODUCERS ASSOCIATION OF CANADA (SEPAC)

WINE COUNCIL OF ONTARIO (WCO)

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