

Message from the Minister

Since I became Minister of Natural Resources Canada this past June, I have had the opportunity to meet with representatives from most sectors of the Canadian economy who are actively involved in Canada's Climate Change Voluntary Challenge and Registry (VCR) program. I have been impressed with their relentless commitment to the program. From its inception in 1995, the VCR has succeeded in engaging corporate Canada in the climate change challenge, with more than 700 organizations participating. These organizations account for over 70 percent of Canada's greenhouse gas emissions from business and industrial sources.



Over the past year, the VCR has made substantial progress in strengthening the public-private partnership that underlies the voluntary approach. The VCR office has collaborated with industry associations to increase the participation, commitment and results of their members. It also implemented a December 1996 decision of the federal and provincial ministers of energy and the environment to incorporate the VCR as an

independent entity. Canada's Climate Change Voluntary Challenge and Registry (VCR) Inc. was formally incorporated as a not-for-profit corporation, with Mr. Robert Flemington as its President, in October of 1997.

Throughout the year, extensive efforts have gone into the transfer of the program from my department to a stand-alone corporation. I would like to thank the members of the Executive Task Force, who laid the plans for incorporation of the VCR. The task force included federal and provincial Deputy Ministers, industry leaders, and CEOs of major corporations. If the hard work of the task force is any indication, the new VCR Inc. will indeed draw increased commitment and results from both private and public sectors.

We have laid the groundwork for a public-private sector partnership that has the capacity to greatly assist Canada to meet its climate change commitments. The VCR Inc. is a valuable opportunity to take the voluntary approach to a new level of achievement.

Let's work together!

A handwritten signature in black ink, appearing to read 'R. Goodale'.

Ralph Goodale

Minister of Natural Resources Canada

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Executive Summary

Canada's Climate Change Voluntary Challenge and Registry (VCR) program, a key part of Canada's National Action Program on Climate Change, invites Canadian companies and organizations to voluntarily commit to individual actions that limit net greenhouse gas (GHG) emissions. The VCR has been in place since 1995.

The VCR registers participants, records and publishes action plans on its Internet web site and monitors the progress of voluntary reductions by companies and organizations. It has also worked to retain the momentum developed during its first two years.

Restructuring the VCR

In the past year, a significant change in the relationship among the Government, the VCR, its participants, and their organizations has occurred. The VCR has completed its transition from a government program that engages private companies to a true stand-alone private-public partnership.

VCR Incorporated has now been created as a not-for-profit organization funded jointly by government and the private sector. The VCR Incorporated's function is to encourage companies and organizations to take greater accountability for GHG emissions. The office acts as a catalyst to ensure that the overall policy objectives on climate change are met by the private sector through actions that reduce GHG emissions while maintaining optimum economic performance.

Leveraging Sector Leadership

Since the inception of the VCR, the contributions and roles of sector associations have evolved to allow the VCR program greater leverage. Sector associations are uniquely tooled and positioned to reach, persuade and represent their membership.

The number of sector associations involved in the VCR increased from 12 in 1996 to over 20 in 1997. At this point in time, almost every sector of the economy is represented. These associations have either signed Memoranda of Understanding (MOUs), submitted annual reports or committed to provide funding.

Industrial, Commercial and Institutional Programs (ICIP) Division, the Canadian Industry Program for Energy Conservation office (CIPEC) and the VCR program have had a coordinated market-based

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approach to submissions from participants, where energy action plans are submitted to the VCR by Energy Innovator companies. In fact, most VCR registrants became aware of the program as a result of their contact with the range of programs offered by ICIP and the energy efficiency services available from Natural Resources Canada (NRCan) and its allies.

Continually Improving Submissions

The number of organizations registered in the VCR continues to grow. Approximately 700 companies and organizations, representing more than 70% of GHG emissions from the business and industrial sectors, are now registered. This represents an increase of about 10% in participation from October 1996, when just over 600 participants were registered.

Breakdown of Participation by Level of Commitment

Type of Submission	Number in October 1995	Number in October 1996	Number in October 1997
Letters of Intent	475	619	701
Action Plans	94	331	354
Progress Reports	4	88	112

Looking Ahead

Clearly, success and progress have been achieved through the use of voluntary measures. Future achievements from VCR actions already in progress will continue to be demonstrated and recorded in the coming years.

The onus is on participants; they are challenged to continually reach for excellence and build on their own successes and the experiences of others. They are called upon to exceed the best practices and benchmarks in place today.

The upcoming year will bring further improvements to the VCR in its new role as a public-private partnership. VCR Incorporated will pursue the following goals in 1998:



- Engage more participants.
- Increase the commitment of existing members.
- Expand awareness of issues and achievements beyond existing members, within industrial, business and government sectors, and to all Canadians.
- Improve the functionality and utility of the Registry so that participants and the public can easily understand the issues, commitments, and achievements related to reducing GHG emissions.
- Establish a Council of Champions, drawn from Canadian organizations. This “top of the house” group will represent the diversity of leading participants in VCR Incorporated.
- Appoint a board of directors.
- Develop the Technical Advisory Committee to serve as an effective and representative vehicle in achieving solutions leading to further advances in GHG emission reductions and progress evaluation.

To assist in monitoring progress, a new, more rigorous approach to assessing the commitment of VCR participants has been developed to encourage progress from commitment to action.

This report will be used by the Technical Advisory Committee of the VCR Incorporated and its associations to identify their preferred assessment criteria. An overall approach will now need to be finalized for the VCR program at an aggregate level.



1.0 Introduction

1.1 *The Climate Change Issue*

The issue of climate change continues to pose a difficult challenge worldwide. Although the science is still evolving, it is now widely accepted that a discernible human influence on global climate is occurring.¹ The anthropogenic, or man-made, emission of certain gases, primarily carbon dioxide, methane, nitrous oxide and fluorocarbons, produces a “greenhouse” effect that traps heat in the atmosphere beneath the earth’s ozone layer.

At the 1992 Rio Summit, Canada and other developed countries committed to work towards stabilizing greenhouse gas (GHG) emissions at 1990 levels by the year 2000. This challenge has been daunting for most countries, including Canada. Our resource-based, energy-intensive and export-oriented economy is growing, and our population growth, one of the highest in the industrialized world, is increasing our demand for energy.

The international community met at the Third Meeting of the Conference of Parties (COP3) in Kyoto, Japan, in early December 1997 and set GHG emissions reduction targets for the post-2000 period. The Government of Canada agreed to reduce Canada’s GHG emissions by six percent from 1990 levels between 2008 and 2012.

Any commitments made in Kyoto in terms of new goals need to be fully understood and appreciated. Canada did not make commitments beyond those that can be reasonably supported. They are compatible with the country’s capacity to take action.

¹ The United Nations Intergovernmental Panel on Climate Change (IPCC) has provided the most comprehensive and authoritative assessment on the science of climate change, which confirms a discernible human influence on global climate.



INNOVATION

VCR participants are leading the world in developing innovative ways to address the greenhouse gas problem. Research and development will continue to provide solutions to the climate change challenge that will also enable economic sustainability.

“In 1997, NGT was co-winner of the Canadian Energy Pipeline Association’s annual Environmental Achievement Award for managing the impacts on pipeline blowdowns . . . NGT developed and implemented a strategy for reducing noise and emissions resulting from pipeline blowdowns.” **NOVA Corporation**

“Our recently announced Carbon Dioxide Miscible Flood project in Weyburn, Saskatchewan, is designed to inject 18 000 000 tonnes of carbon dioxide into underground reservoirs over the 20-year project life. PanCanadian believes that this project is internationally significant since the carbon dioxide to be injected is currently vented to the atmosphere in the United States.” **PanCanadian Petroleum Ltd.**

“In total, Saskatchewan farmers have sequestered roughly 26 million tonnes of carbon over a 10-year period. These figures are preliminary estimates, for type of crop (cereal vs. legumes), time seeded (fall vs. spring), amount of fertilizer applied and current soil conditions (wet vs. dry) are all factors that have an effect on soil organic carbon.” **Government of Saskatchewan**

“Beginning in 1998, MB will be incrementally reducing its GHG emissions by more than 100 kt/y with new steam plant projects at Port Alberni and Powell River [BC] that will substantially increase substitutions of biomass for fossil fuels.” **MacMillan Bloedel Ltd.**

“Technology: although cogeneration itself is a very environmentally friendly technology, application of steam injection on a turbine will further reduce CO₂ emissions in Alberta. This modification will allow the production of more power, thereby reducing the purchases from a coal-based utility. It has been estimated that total CO₂ emissions (Dow and Utility) will be reduced by 5000 t/y.; in addition, No_x emissions should be reduced by 525 t/y.” **Dow Chemical Canada Inc.**



MILESTONES OF THE VCR

1992

Canada signs Framework Convention on Climate Change in Rio de Janeiro.

1992–1994

Extensive consultation process with stakeholders and governments.

1995

Energy and Environment Ministers approve VCR approach.

VCR program's incubation with Natural Resources Canada begins.

First Report from VCR released at Joint Meeting of Energy and Environment Ministers.

1996

VCR launches onto the Internet, allowing the public to review actions planned by participants.

VCR Awards initiated to recognize achievement.

1997

Incorporation of VCR as a not-for-profit, stand-alone, public-private partnership.

Collaborative work with industry and associations to set an assessment framework for reporting and action plans.

1.2 Voluntary Challenge and Registry

Canada's Climate Change Voluntary Challenge and Registry (VCR) program, a key part of Canada's National Action Program on Climate Change, invites Canadian companies and organizations to voluntarily commit to individual actions that limit net GHG emissions. The VCR has been in place since 1995.

The VCR registers participants, records and publishes their action plans on its Internet web site and monitors the progress of voluntary reductions by companies and organizations. The program is focused on recruiting participants and promoting the development and implementation of actions to reduce GHGs. It has not been designed to play a regulatory or enforcement role. Instead, industry associations, peer groups and organizations encourage participants to take ownership and responsibility for their emissions and to develop meaningful and proactive plans to limit GHGs.

The VCR provides a vital public forum for companies, associations and organizations to identify and benchmark their progress against other participants. It promotes consistency in the measuring and reporting of action plans and enables the sharing of information and technology.

In the past year, a significant change in the relationship among the Government, the VCR participants, and its stakeholder associations has transpired. The VCR has changed from being a government program to a true public-private partnership.

The incorporation of the VCR ends its incubation period within Natural Resources Canada (NRCan). Consequently, this will be the last report prepared by NRCan. From this point forward, VCR progress reports will be managed by Canada's Climate Change Voluntary Challenge and Registry Inc. (VCR Incorporated).



1.3 1997 Transitional Report

This transitional report provides an update on the progress achieved to date in the VCR and outlines emerging issues.

Section 2 of the report, "1997 VCR Strategy," highlights the approach set out in December 1996 to further the VCR objectives in 1997.

Section 3, "1997 Results," reviews the results of the past year.

The final section, "Looking Ahead," summarizes the new directions that VCR Incorporated is taking, the work yet to be accomplished, and the challenges that remain.



EMPLOYEE INVOLVEMENT

Participants realize that commitments to reducing greenhouse gas emissions cannot be achieved without their work force. Consequently, organizations have made employee awareness and empowerment part of their environmental strategy.

A total of 28 Employee Awareness programs have been implemented using NRCan's *Industry Guide to Implementing an Employee Awareness Program*, and the list continues to grow.

"Field awareness visits have begun, in which an Environmental Advisor conducted field visits to discuss the issue of greenhouse gases, how they relate to global warming, and what can be done about it. In addition, operators receive energy efficiency training, and periodic brainstorming sessions are conducted to determine ways to optimize operations." **Murphy Oil Company Inc.**

"Orenda's employee suggestion program is designed to encourage improvements in areas such as work efficiency, energy conservation, quality and safety . . . Twelve winning suggestions are selected throughout the year, and a grand prize is awarded at the end of the year [to an employee] . . . A recent suggestion to install timers on lights has resulted in an annual reduction of 0.7 GWh of electricity." **Orenda Aerospace Corporation**

"We will work towards an Employee Awareness Program as part of an action plan which has seen a 19% energy efficiency improvement since 1990." **C. S. Brooks Canada Inc.**

"In 1996, Edmonton Power launched a highly innovative employee training program based on CD-ROM multimedia software. Every employee in our operations

areas must undertake this self-directed training and pass a test. The climate change issue is addressed in a module of this training program." **Edmonton Power/EPCOR**

"Poco will be implementing a regular reporting schedule for our field staff to ensure that we are able to track and document these initiatives on a regular basis. Doing this not only benefits our ability to supply input on our successes to the oil and gas industry, but as well, it ensures that we do not overlook specific activities taken at one location which may benefit the entire operation."

Poco Petroleum Ltd.

"Chevron is currently implementing Protecting People and the Environment, our environment and safety management system. This system elevates operating practices throughout the company in the areas of safety, pollution prevention, and energy conservation by ensuring that these considerations will consistently be applied in everyday business activities and decisions. We believe this system will help drive energy and emissions management initiatives throughout the company in all areas of operations." **Chevron Canada Ltd.**

"A corporately funded assignment has been given to Intech-Tecsult to assist the plants technically to implement energy savings initiatives." **Dominion Textile Inc.**

"Husky has declared September 1997 'Greenhouse Gas Awareness Month' and has published articles in the Husky weekly bulletin to educate employees on the climate change issue. These articles also provide employees with useful tips on how they can reduce greenhouse gas emissions both at home and at work." **Husky Oil Operations Ltd.**



2.0 1997 VCR Strategy

“By 2000, Manitoba Hydro will be producing about 50% more electricity than it did in 1990, from primarily hydraulic sources. This will be accompanied by a decrease of approximately 0.06 Mt in total Manitoba Hydro CO₂ emissions from its 1990 level.”
Manitoba Hydro

The 1997 strategy focused on the following areas:

- (1) Restructuring the VCR: To increase collaboration and ownership, the VCR needed to restructure its relationships with participants and stakeholders.
- (2) Leveraging sector leadership: To increase the effectiveness and efficiency of the new VCR, the program needed to take advantage of the existing systems and processes that industry associations use in interfacing with members.
- (3) Continuously improving submissions: To build on the solid foundation of engagement already achieved, the focus for registrants in 1997 has been on improving action plans and on reporting progress.

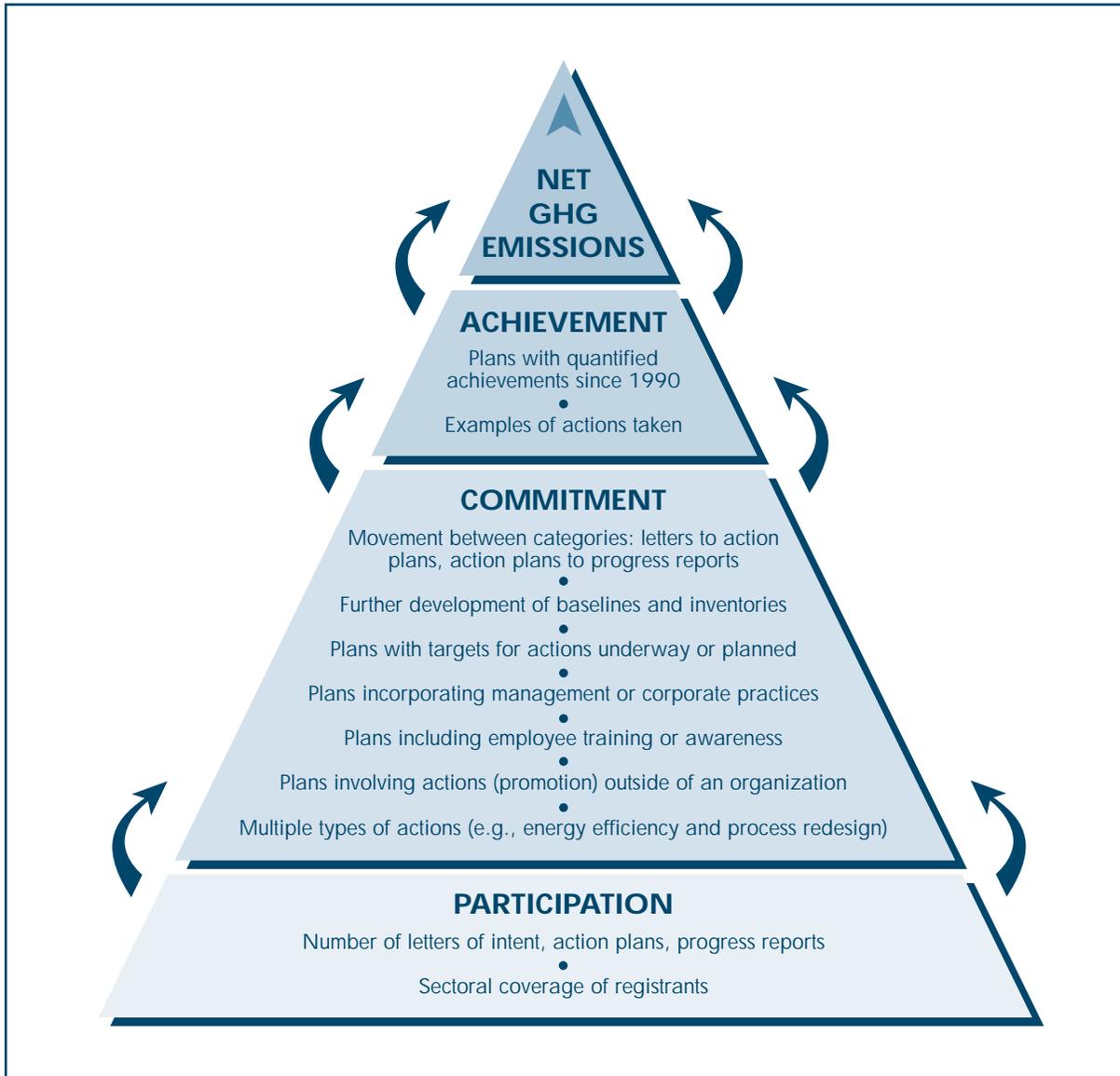
2.1 Restructuring the VCR

A public-private partnership was recommended by ministers at the Joint Meeting of Energy and Environment Ministers held in December 1996. Its development was the primary objective in 1997, given that implementation required significant effort by both public and private sector leaders to ensure the development of an encompassing, yet efficient, plan for the VCR Incorporated. The plan included the:

- development of a VCR Executive Task Force made up of public and private sector leaders to oversee the transition
- selection of a president to head the organization
- development of a funding structure
- creation of corporate by-laws to ensure the long-term viability of the mandate without restricting the flexibility to adapt to changes in Canada’s climate change strategy
- appointment of an interim board and chairperson



Figure 1 Framework for Measuring VCR Progress



“Total CO₂E [carbon dioxide equivalent] emissions have been reduced by greater than 20% since 1990. Emissions of CO₂E per unit of production have been reduced by approximately 12% since 1990. CO₂ emissions from our facilities have been reduced by 20%, methane emissions have been reduced by 31% and nitrous oxide levels have been reduced by 43% since 1990.”
Avenor Inc.

2.2 Leveraging Sector Leadership

An evolution in the VCR’s role in monitoring and reporting progress on measures outlined in action plans also needed to occur. It was envisioned that this could take place more effectively if the efforts of associations and industry groups were leveraged by:

- creating a structure where associations play an increased role as the conduit between their members and the VCR
- assisting associations to develop their own guidelines and handbooks to address industry-specific issues and promote consistency in reporting
- establishing an assessment framework to be used to review the commitment of registrants (see Figure 1)
- consolidating industry submissions for the purposes of providing a more holistic review of annual progress

2.3 Continuously Improving Submissions

It is not enough to offer support for a program without action. The VCR has worked to assist companies to develop action plans with real commitments, which are also economically viable for each entity.

In 1996, it was recommended that a framework, or classification, system be developed to accurately define progress toward the reduction of net GHG emissions. The depth of commitment by companies would be based on a review of progress reports and action plans. The intent of the framework is to assess, by comparison with this standard, VCR progress.

In 1997, the continuous improvement of submissions has been an important objective. While a focus on increasing participation has been in place since the inception of the VCR, the emphasis in 1997 has been on advancing the commitment of participants through the development of action plans and through progress reporting.



REPORTING ON PROGRESS

Real progress is evident in reviewing the 1997 submissions received to date. Companies are continuously comparing emissions against 1990 baselines and forecasts from original action plans and are reporting that success is occurring. The testimonials provided below symbolize the spirit of the voluntary approach and exemplify the commitment required by all organizations for the future.

“In absolute terms, the company is now operating at a GHG carbon dioxide equivalent 28% below its 1990 GHG emission levels, thus already meeting the national commitment to stabilize the net GHG emissions at 1990 levels by the year 2000.” **MacMillan Bloedel Ltd.**

“In our first Action Plan, we were able to report savings of 66 000 tonnes of CO₂E. In 1995, we added an additional reduction of 4000 tonnes of CO₂E. In 1996, our inventory showed that we reduced our emissions by approximately 20 000 tonnes of CO₂E.” **Devon Energy Canada Corporation**

“Since the first Plan, Gulf has reduced emissions by at least 114.5 kt/y for each future year of the Plan. These actions alone represent 5% of Gulf’s total 1996 GHG emissions.” **Gulf Canada Resources Limited**

“In 1996, our target was 70 000 tonnes. We actually achieved reductions and offsets of 78 000 tonnes. In 1997, our target was 140 000 tonnes. So far we have achieved reductions and offsets of 261 000 tonnes.” **Edmonton Power/EPCOR**

“Through its energy management initiatives, Canada Trust has saved 9.4 million kWh of electricity (since 1994). This translates into reductions of about 1800 tonnes of carbon dioxide emissions.” **Canada Trust**

“A review of Canfor’s GHG emission levels shows that during 1996, our GHG emissions from fossil fuels were 71 kt lower than 1990 levels, and GHG emission levels for the prior reporting years are also well under 1990 levels. This indicates that we have already achieved and surpassed the target to reduce our GHG emissions from fossil fuels to 1990 levels by 2000. We are forecasting that by the year 2000, as a result of actions we have completed and projects currently underway, Canfor’s GHG emissions from fossil fuels will be reduced by 50 kt compared with 1990 levels.” **Canfor Corporation**

“Kruger Inc. is already, at the end of 1996, achieving a level of CO₂ emissions lower by 40% than the 1990 level (fossil fuel only) and 18% lower for total fuel CO₂ emissions (fossil and hogged fuel) On a unit basis, Kruger Inc. shows a reduction in fossil fuel use of 44% between 1990 and the end of 1996 On a unit total energy (fossil and hogged energy) basis, Kruger Inc. shows a reduction of 32% for the period between 1990 and the end of 1996.” **Kruger Inc.**

“In 1997, Weyerhaeuser Canada’s GHG emissions were 565 653 t CO₂e, which is 69,000 below the 1990 base year. Our current forecast indicates that our GHG emissions for the year 2000 will be about 5% below the base year. For the period 1990 to 1996, GHG emissions have declined by 11% despite growth in production of 2% for pulp, 27% for OSB and no growth for lumber.” **Weyerhaeuser Canada Inc.**

“Projects identified in our last progress report for implementation in 1996 were completed, and efforts planned for subsequent years are still expected to proceed. To date, a reduction of 816.4 kt of CO₂ emissions has been achieved from internal reductions and another 51.2 kt of CO₂ emissions from external reductions.” **Alberta Power Ltd.**



3.0 1997 Results

3.1 Restructuring the VCR

In the past year, a significant change in the relationship among the Government, the VCR, and private companies and organizations has transpired. The VCR has completed its transition from a government-incubated program that engages private companies to a true stand-alone public-private partnership.

VCR Incorporated has now been created as a not-for-profit organization funded jointly by government and the private sector. It is expected to enhance the ownership and responsibility of organizations for reducing GHG emissions.

Throughout the year, the VCR Executive Task Force led the implementation of the stand-alone office. The task force was established in 1995 and includes federal and provincial deputy ministers, industry leaders, and CEOs of major corporations. It has worked to develop organizational, funding and corporate structures, to select a president, and to appoint an interim board.

The task force was established to work independently of the federal Government. NRCan supported the task force by furnishing secretariat services and worked with other members on a peer-to-peer basis. The federal government was also the primary sponsor and the provider of funding.

Developing the Corporate Model

To develop the corporate model, the task force determined the initial funding formula, developed a mandate and a set of by-laws, and identified key staff positions and selection requirements.

Meetings and workshops were held throughout 1996 to develop a corporate model that would meet the needs of all stakeholders. Over a period of several months, various funding, organizational and operational options were worked into a single model that was supported by the entire task force.

The corporate model was presented and discussed at the Joint Meeting of Energy and Environment Ministers in December 1996. At that time, the ministers approved its implementation. With approval of the model by both government and industry leaders, the task force went back to work to bring the stand-alone office to life before the end of 1997. This objective was met on October 15, 1997.



VCR INCORPORATED

Established:

October 15, 1997

President:

Robert A. Flemington, P.Eng.

Interim Board of Directors:

Ron Munkley, Consumers Gas, Chair
Charles W. Wilson, Shell Canada Ltd.
Tayce Wakefield, General Motors of
Canada Limited

Mission:

Provide the means for promoting, assessing and recognizing the effectiveness of the voluntary approach in addressing climate change.

Mandate:

- Record and document participation, action plans, best practices and achievements.
- Analyse actions and achievements, consider their potential for further progress and provide the related support to participants.
- In conjunction with sector organizations, support the Council of Champions in its efforts to recruit broad participation by all sectors of society.
- With input from the Technical Advisory Committee, recognize, publicize and promote participants making significantly increasing progress towards the national GHG stabilizing objective.
- Prepare progress and annual reports, and identify issues for consideration in the evolution of the program.



Implementing the Corporate Model

To implement the corporate model, the VCR Executive Task Force formed several subgroups. Each subgroup was responsible for one of the following areas:

- selecting core personnel to operate and guide the new company
- establishing a funding formula for the public-private partnership
- developing the legal definition of the company, complete with by-laws, mandate, articles of incorporation, etc.

One of the largest challenges for the task force was the selection process for the president. Several capable individuals from both the private and public sector applied for the position. The competition for president was managed through the Human Resources Branch of NRCan. Interviews were conducted by departmental staff and task force members. After several interviews and sessions, the final selection was made, and task force members approved the successful candidate.

Further development was needed to finalize the funding formula. Funding for the new company comes from both the public and private sector. The funding formula appropriately divides financial responsibility across federal, provincial and industrial organizations representing participating industry sectors.

Considerable debate on the funding allocation method occurred with opinions expressed as to the viability of potential measures. Ultimately, a formula was developed that reconciles stakeholder issues. Fine-tuning of the formula is expected to occur in the upcoming year as the corporation asserts its mandate and identity.

After the funding formula, mandate and management structure were in place, the legal articles of incorporation were developed. Incorporation took place in mid-October 1997.

Natural Resources Canada's Involvement

Throughout the year, NRCan supported the task force to ensure government issues were addressed by the new corporation. This included the department's role as a liaison with other programs, federal ministers, provincial ministries and its membership on the task force.



PARTNERSHIPS

The voluntary approach has effectively promoted alliances and partnerships as a means for leveraging innovation and achievement. The examples provided below exemplify the synergies that have resulted from alliances across the Canadian economy.

“Chrysler, Ford and General Motors are pursuing research to commercialize technologies intended to provide ultra fuel efficiency within the partnership, New Generation of Vehicles. The purpose of the research partnership is to focus on technologies that will provide a leap beyond the current incrementalism in providing for reduced fuel consumption.” **General Motors of Canada Limited**

“The Canadian Energy Pipelines Association and the Canadian Gas Association are co-funding an initiative to promote awareness of climate change to member company employees. This initiative involves the development of a four-part climate change education manual and a complementary video. NGT is involved in the program as a project coordinator and advisor.” **NOVA Corporation**

“Husky, in partnership with TransAlta Energy Corporation, is currently negotiating with Saskatchewan Power Corporation to provide 175 MW of power supplied by cogeneration at a Husky site in Lloydminster, Saskatchewan. The potential CO₂ offset from this project is approximately 200 000 tonnes/year. The project is anticipated to be complete in the 1999/2000 time frame if negotiations are successful.” **Husky Oil Operations Ltd.**

“An innovative joint venture between Bayer, NOVA, and Dow to consolidate power production at the Dow Sarnia site with cogeneration has reduced overall CO₂ emissions.” **Dow Chemical Canada Inc.**

“Bayer Inc., Rubber Division has entered into a joint venture with two neighbouring Sarnia companies, Dow and NOVA, to produce steam and electrical power. The joint venture makes more efficient use of steam and power generation facilities at Bayer and Dow and has allowed Bayer to take three older boilers out of service.” **Bayer Inc., Rubber Division**



NRCan has also provided working support for the establishment of the incorporated entity. Departmental staff have worked with the task force to manage the issues related to developing a public-private partnership. This work has reduced implementation time frames and eliminated unnecessary steps or issues that may have otherwise burdened the process.

At the December 1996 joint meeting of federal, provincial and territorial energy and environment ministers, it was decided to develop an assessment framework to strengthen the reporting by VCR participants.

In May 1997, NRCan gathered comments and input from VCR participants. This led to a discussion paper on indicators and measurements of success entitled "Creating Two Tiers of Participation." This summary document will form the basis for discussions by VCR Incorporated's Technical Advisory Committee and ultimately the Council of Champions.

Finally, NRCan has been responsible for providing administrative and communication support to the task force. This involved developing workshops and agendas, coordinating personnel and organizational commitments, and overall process management. In addition, NRCan has also supported the staffing of the VCR office during the transition, held funds in trust until the incorporation was complete, and provided professional services as required.

The president and an interim board of directors have been appointed, the funding formula has been finalized, and the mandate and purpose of the new corporation have been approved. The program's operations have been transferred to the new corporation.

3.2 Leveraging Sector Leadership

Although companies and organizations participate directly in the VCR program, most participants are also members of associations that are formally involved with the VCR.

Since the inception of the VCR, the contributions and roles of sector associations have evolved significantly to allow the VCR



program greater leverage. Sector associations are uniquely tooled and positioned to reach, persuade and represent their membership.

The alliance with sector associations is an advantage in marketing and communications. Information is passed effectively and efficiently across the membership through conferences, workshops, newsletters, etc. More importantly, associations are able to consolidate the views and concerns of membership, which may represent an entire sector of the economy.

Associations also have the ability to inform members about the importance of voluntary commitments made and to create the momentum needed to ensure a majority of members are involved. This role has been and will continue to be an important factor in the success of any voluntary program and has resulted in the engagement of many new VCR participants over the last few years.

Many associations have environmental and/or technical committees to assist members as their action plans develop. These groups are uniquely qualified to provide industry-specific advice to their members and to represent their technical issues, needs and requirements on multi-sectoral initiatives such as the VCR.

Increased Involvement by Associations

The number of sector associations involved in the VCR increased from 12 in 1996 to over 20 in 1997. At this point in time, almost every sector of the economy is represented. These associations have either signed MOUs, submitted annual reports or committed to provide funding.

The associations most actively involved in the VCR program have worked to develop and sign MOUs, which serve as a basis for the relationship between the VCR and the association and which formalize the commitment by the association to promote the program, to drive participation and to provide advice and assistance.

Another benefit of the wide participation of associations from across the economy is that funding, key to the success of VCR Incorporated, can be allocated fairly across all GHG emitters.



GREENHOUSE GAS REDUCTIONS THROUGH ENERGY EFFICIENCY

Many innovative energy efficiency achievements continue to be documented in the VCR, encouraged in part through Natural Resources Canada's Efficiency and Alternative Energy Program initiatives. These initiatives have a strong track record of success as demonstrated by the achievements reported below.

"The average energy consumption for vehicles produced (cars and trucks) has been reduced by 11% from a 1990 baseline through 1995." **General Motors of Canada Limited**

"In 1994, SaskPower initiated an energy management pilot project for Saskatchewan health districts in the South East Health District (SEHD). Following two years of planning and development, nine facilities in the SEHD are undergoing energy retrofits during 1997. Initial estimates indicate that retrofits will produce energy savings for the health district of close to 2 million kWh annually, or an equivalent CO₂ reduction of 1600 tonnes." **SaskPower**

"Increased quality control reduces energy that would be wasted producing parts that do not meet quality constraints." **Standard Products (Canada) Ltd.**

"Saving our energy for education. Since 1992, the Federation of Public School Boards in Metropolitan Toronto has been engaged in a comprehensive program of upgrading its close to 600 school buildings to improve their operating performance and the quality

of physical infrastructure. When completed, the program will reduce energy and maintenance costs by \$20 million annually." **Metropolitan Toronto School Board**

"Efficiencies from IPL's Capacity Expansion Program (CEP) continued into 1996 with the installation of additional variable frequency drives on mainline pumping units and additional facilities for drag reducing agents. Forecasting reductions of greenhouse gas emissions due to the CEP in 1996 were 69.7 kilotonnes of CO₂ equivalent. Actual reductions due to CEP totaled 138.1 kilotonnes of CO₂ equivalent, exceeding the forecasted reduction by 98%." **Interprovincial Pipe Line Inc.**

"In June of 1995, the Government of New Brunswick launched a Provincial Buildings Initiative that is based on energy performance contracts. Overall energy savings are targeted at 20% with an associated CO₂ emissions reduction of 81 kilotonnes/years." **Government of New Brunswick**

"Total annual energy consumption has decreased by 2.3% (334 000 GJ) during the period of 1990 to 1995, while total annual production has increased by 2.8% (19 000 tonnes), giving rise to a decrease in total energy consumed per tonne of product of 5.0%. Net greenhouse gas emissions during the period of 1990 to 1995 decreased by 38% to 162 000 tonnes CO₂ equivalent per year." **Stone-Consolidated Corporation**



The associations play a key role in ensuring that there is a level playing field between their members. The level of funding from each association will be representative of their membership's level of GHG emissions and their commitment to stabilizing and reducing those emissions.

Associations have assisted the VCR program significantly by representing and promoting its objectives to their membership. Over the past year, VCR program representatives have been invited to several association-sponsored conferences to promote participation and commitment.

The majority of associations involved in the VCR are preparing annual reports this year that consolidate information provided by members. These reports typically contain a sector outlook, aggregation of emission/energy estimates and projections, and a description of the associations' involvement in the VCR during the year. Several of the reports also highlight the achievements of members through success stories and high-level benchmarking.

Some associations have also developed detailed benchmarking systems that allow each member to understand their position relative to their industry in relation to key operational and financial areas. This information is usually confidential for association members, and only limited views of the databases are provided back to the membership. The information within these databases can assist members in understanding their situation relative to industry-wide energy use and GHG emissions.

Promoting Consistency in Submission Development

The unique manufacturing and economic situations of each sector involved in the VCR make it difficult to develop one guideline for submissions that would work effectively for everyone. At the same time, it would also be ineffective if every participant in the VCR program individually interpreted the guidelines and handbooks. As a result, many of the associations have worked to develop industry-specific handbooks, templates and guidelines to supplement VCR publications.



ASSOCIATIONS WITH VCR GUIDEBOOKS

1. *Canadian Association of Petroleum Producers*
2. *Mining Association of Canada*
3. *Pulp and Paper Association of Canada*
4. *Canadian Gas Association*
5. *Canadian Steel Producer's Association*
6. *Canadian Electricity Association*
7. *Canadian Energy Pipeline Association*
8. *Coal Association of Canada*
9. *Canadian Cement Council*

Almost half of the associations (nine) registered with the VCR have developed guidelines that assist participants in developing baselines, projections, or key content requirements. Many remaining associations are currently in the process of writing guidelines.

Assessment of Submissions

To further leverage the peer-to-peer relationship that exists within associations, the VCR program worked with associations to develop new industry-specific frameworks for assessing submissions.

For several associations, the assessment frameworks are virtually complete and could be used next year to analyse 1997 and 1998 reports. The process for how the assessment frameworks will be applied to participant reports remains to be finalized.

Linkages to NRCan's Energy Efficiency Programs

The Industrial, Commercial, and Institutional Programs, the Canadian Industry Program for Energy Conservation (CIPEC) and the VCR program have had a coordinated approach to submissions from participants, whose energy efficiency actions committed to by organizations and companies can be registered by participants in the VCR. In fact, most VCR registrants became aware of the program as a result of their participation in these other programs.

The VCR program focuses on GHG emissions, not energy consumption. Although these two measures are closely, even directly linked, there are circumstances for many sectors where GHGs can be reduced without lowering energy intensities. Three classic examples are fuel substitution, process redesign to reduce emissions, and offsets.

Fuel substitution refers to the replacement of one carbon-based fuel with something that can provide the same energy with less CO₂ emissions. The replacement can be another carbon-based fuel, electricity, or through the use of cogeneration.

In processes that result in the direct creation of emissions, many companies have found that process re-engineering can significantly reduce emissions without decreasing energy intensity. One such example used by petroleum producers is acid gas injection.



VCR REPORTING

At the December 1996 joint meeting of federal, provincial and territorial energy and environment ministers, it was decided to develop an assessment framework to strengthen the reporting by VCR participants.

In May 1997, NRCan gathered comments and input from VCR participants. This led to a discussion paper on indicators and measurements of success entitled "Creating Two Tiers of Participation." This summary document will form the basis for discussions by VCR Incorporated's Technical Advisory Committee and ultimately the Council of Champions.



Another approach is to purchase materials that have lower GHG emissions related to their production and consumption.

GHG “offsets” are used in some industries to reduce emissions, but they do not reduce energy use. Offsets sequester GHGs, and therefore create a positive balance to the creation of gases. For example, the reforestation of the Canadian landscape is an important GHG offset.

Participants are encouraged to include both energy efficiency measures and other actions to reduce GHGs when developing action plans and annual reports to be submitted to the VCR.

3.3 Continuously Improving Submissions

Participation

There has been significant effort by the VCR program to increase the number of organizations registered.

Over the past few years, the number of organizations registered in the VCR has grown. Approximately 700 companies and organizations are now registered. This represents an increase of about 10% in participation from October 1996, when just over 600 participants were registered.

Breakdown of Participation by Level of Commitment			
Type of Submission	Number in October 1995	Number in October 1996	Number in October 1997
Letters of Intent	475	619	701
Action Plans	94	331	354
Progress Reports	4	88	112



GREENHOUSE GAS REDUCTIONS NOT RELATED TO ENERGY EFFICIENCY

It is important for organizations to recognize that while improving energy efficiency is one of the most important ways to reduce greenhouse gas emissions, there are other non-energy-related actions possible and underway. The following testimonials provide examples of non-energy-efficiency-related actions to reduce greenhouse gas emissions.

“We entered into an agreement with the Tree Canada Foundation to donate 50 000 softwood seedlings for planting in urban and rural areas. Based on information supplied by the Tree Canada Foundation, 50 000 seedlings will remove, on average over an 80-year life cycle, approximately 160 tonnes of carbon per year.”
Kimberly-Clark Nova Scotia Inc.

“Kimberly’s reclamation efforts have been successful in reclaiming (revegetating) approximately 351 hectares up to the end of 1996; reclamation of disturbed areas will be ongoing through to and after mine closure in 2001.” **Cominco Ltd.**

“The elimination of CFCs as the blowing agent in Styrofoam™ brand extruded polystyrene foam, resulted in the elimination of 3 million tonnes of CO₂ equivalent emissions annually.” **Dow Chemical Canada Inc.**

“Purchasing is done in a manner that addresses environmental concerns and meets the objective of promoting the best interests of the company through fair dealing and integrity. Vendor environmental stewardship is an element of the Consumers Gas selection criteria, as is the substitution of hazardous products, recycled content packaging and re-use of materials.” **Consumers Gas**

“DuPont Canada is aggressively addressing the problem of nitrous oxide (N₂O) emissions at our Maitland, Ontario, site. Our new catalytic abatement process is expected to cut N₂O emissions 90 percent once it becomes fully operational. The success of this project means DuPont Canada will attain and surpass its 1990 commitment to reduce total emissions to the natural environment by 50 percent.” **DuPont Canada Inc.**



ACHIEVEMENT

Many success stories are being reported through the VCR. The following quotations provide examples of the results that have been achieved by individual organizations.

“Reduced venting of wellhead gas from Provost heavy oil operations by implementing the Bodo gas conservation project. Overall, the volume of vented gas has been reduced by almost 600 000 m³ annually. (This resulted in a 93.4 kt CO₂E emissions reduction.)”

Norcen Energy Resources Limited

“GHG reduction initiatives completed or underway during the 1990 to 1996 period reduced GHG emissions by 46 978 tonnes CO₂E per year. Construction continued in 1996 on the installation of the \$4.5 million waste heat boiler to recover waste heat from refinery flue gas streams and generate steam. The recovered waste heat will reduce imported steam and result in 21 000 tonnes per year of indirect CO₂ emissions reduction and improve refinery energy efficiency.”

Suncor Inc.

“MOCL carried out 44 actions from 1990 to 1996 towards reducing greenhouse gases and currently plans on implementing another 23 actions within the next three years. Of considerable note is the planned savings at the expanding Cactus Lake facility where 32.45 kilotonnes of CO₂E savings in fuel gas is projected for 1997.”

Murphy Oil Company Ltd.

“Removed flare pit from service and replaced with knockout drum and flare stack. Liquid hydrocarbon is no longer flared with gas during upsets or shutdowns. The impact on GHG emissions is a reduction of 2.3 kt/y of CO₂E.”

Imperial Oil Ltd. (ESSO)

“While many of the opportunities listed derive from past consultant-led energy efficiency audits, most of the current projects represent ideas generated by Talisman staff. This demonstrates the impact of training and awareness initiatives and the Energy Data Management System.”

Talisman Energy Inc.

“Remarkably, this increase in the number of vehicles has brought about a marked decrease in fuel consumption and greenhouse gas emissions. Looking at the average values of consumption and emission estimates, we see that the 7% increase in the number of gas-fueled vehicles is associated with an average decrease of 41% in gas consumption and greenhouse gas emissions.”

Air Canada

“Through many energy efficiency projects and by replacing fossil fuels with biomass, 1995 data from NFI Canadian manufacturing facilities show that GHG emissions are already stabilized at the 1990 level. Furthermore, 1996 data show that GHG emissions are reduced by 3.0% over the 1990 level.”

Noranda Forest Inc.

“Sydney has been able to reduce its energy consumption from an average of 2.88 MWh/ton in 1992 to 2.14 MWh/ton in 1996, a savings of 26% in four years. This energy use includes #2 oil, #6 oil, propane, diesel and electricity. The measures taken to achieve the savings included operating procedures on furnace control phase 1 (reduction in oil equivalent to 60 000 kWh per week), operating procedure for ladle preheater (saving propane equivalent to 32 000 kWh per week) and lowering firing rate on ladle preheat (saving propane equivalent to 59 000 kWh per week).”

Sydney Steel Corporation



4.0 Looking Ahead

4.1 Emerging Issues

Clearly, success and progress using voluntary measures have been achieved. Achievements from VCR actions underway today will continue to be demonstrated and recorded in the upcoming years.

As the decade ends, the question of how to effectively limit GHG emissions continues to be a complex challenge. The voluntary approach will continue to be an important component of the Canadian solution for the future, and in this respect, its success will be contingent on the following emerging challenges.

Need for More Action

The voluntary approach to reducing GHG emissions must continue to evolve as it will play an integral role in helping Canada meet its GHG emission reduction targets set at COP3.

The onus is on participants; they must continually reach for excellence, build on their own successes and the learning experiences of others, and exceed the best practices and benchmarks that exist today.

Measuring Results

A new, more rigorous approach to assessing the commitment within submissions and the progression of commitment of participants will be implemented. Many associations are already implementing their own assessment frameworks (see section 3.2 subsection “Assessment of Submissions”). An overall approach will need to be finalized for the VCR program at an aggregate level.



4.2 VCR Incorporated Strategy

The upcoming year will bring further improvements to this initiative in its new role as a public-private partnership. VCR Incorporated has established a mandate with NRCan to advance the voluntary program in several directions. VCR Incorporated will pursue the following goals during 1998:

- Establish a Council of Champions and its board of directors, drawn from the “top of the house” in leading organizations representing the diversity of participants in VCR Incorporated.
- Engage more participants.
- Increase commitment of existing members.
- Develop an effective and representative Technical Advisory Committee to assist in achieving solutions leading to further advances in GHG emission reductions and evaluating progress.
- Improve the functionality and utility of the Registry so that participants and the public can easily understand the issues, commitments, and achievements related to reducing GHG emissions.
- Expand awareness of issues and achievements beyond existing members within industrial, business and government sectors, and to all Canadians.



PUBLIC AWARENESS

Participants in the VCR share a common sense of responsibility for their own actions. They are volunteering to be part of the solution. Many of them are also broadening this responsibility to the public at large by engaging and informing their customers and the public about climate change and greenhouse gas emissions.

“Sunoco’s sponsorship of Pollution Probe’s Clean Air Campaign [June 1997] is an example of the effort to enroll public support for environmental improvements. Such initiatives not only improve public awareness but also contribute indirectly to reducing greenhouse gas emissions.” **Suncor Inc.**

“Consumers Gas offers financial incentives to residential, commercial and industrial customers to encourage the adoption of actions and the installation of products that are energy-efficient and contribute to energy and water conservation.” **Consumers Gas**

“Ontario Hydro currently has a ‘green pricing’ pilot project called GreenShares, which is proposed for Peterborough and Guelph. This program allows customers to pay a premium for electricity from environmentally benign sources. The extra money generated from this premium price goes into a fund which provides a source of revenue to promote more benign technologies and/or to finance renewable generation technologies.”

Toronto Hydro

“We formed a cross-NOVA strategy team that was successful in developing plans, short-term and long-term strategies, and numerous communications and educational documents for internal and external audiences.” **NOVA Corporation**



Annex

VCR Participant List

The following organizations were registered in the VCR as of October 10, 1997. An asterisk (*) indicates that an action plan has been registered with the VCR. A number of associations have also registered reports summarizing their sector's contribution to the VCR.

Associations

Aluminum Industry Association
Association of Oilwell Drilling Contractors
Canadian Association of Petroleum Producers
Canadian Cement Council
Canadian Chemical Producers' Association
Canadian Electrical Association
Canadian Energy Pipeline Association
Canadian Gas Association
Canadian Home Builders' Association
Canadian Petroleum Products Institute
Canadian Pulp and Paper Association
Canadian Steel Producers Association
Canadian Textiles
Canadian Vehicle Manufacturers Association
Coal Association of Canada
Federation of Canadian Municipalities
Mining Association of Canada
Petroleum Services Association of Canada
National Dairy Council
Retail Council of Canada
Transportation Association of Canada

Chemical

Bayer Inc., Rubber Division*
Boehme Filatex Canada Inc.
Celanese Canada Inc.
Chinook Group*
Ciba-Geigy Canada Ltd.*
Dow Chemical Canada Inc.*
DuPont Canada Inc.*
Elf Atochem Canada Inc.*
H.L. Blachford Ltd.

Harcros Pigments
ICI Canada Inc.
IMC Kallium*
Janssen-Ortho Inc.*
Methanex Corporation
Monsanto Canada Inc.*
Nacan Products Ltd.*
Polar Plastic Ltd.
Rhône-Poulenc Canada Inc.
Shell Chemicals Ltd.
Synergistics Industries Limited*
Tioxide Canada Inc.*
Unilever Canada Ltd.

Education

Acadia University
Alberta College of Art and Design*
Augustana University College*
Avalon Consolidated School Board*
Bishop's University
British Columbia Institute of Technology*
Calgary Board of Education
Cambrian College
Canadore College*
Cégep de Chicoutimi*
Cégep de Matane*
Cégep de Sept-Îles*
Cégep de St-Hyacinthe*
Cégep de St-Jérôme
Cégep Joliette-De Lanaudière*
Chinook's Edge Region No. 5
Collège Comm. du NB,
Campus d'Edmundston*



Collège Comm. du NB, Campus de Campbellton*	NB Community College — Bathurst*
Collège de Rosemont	NB Community College — Miramichi*
College of Geographic Sciences, NSCC	NB Community College — Moncton
College of New Caledonia*	NB Community College — Saint Andrew
Collège Shawinigan*	NB Community College — Saint John*
Coquitlam College	North Island College
Districts scolaires nos 3 et 5	Northern College of Art & Design
Districts scolaires n° 07 (Beresford)	Nova Scotia College of Art and Design
Districts scolaires n° 09 (Tracadie – Sheila)	Okanagan University College*
Dryden District Roman Catholic Separate School	Olds College
Durham College*	Ontario College of Art
East Central Alberta Catholic Separate Schools Regional Division #16*	Ottawa Board of Education*
East Kootenay Community College*	Peace Wapiti School Board No. 33
Edmonton Catholic Schools*	Queen's University
Environmental Resource Centre (Destination Conservation)	Red Deer College*
Fanshawe College*	Red River Community College
Georgian College of Applied Arts and Technology*	Renfrew County Board of Education
Grant MacEwan Community College*	Ryerson Polytechnic University*
Greater St. Albert Region #29*	Saskatoon Catholic Schools
Greater Victoria School Board	School District No. 36 (Surrey)
Haldimand Board of Education	School District No. 46 (Sunshine Coast)
Humber College of Applied Arts and Technology*	School District No. 62 (Sooke)*
Kenora Board of Education*	School District No. 63 (Saanich)
King's University College*	School District of Mystery Lake #2355
Kwantlen College*	Shelburne County District School Board*
Lakeshore School Division No. 23*	Sheridan College*
Lambton College*	Sherwood Park Catholic Separate* School District No. 105
Landwest School Division No.123	Simon Fraser University*
Lethbridge Community College*	Southern Alberta Institute of Technology*
Lloydminster Public School Division	St. Albert Catholic Schools
Loyalist College*	St. Albert Protestant Schools
Memorial University*	St. Clair College*
Metropolitan Toronto School Board	St. James-Assiniboia
Mount Saint Vincent University	Université de Moncton*
	Université du Québec
	Université du Québec à Chicoutimi*
	Université du Québec à Hull*
	Université du Québec à Montréal*



Université du Québec-École de
 Technologie Supérieure
 University College of Cape Breton*
 University College of the Fraser Valley*
 University of Alberta*
 University of British Columbia*
 University of Calgary*
 University of Guelph*
 University of Manitoba*
 University of Northern British Columbia*
 University of Ottawa*
 University of Regina*
 University of St. Jerome's College
 University of Toronto*
 University of Victoria*
 University of Waterloo*
 University of Winnipeg*
 Wainwright School Division No.32
 Wellington County Roman Catholic
 Separate Schools
 Western Avalon Roman Catholic
 School Board*

Electric Utilities

Alberta Power Ltd.*
 BC Hydro*
 Churchill Falls (Labrador) Corp. Ltd.
 City of Calgary Electric System
 Edmonton Power/EPCOR*
 Hydro-Electric Commission of the
 City of Nepean
 Manitoba Hydro*
 Maritime Electric*
 Markham Hydro Electric Commission
 New Brunswick Power*
 Newfoundland Power*
 Newfoundland & Labrador Hydro*
 North York Hydro
 Nova Scotia Power Inc.*
 Ontario Hydro*

Public Utilities Commission: City of Kingston
 SaskPower*
 Toronto Hydro*
 TransAlta Utilities Corporation*

Forestry, Pulp and Paper

Abitibi-Price Inc.*
 Avenor Inc.*
 Bowater Mersey Paper Company Limited
 Canfor Corporation and Subsidiaries*
 Cascades Paperboard International Inc.
 Crestbrook Forest Industries Ltd.*
 DOMTAR Inc.*
 Donohue Inc.*
 EB Eddy Forest Products Ltd.*
 Eurocan Inc.*
 Fletcher Challenge Canada*
 Kruger Inc.*
 Maclaren Industries Inc. —
 Corporate Office (Noranda Inc.)
 MacMillan Bloedel Ltd.*
 Maritime Paper Products Ltd.
 Noranda Forest Inc. (Noranda Inc.)*
 Northwood Pulp & Timber Ltd.
 (Noranda Inc.)
 Port James-Marathon Ltd.
 Rainy River Forest Products Inc.
 Repap Enterprises Inc.*
 Scott Maritimes Ltd.
 Spruce Falls Inc.
 St. Anne-Nackawic Pulp Company Ltd.*
 St. Mary's Paper Ltd.
 St. Laurent Paperboard Inc.
 Stone-Consolidated Corporation*
 Stora Forest Industries Limited*
 Tembec Inc.*
 Weldwood of Canada Ltd.*
 West Fraser Timber Company Ltd.*
 Weyerhaeuser Canada Inc.*



Government

City of Calgary*
City of Edmonton Public Works
City of Fredericton
City of Medicine Hat
City of Moncton
City of Ottawa*
City of Regina*
City of Saint John
City of Saskatoon
City of Weyburn
Government of Alberta*
Government of British Columbia
Government of Canada*
Government of Manitoba
Government of New Brunswick*
Government of Newfoundland
and Labrador
Government of Northwest Territories*
Government of Nova Scotia*
Government of Ontario*
Government of Prince Edward Island
Government of Quebec
Government of Saskatchewan*
Government of Yukon*
Town of Gander
Town of Lacombe

Health

Alberta Hospital Edmonton*
Avalon Health Care Institutions Board
BC's Children's Hospital*
Dr. V.A. Snow Centre Inc.
Foyer St. Joseph de St. Basile Inc.
Fraser-Burrard Hospital Society
Health Care Corporation of St. John's*
Les Résidences Lucien
Les Résidences Mgr Chaisson Inc.
Lincourt Manor Inc.
Loch Lomond Villa Inc.

Manoir St. Jean Baptiste
Mount Saint Joseph Nursing Home
Nashwalk Villa Inc.
Northwoodcare Incorporated*
Passamaquoddy Lodge Inc.
Pipestone District Health Board
Region 1 — Hospital Corporation South-East
Region 7 — Hospital Corporation
Regional Health Centre de Lameque
Regional Hospital Centre de Bathurst
Regional Hospital Centre l'Enfant-Jésus
Regional Hospital Centre Tracadie
Royal Alexandra Hospital
Royal Inland Hospital
Saskatoon District Health
Seven Oaks General Hospital
South East Health District*
The Church of St. John and St. Stephen
Home Inc.
The Cove Guest Home
The Kenneth E. Spencer Memorial
Home Inc.
The United Church Home for Senior
Citizens' Inc.
Toronto Hospital — A University of Toronto
Teaching Hospital
University of Alberta Hospital site of the
Capital Health Authority*
Victoria General Hospital
Victoria Glen Manor Inc.
Waukehegan Manor Inc.
Western Memorial Regional Hospital

Manufacturing

3M Canada Inc.*
Accuride Canada*
Agmont Inc.
Albarrie Canada Ltd.
Algoma Steel Inc.
Allied Signal Aerospace Canada*
Altex Automotive Castings*



Andrès Wines Ltd.*
 ASCOLECTRIC Ltd.*
 Atlas Specialty Steels
 Block Drug Company (Canada) Ltd.
 Bombardier Inc.*
 Broan Limited*
 Burns Food (1985) Ltd.
 C.S. Brooks Canada Inc.*
 Cami Automotive Inc.*
 Canada Cordage Inc.
 Canada Hair Cloth Co. Limited*
 Canadian General — Tower Limited
 Canadian Uniform Ltd.
 Casco Inc.
 Champion Feed Services Ltd.*
 Chemical Lime
 Chrysler Canada Ltd.
 Coats Bell Canada Inc.*
 Coats Patons Canada Inc.
 Collingwood Fabrics Inc.*
 Collins & Aikman Canada Inc.*
 Consoltex Inc.*
 Continental Lime Ltd.
 Cookshire Tex
 Coyle & Greer Awards Canada Ltd.*
 Crown Cork and Seal Canada Inc.*
 Cuddy Food Products*
 Culinar Inc.
 Dofasco Inc.*
 Dominion Specialty Yarns
 Dominion Textile Inc.*
 Downeast Plastics Ltd.
 Duracell Canada Inc.*
 Eaton Corporation — Suspension Division
 Eaton Yale Limited*
 Envirogard Products Ltd.
 Escalator Handrail Company Inc.*
 Essroc Canada Inc.*
 Euclid-Hitachi Heavy Equipment Ltd.
 F.F. Soucy Inc*
 Fabrene Inc.
 Federated Co-operatives Limited (CO-OP)
 Ford Motor Company of Canada, Limited
 Garland Commercial Ranges Ltd./
 Cuisinières Commerciales Ltée
 Gates Canada Inc.
 General Electric Canada Inc.
 General Motors of Canada Ltd.*
 Gerdau Cortice Steel Inc.
 Glendale Yarns Inc.
 Glenelg Textiles Ltd.
 Global Stone Corporation*
 Gould Shawmut Company*
 Graybec Calc Inc.
 Greif Containers Inc.*
 GSW Water Heating Company*
 H.J. Heinz Company of Canada Ltd.
 Honeywell Ltd.*
 Hub Meat Packers — Sunrise Brand*
 Huls Canada Inc.
 Husky Injection Molding Systems Ltd.
 IBM Canada*
 Imasco Ltd.
 Imperial Tobacco Limited*
 Imperial Wallcoverings (Canada) Inc.*
 Ingram & Bell Inc.
 Interface Flooring Systems (Canada), Inc.*
 International Paper Industries Ltd.
 Ivaco Inc.
 J.L. deBall Canada Inc.*
 Jannock Brick Group
 Jones Packaging Inc.*
 Kelsey Hayes Canada Ltd.*
 Kimberly-Clark Nova Scotia Inc.*
 Kindred Industries*
 Kodak*



Kraft Canada Inc.*
 Labatt Breweries of Canada
 LaFarge Canada Inc.*
 LaGran Canada Inc.*
 LePage
 Lincoln Fabrics Ltd.
 Magna Corp.
 Maksteel Service Centre, Division of
 Makagon Industries Ltd.
 Maple Leaf Meats*
 Maple Lodge Farms Ltd.*
 Marcel Lauzon Inc.
 McDonnell Douglas Canada Ltd.*
 Meridian Clemmer Industries Ltd.
 Metroland Printing, Publishing &
 Distributing
 Michelin North America
 Molson Breweries*
 Moosehead Breweries Ltd.*
 Morton International Ltd.
 National Rubber
 Nestlé Canada Inc.*
 Nordion International Inc.*
 Northern Telecom
 North Star Cement Ltd.*
 Nova Scotia Textiles, Limited*
 Orenda Aerospace Corporation*
 Orion Bus Industries*
 Osram Sylvania Ltd.
 Peerless Carpets
 Pepsi-Cola Canada Beverages
 Polyainers Inc.*
 Polywheels Manufacturing Ltd*
 Prévost Car Inc.
 PRO-ECO Ltd.*
 Renfrew Tape Ltd.*
 Rockwell International
 Rolls Royce Industries Canada Inc.
 S.C. Johnson Wax*
 Saan Stores Ltd.
 Safety-Kleen*
 Sika Canada Inc.
 Simmons Canada*
 Slater Steels HSB Div.
 Sleeman Brewing & Malting Co. Ltd.*
 Spinrite Inc.*
 St. Lawrence Cement Co.*
 St. Marys Cement Co.*
 Standard Products (Canada) Limited*
 Starcan Corporation
 Stelco Inc.*
 Sun Rype Products Ltd.*
 Superior Radiant Products Inc.
 Sydney Steel Corporation*
 Tamrock Canada*
 Tamrock Loaders
 Teknion Furniture Systems
 The Britex Group
 The Cambridge Towel Corporation*
 The Stewart Group Limited
 Toyota Motor Manufacturing Canada Inc.*
 Union Felt Products Inc.*
 Vagden Mills Limited
 Vansco Electronics Ltd.*
 Velcro Canada
 VicWest Steel/Les Aciers VicWest*
 Viskase Canada Inc.*
 Vitafoam Products of Canada*
 Volvo Canada Ltd.*
 Wabash Alloys Ontario*
 Weavexx Corporation
 Westcast Industries Inc.*
 Woodbridge Group*
 Wyeth-Ayerst Canada Inc.*



Mining

Alcan Aluminum Ltd.*
Aluminerie Alouette*
Aluminerie de Bécancour Inc.*
Aluminerie Lauralco Inc.*
Aur Resources Inc.
Barrick Gold Corporation — Cambior Inc.
(La Mine Doyon)*
BHP Diamonds Inc.*
Brunswick Mining and Smelting Corp. Ltd.
(Noranda Inc.)*
Brunswick Smelting and Fertilizer Ltd.
(Noranda Inc.)
Canadian Copper Refinery-Noranda*
Metallurgy Inc. (Noranda Inc.)
Canadian Electrolytic Zinc Ltd.
Cape Breton Development Company
Cominco Ltd.*
Falconbridge Ltd.*
Fording Coal Ltd.
Havelock Lime Division of Goldcorp Inc.*
Hemlo Gold Mines Inc. (Noranda Inc.)
Hillsborough Resources Ltd.*
Hudson Bay Mining & Smelting Co. Ltd.
INCO Ltd.*
Iron Ore Company of Canada*
LUSCAR Inc.
Manalta Coal Ltd.
Métallurgie Noranda Inc.—Fonderie Horne
(Noranda Inc.)
Mines et exploration Noranda Inc.—
Division Matagami (Noranda Inc.)
Mines Wabush
Placer Dome Canada Limited*
Potash Corporation of Saskatchewan Inc.
— Allan Division*
Potash Corporation of Saskatchewan Inc.
— Cory Division*
Potash Corporation of Saskatchewan Inc.
— Lanigan Division*
Potash Corporation of Saskatchewan Inc.
— New Brunswick Division*

Potash Corporation of Saskatchewan Inc.
— Patience Lake Division*
Potash Corporation of Saskatchewan Inc.
— Rocanville Division*
QIT – Fer et Titane Inc.
Québec Cartier Mining Company*
Smoky River Coal Ltd.
Société Canadienne de Métaux Reynolds
limitée
Teck Corporation
Westmin Resources*

Oil and Gas

Agrium Inc.*
Alberta Energy Company Ltd.*
Alberta Natural Gas Company
Altana Exploration Company/
Roan Resources Ltd.*
Amoco Canada Petroleum Co. Ltd.*
Anderson Exploration Ltd.*
Apache Canada Ltd.
Archer Resources Ltd.*
ATCOR Ltd.
Barrington Petroleum Ltd.*
BC Gas Utility*
Berkley Petroleum Corporation
Blue Range Resources Corporation
Bumper Development Corporation Ltd.
Cabre Exploration Ltd.*
Calahoo Petroleum Ltd.*
Canadian Conquest Exploration Inc.*
Canadian Forest Oil Ltd.*
Canadian Hunter Exploration Inc.
(Noranda Inc.)*
Canadian Occidental Petroleum Ltd.*
Canadian Tire Petroleum Division
Canadian Western Natural Gas Company
Ltd. (ATCO)*
Canor Energy Ltd.*
Centra Gas (Alberta) Inc.*
Centra Gas (British Columbia) Inc.*



Centra Gas (Manitoba) Inc.*	Maxx Petroleum Ltd.*
Centra Gas (Ontario) Inc. and Union Gas Limited*	McDonald Oil & Gas Ltd.
Chandler Energy Systems Inc.	Mobil Oil Canada*
Chauvco Resources Ltd.*	Murphy Oil Company Inc.*
Comstate Resources Ltd.	NAL Resources Management*
Chevron Canada Ltd.*	New Cache Petroleum Ltd.*
Consumers Gas*	Newport Petroleum Corporation
Conwest Exploration Company Ltd.*	Norcen Energy Resources Limited (Noranda Inc.)*
Cooper Energy Services	Northrock Resources Ltd.
Crestar Energy Inc.*	Northstar Energy Corporation*
CS Resources Ltd.*	Northwestern Utilities Ltd. (ATCO)*
Devon Energy Canada Corporation*	NOVA Corporation*
Discovery West Corporation*	Numac Energy
Dorset Exploration Ltd.*	Ocelot Energy Inc.*
ELAN Energy Inc.*	Pacific Northern Gas Ltd.*
Enron Oil Canada Ltd.*	Paloma Petroleum Ltd.*
Fletcher Challenge Petroleum Inc.*	PanCanadian Petroleum Ltd.*
Foothills Pipe Lines Ltd.*	Paragon Petroleum Corporation*
Fortune Energy Inc.	Paramount Resources Ltd.*
Gardiner Oil & Gas Ltd.	Parkland Refining Ltd.
Gaz Métropolitain*	Pembina Corporation*
Gazoduc TQM	Penn West Petroleum Ltd.
Grad & Walker Energy Corporation*	Petro-Canada*
Granger Energy Corp.	Petromet Resources Limited*
Griffon Petroleum Ltd.	Pétromont Inc.
Gulf Canada Resources Ltd.*	Petrorep Resources Ltd.*
Harbour Petroleum Co. Ltd.*	Pinnacle Resources Ltd.*
HCO Energy Ltd.*	Poco Petroleum Ltd.*
Highridge Exploration Ltd.	Prime West Energy Inc.
Hunt Oil Company	Producers Pipe Line Inc.*
Husky Oil Operations Ltd.*	Pursuit Resources Corporation
Imperial Oil Ltd. (ESSO)*	Ranger Oil Ltd.*
International Colin Energy Corporation	Regent Resources Ltd.*
Interprovincial Pipe Line Inc.*	Renaissance Energy Ltd.*
Irving Oil Ltd.—Refining Division*	Resman Oil and Gas Ltd.
Koch Exploration Canada Inc.*	Richland Petroleum Corporations*
Lexxor Energy Inc.	Rife Resources Ltd.*
Mark Resources Inc.	Rigel Oil and Gas Ltd.*



Sabre Energy Ltd.*
 Samson Canada
 SaskEnergy Inc. & Trans Gas*
 Sceptre Resources Ltd.*
 Seagull Energy Canada Ltd.*
 Shell Canada Ltd.*
 Shiningbank Energy Ltd.*
 Signalta Resources Ltd.*
 Spire Energy Ltd.
 Star Oil and Gas Ltd.*
 Startech Energy Inc.
 Starvest Capital Inc.*
 Summit Resources Limited
 Suncor Inc.*
 Superior Propane Inc.
 Syncrude Canada Ltd.*
 Talisman Energy Inc.*
 Tarragon Oil and Gas Limited
 Texaco Canada Petroleum Inc.*
 The Paddon Hughes Development Co. Ltd.
 Torrington Resources Ltd.*
 TransCanada Pipe Lines*
 Trans Mountain Pipe Line Company Ltd.*
 Trans-Northern Pipelines Inc.*
 TransWest Energy Inc.*
 Ulster Petroleums Ltd.
 Ultramar Canada Inc.*
 Union Carbide Canada Inc.—Prentiss Plant
 Unocal Canada Ltd.
 Wascana Energy*
 Westcoast Energy Pipeline Division*
 Westward Energy Ltd.

Transportation

Air Canada*
 Atomic Transportation Systems Inc.
 CP Rail System
 Canadian Airlines International Ltd.*
 Canadian National Railway Co.

Consolidated Fastfrate Inc.
 Freightliner of Canada Ltd.
 Laidlaw Inc.*
 Mullen Trucking Inc.
 Russell Drummond Inc.
 Société de transport de la communauté
 urbaine de Montréal
 Trimac

Commercial/Other

A-1 Fotoprint Inc. t/a Japan Camera Centre
 ABCO Property Management Inc.
 Accomodex Franchise Mgmt. Inc.
 A. Clark Exteriors
 Adventure Electronics, Markville SC*
 Albert's Draperies Inc.
 Atlantic Shopping Centres*
 Atiflic Hotels & Resorts*
 Best Western International Inc. (Canada)*
 Black's Photo Corporation
 Brilliant Gems, Markville SC
 Burger King Restaurants of Canada
 Cadillac Fairview
 Cambridge Leaseholds Limited*
 Canada Trust*
 Canadian Pacific Hotels & Resorts*
 Cara Operations
 Carlton Cards Limited
 Caryl Baker Visage Cosmetics,
 Markville SC*
 CIBC Development Corporation*
 Cotton Ginny Ltd.
 Dairy Queen Canada Inc.
 Dalhousie Co-Op
 Delta Hotels and Resorts
 Denninghouse Inc.
 Denro Management Ltd.*
 Dim Sum Restaurants, Markville SC
 Distinctive Gifts, Markville SC
 Dollar One Two Three Inc. A



Dollar One Two Three Inc. B	McFadzen Holdings Limited*
Dollar One Two Three Plus	MTS Management Group
Eaton Centre Edmonton	Nexacor Realty Management Inc.
Eaton's*	Northlands Park*
Enterprise Property Group Limited	Oxford Properties Canada Limited
Family Alterations, Markville SC	Pictures, Markville SC
Fisher & Company	Playcare, Markville SC
Four Seasons Hotel, Toronto*	Preston Medical Pharmacy
Fredericton Direct Charge Co-Op*	Price Waterhouse
Gap Canada	Pro Image, The, Markville SC
Gateway Cigar Store, Markville SC*	Radio Shack
Gentleman's Court I & II, Markville SC	Rapid Photo
Geo. E. Knowles Ltd.	R.D. MacLean Co. Ltd.
Grand & Toy Ltd.*	Regency Towers
Greenarm Corporation*	Ross Ventures Ltd.
Green Things	Royal Bank of Canada
Hudson Bay Company*	Saint John Co-Operative Supply Depot Ltd.
Ikea Properties Limited — Ikea Canada	Scott's Food Services Inc.*
In Fine Company	Sears Canada Inc*
Journey's End*	Sheraton Centre Toronto*
Just Elaine's	Sincere, Markville SC*
KFC — Canada	SIR Corporation
Kidz Klozet Division of Bedmates Int., Markville SC	SoapBerry Shop
Kmart Canada Company	Société Immobilière Métivier & Associés Inc.
Ko's, Markville SC	Sportivo Uomo, Markville SC
Lehndorff Management Limited	Stefi Lara Investments Ltd., Markville SC
LePage*	The Keg
Little Treasures, Markville SC	Tim Donut Limited (Tim Hortons)
Lively Pharmacy	Timecraft, Markville SC*
Londonderry Mall	Trade Secrets, Markville SC*
MacPhee Workshop	Valise, Markville SC*
Maple Leaf Foods Franchise Operations — Country Style Donuts	Versa Services Ltd.
Marie Claire*	West Edmonton Mall
Markville Gift & Postal Service, Markville SC	White Spot Restaurants
	Woolworth Canada*



