Industry Canada Industrie Canada

SUSTAINABLE DEVELOPMENT STRATEGY

INDUSTRY CANADA

1997

Canada

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Minister's Message

Canada is a country with a high standard of living and growing economy. The United Nations consistently ranks us as one of the best countries in the world to live. At the same time, we exist in a world where our economy is being challenged to respond to increasing globalization, rapid scientific and technological change and mounting environmental pressures.

Canadians want a sustainable economy that offers a high quality of life now and in the future. Sustainable development offers a way of achieving this, by meeting the needs of the present without compromising the ability of future generations to meet their needs.

Knowledge is a key driver of economic growth, competitiveness and national prosperity. An economy based on knowledge offers significant opportunities for managing economic activity and sustainable development. By bringing together the key departments and agencies responsible for science and technology, regional development, marketplace services and micro-economic policy, the federal government's Industry Portfolio has an important role to play in building a knowledge-based, sustainable economy.

Increasingly, Portfolio members are integrating sustainable development into the way they do business and make their decisions. A significant step in this direction is the tabling of sustainable development strategies for four members of the Portfolio: Industry Canada, the Atlantic Canada Opportunities Agency, the Federal Office of Regional Development (Quebec), and Western Economic Diversification Canada.

Industry Canada's *Sustainable Development Strategy* commits the department to promote sustainable development in pursuing its overall goal for establishing a growing, competitive knowledge-based Canadian economy. It sets four strategic objectives:

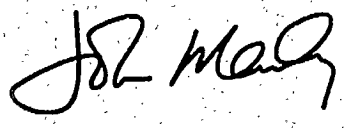
- foster a marketplace climate in Canada that promotes sustainable development
- enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development
- encourage trade and investment flows which contribute to sustainable development in Canada and abroad
- continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development.

Each objective is reinforced by corresponding priorities and actions. The Strategy has been developed with a recognition that sustainable development is more of a journey than an end point and that the most productive way to embark

on this journey is to build on existing successful initiatives undertaken by business and others as well as within the department.

The Strategy commits the department to work in partnership with industry, consumers and other key stakeholders to advance sustainable development and also contribute to building a knowledge-based economy. As such, the Strategy emphasizes actions that will build a substantive understanding of sustainable development and innovative approaches and technologies to achieve progress on these fronts. It also emphasizes the sharing of knowledge through improved partnerships and effective communications.

The sustainable development strategies of Industry Canada, the Atlantic Canada Opportunities Agency, the Federal Office of Regional Development (Quebec), and Western Economic Diversification Canada, along with those of other federal departments, set the direction for a challenging journey toward a more secure economic, environmental and social future. We have the opportunity to increase our prosperity, enrich our lives and create a better tomorrow for our children. We are committed to working with others to establish sound directions and specific actions to advance sustainable development. The strategies of Industry Canada and the other three Portfolio partners offer a solid basis for moving forward to achieving a more secure and sustainable future.



John Manley
Minister of Industry

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Executive Summary

The Government of Canada is committed to sustainable development as a way to improve our quality of life. This is a major challenge that calls for development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It also calls for integrating economic, environmental and social objectives. To achieve sustainable development, Canada must build a sustainable economy that generates prosperity, work, a clean environment and other improvements to our quality of life.

Industry Canada, along with other federal departments, is defining and operationalizing sustainable development in response to a range of economic, environmental and social challenges at both the domestic and international levels. This involves helping businesses, workers and consumers to innovate, adopt new technologies, increase productivity, develop products and services (or improve existing ones), and expand markets and exports where this is conducive to advancing sustainable development.

Industry Canada's Commitments

Industry Canada is committed to promoting sustainable development in pursuing its overall mission for a growing, competitive, knowledge-based Canadian economy. In doing so, it recognizes that sustainable development is more a journey than an end point and that the most productive way to embark on this journey is by building on existing efforts — those initiated by business and others, and those undertaken within the department.

The transition to a knowledge-based, sustainable economy is a major, long-term challenge. It requires the commitment and cooperation of all economic sectors and all Canadians. Industry Canada is committed to join forces in new strengthened partnerships with other federal departments as well as with other governments, the business community, consumer organizations, environmental groups and others to achieve Canada's economic, environmental and social objectives.

Strategic Approach

Industry Canada's first *Sustainable Development Strategy* was developed in consultation with industry, consumers and other stakeholders, including government departments. It presents a solid foundation on which to build an increasingly comprehensive departmental sustainable development agenda, and incorporates practical, incremental steps to achieve it.

The department's Strategy is designed to build sustainable development into departmental activities and to be effectively aligned with the objectives of the department's overall business plan. The Strategy's scope is comprehensive to cover the department's mandate but concentrates, in these early stages, on the areas most immediately amenable to concrete action. This includes focusing on linkages between the economy and the environment.

Four strategic objectives set the Strategy's direction. These objectives reflect the department's responsibilities regarding marketplace climate, innovation, trade and investment, and stewardship and management. The objectives and their corresponding priorities are the following:

- **Foster a marketplace climate in Canada that promotes sustainable development**
  - Marketplace rules and services — assess the links between the marketplace "ground rules" and sustainable development
  - Reasoned advocacy to shape sustainable development policy — bring economic, competitiveness, trade and consumer expertise and concerns to policy development which supports sustainable development
  - Consumer choice and the marketplace — draw consumers more effectively into the promotion of sustainable development by raising awareness and providing information

- **Enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development**
  - Innovative tools and practices — work in partnership with industry to develop innovative tools and practices which improve business and environmental performance
  - Technology development and diffusion — encourage the development and diffusion of clean-production and enabling technologies that produce long-term economic and environmental benefits

- **Encourage trade and investment flows which contribute to sustainable development in Canada and abroad**
  - Trade policy — promote the establishment of international rules which further the objectives of sustainable development
  - Trade promotion and investment — encourage investment in and export of Canadian knowledge, products, practices and technologies which further the objectives of sustainable development

- **Continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development**
  - Making better decisions — make decisions based on a continually improving awareness and understanding of the economic, environmental and social implications of existing and proposed activities
  - Greening operations — ensure that day-to-day physical operations at Industry Canada have minimal impacts on the environment

Implementation

The Strategy's objectives and priorities, in order to be meaningful, must translate into concrete actions. The Strategy presents a range of actions for implementing sustainable development within the department's internal and external operations. It emphasizes initiatives that will increase our knowledge of sustainable development, augment our understanding of innovative approaches and encourage knowledge sharing through improved partnerships and effective communications. These improvements in the knowledge base will help to convert the Strategy's objectives and priorities into solid progress.

The Strategy outlines several action items to increase the awareness and engagement of departmental employees such as the activities related to greening operations, training and internal communications. Other action items will ensure senior executive and management participation and accountability. The Strategy's performance evaluation framework, existing departmental and interdepartmental committees, and improved departmental environmental management systems will be essential tools for direct involvement by management. The implementation of these actions will have a substantive impact on the way the department conducts its internal and external sustainable development activities.

1. Introduction

As Industry Canada's first *Sustainable Development Strategy*, this document serves several purposes. It reinforces the department's responsibilities regarding its overall mission to contribute to a growing, competitive, knowledge-based Canadian economy. It creates a solid platform on which to build an increasingly comprehensive departmental sustainable development agenda and incorporates practical, incremental steps to achieve it. It also meets the requirement of the *Auditor General Act* that federal departments develop a sustainable development strategy by December 1997.

Sustainable development cuts across the mandates of all federal organizations. The collective effort of departments to define and operationalize sustainable development will help Canada take the steps necessary to forge a more sustainable economic path. As departments clarify and integrate their perspectives, the federal government will develop increasingly innovative and effective approaches to achieving a high quality of life for present and future Canadians. This first round of strategies lays a strong foundation for ongoing cooperation among federal organizations to advance and measure their progress.

Industry Canada's *Sustainable Development Strategy* builds on existing departmental activities. It takes a comprehensive approach, covering all aspects of the department's mandate but concentrating, in these early stages, on the areas most readily amenable to concrete action. The Strategy is framed around the department's mandate to make Canada more competitive by fostering business growth through the promotion of a fair, efficient marketplace for business and consumers, and the encouragement of scientific research and technology diffusion.

The Strategy is based on consultations with other federal organizations, the business community, consumer organizations, environmental groups and other stakeholders. Along with the strategies of other departments — and the ongoing effort and commitment of all Canadians — it represents an initial but significant step in moving sustainable development from a broadly defined concept to practical implementation.

Industry Canada's overall commitment is to promote sustainable approaches to the development of the country's economy. In doing so, it recognizes that sustainable development is more a journey than an end point, and that subsequent strategies will be necessary to respond to the wide range of new, unanswered challenges that lie ahead. The transition to a knowledge-based, sustainable economy is a major, long-term challenge that requires the commitment and cooperation of all economic sectors and all Canadians. Governments, business, consumers and others must join forces in new, strengthened partnerships to achieve Canada's economic, environmental and social objectives.

2. The Sustainable Development Challenge

Sustainable development is a major challenge — for the world, for nations and for individual segments of society. The challenge is to translate a broadly defined concept — that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs — into practical implementation.

This is no easy task. To accomplish it, we must continually improve our understanding of the links among our economic, ecological and social systems. At the same time, we must find practical, innovative approaches to development that integrate and contribute to economic, environmental and social objectives. The fact that all three systems are complex and dynamic, with changes constantly occurring within, between and among them, makes it more difficult, and more necessary, to find solutions.

To accomplish this task over the long term, we must also look to further refining the definition of sustainable development to make it more operational in the years ahead. How it is defined will shape future directions and actions. There are different proposals for further defining sustainable development such as in terms of natural capital stock. This strategy uses the general definitions outlined by the World Commission on Environment and Development (the Brundtland Commission) and the federal government's *Guide to Green Government*.

2.1 The Global Context

Economic, environmental and social conditions around the world are forcing industries, consumers and governments to change the way they do business. Global environmental problems, such as high-level ozone depletion, climate change, loss of biodiversity and some forestry practices, are creating pressures for change in our economies. These global environmental problems, and their solutions, could have significant impacts for some of Canada's industrial sectors (e.g. automobiles, forest products and environmental technologies) as well as for consumers.

From an economic perspective, the world economy is undergoing fundamental change driven by increased globalization and rapid technological change that necessitate accelerating innovation and rising skills requirements. This is creating increased competitiveness pressures and opportunities for firms and workers. The new paradigm of the global economy requires that Canadian industry use and generate knowledge and innovate rapidly. Our communications and aircraft industries, among others, have been demonstrating the ability to use technology and innovation to their competitive advantage. From a social viewpoint, pressures stemming from such factors as continuing urbanization and new trends in demography and cultural values also spell change for our societies.

We still have much to learn about global economic, environmental and social pressures, linkages and impacts. However, we do know that fostering sustainable development promises to be a key approach for the growth of Canadian industry. We also know that achieving international consensus on various environmental agreements will be challenging given the disparate levels of commitment, approaches and timetables that nations devote to the various issues due to individual national circumstances. Nonetheless, global progress on sustainable development can only be achieved through the cooperation of all countries. Canada therefore recognizes the importance of using all relevant international negotiating fora to promote sustainable development.

2.2 The Canadian Context

Some aspects of Canada's current environmental condition are better than those of most countries, and they continue to improve. While this is partly due to our huge land area and low population density, credit must also go to our national strength in environmental science and pollution-control technology and to the environmental protection and conservation efforts of governments, industry and consumers. Our gains in several areas illustrate

these strengths: improved water quality in the Great Lakes and St. Lawrence River; elimination of lead from gasoline; lower sulphur dioxide emissions in Eastern Canada; the phasing out of stratospheric ozone-depleting substances; and regulatory and voluntary initiatives to reduce releases of toxic substances from industrial sources.

However, Canada still faces significant environmental challenges related to the quality of our air, water and land. The *State of Canada's Environment Report — 1996* notes several such challenges: ground-level ozone resulting from emissions of nitrogen oxides and volatile organic compounds; groundwater contamination; radioactive waste; increased greenhouse gas emissions; a range of hazardous air pollutants; and disappearing species. Many of the environmental challenges have health risks associated with them.

We have also experienced progress, challenges and opportunities on the economic side of the sustainable development equation. Since 1993, Canada has made significant progress in getting its macroeconomic fundamentals right. Deficit reduction at the federal level is ahead of schedule; inflation is well within the Bank of Canada's target range; interest rates are at 30-year lows; and the business and consumer confidence levels are at an all-time high. Canada is on track to achieve a sound fiscal situation, sustained low inflation rates, and adaptation to globalization and technological change.

Yet despite this major turnaround in the economic fundamentals, we have not achieved sufficient economic growth to foster enduring improvement in real incomes or employment growth. Canada must place more emphasis on improving the stock and flow of knowledge, and on assimilating, adapting and commercializing it. This will contribute to the creation, adaptation and diffusion of advanced technologies, and encourage the development of innovative products and processes that will improve economic and environmental performance.

Canada is currently ranked number one in the world on the United Nations' Human Development Index. The Index is a composite indicator of life expectancy, real gross domestic product (GDP) per capita and education. While Canada's social accomplishments are considerable, the country still faces serious challenges: reducing youth unemployment and underemployment, eliminating child poverty, developing more opportunities for Aboriginal peoples, and maintaining good health and quality care. Solving these issues has important economic implications. For instance, addressing the youth employment problem through education, training and improved information access will help to create a skilled workforce that, in turn, will fuel sector-specific economic growth.

To meet the economic, environmental and social challenges, and to take advantage of the related opportunities, Canada's industrial sector must develop innovative, integrated approaches that lead to long-term economic, environmental and social sustainability. We must also learn more about the interactions between our ecological and economic systems, and be prepared to act on what we learn.

2.3 Building a Sustainable Economy

A sustainable economy is one that gives its people — both now and in the future — a high quality of life as measured by objectives such as secure and improving incomes, job opportunities, social and political stability, education, health and a clean environment. It promotes human welfare through the integration of economic, environmental and social objectives and the balanced consideration of the needs of present and future generations. Central to this integration and longer-term perspective is knowledge.

Knowledge is a key driver of economic growth, competitiveness and national prosperity. Its application is fundamental to improving the efficiency of production and distribution processes, upgrading the quality and quantity of products, and increasing the selection of products and services available to consumers and producers.

The Knowledge-based Economy

In order to achieve economic growth and prosperity, industrialized nations are changing their economies to become more focussed on the generation and use of knowledge. Although knowledge has always been important in the production of goods and services, what is different about the knowledge-based economy is our increased understanding of the role of knowledge in the process of economic growth and the importance of knowledge in determining the competitiveness of firms. The firms that will be the most successful in this new economy are those that continuously create, acquire and apply knowledge.

A distinguishing feature of the knowledge-based economy is the pervasive nature of knowledge as both an input and output of production. Knowledge inputs, such as information and communications technology, are key to both the productivity and competitiveness of firms in sectors as diverse as agriculture and aerospace. At the same time, knowledge is becoming more important as an output of production, with management consulting and software development being among the fastest growing sectors of the economy.

The Knowledge-based Economy and Sustainable Development

The knowledge-based economy provides significant opportunities for sustainable development. Effective application of knowledge has the potential to enable new products to be developed in an environmentally sound manner. The use of knowledge can produce few of the by-products and little of the waste associated with material factors of production. As well, knowledge can be applied to ensure that other inputs, such as energy and

Key Economic Factors for a Knowledge-based, Sustainable Economy

Marketplace climate — A healthy marketplace climate is one which is stable, predictable, efficient, fair and responsive. A marketplace that creates information and makes it widely available is crucial to building a knowledge-based, sustainable economy. Consumers and businesses need continuous improvements in market-related information, such as prices, in order to improve the allocation of resources.

To support sustainable development, we must improve our understanding of environmental costs and benefits. The fact that many of these costs and benefits are sometimes not accurately priced raises questions about how to improve our economic systems to build in better information on the value of natural and environmental resources. We must understand, at the same time, that the value of these resources is influenced by such factors as international market pressures, our rich endowment of natural capital, the nature of our labour force, our capacity for innovation, consumer preferences and behaviour, and government policies.

Innovation — Knowledge- and technology-based innovation is critical to a sustainable economy. Canada must fully participate in and benefit from technological developments as it works to improve productivity and develop new market opportunities. Through the development, diffusion and application of new products, services and processes, innovation can lead to improved productivity, enhanced market opportunities, more jobs and reduced stress on the environment.

Trade and investment — The world's economies are becoming increasingly interdependent, with the liberalization of trade and investment a key force driving global economic development. As an open economy with almost one third of its production traded internationally, Canada's trade performance is a critical factor in sustaining a strong, healthy economy.

A growing global market exists for knowledge, products, practices and technologies that contribute to sustainable development. This market is driven largely by the response of governments, business and consumers to the increasing constraints on natural resources and the capacity of the natural environment to absorb wastes. At the same time as these export opportunities are growing, so too is the pool of investment dollars which can be used to create products and technologies that contribute to sustainable development.

resources, are used in ways that minimize negative environmental impacts. Knowledge-based industries can free up natural resources and contribute to sustainable development. In addition, increased use of knowledge in resource-based industries can raise productivity of these industries, leading to conservation of natural resources for use by future generations and to an improved environment. For example, tools that incorporate advanced technologies, such as precision cutting instruments, minimize wastage of material and lower the cost of production.

Many of the sectors which have been experiencing rapid growth in both output and employment are knowledge-intensive. The majority of these sectors, including information and environmental technologies, aerospace, pharmaceuticals, and education, offer important enabling effects that can contribute to sustainable development. Satellite technology produced in the aerospace sector, for example, promotes our understanding of the natural environment by tracking and collecting information on environmental degradation. Information technology can then be used to process and analyze the data, while environmental technologies can be applied to the source of the problem.

Taking advantage of the opportunities of the knowledge-based economy in advancing sustainable development will be challenging. It will require the continuous upgrading of our understanding of how key economic factors — including a healthy marketplace climate, innovation, trade and investment — can support a knowledge-based, sustainable economy. A greater understanding of these relationships can lead to more effective ways to use knowledge to advance sustainable development. In the case of innovation, for example, a greater understanding of its relation to sustainable development can facilitate the development and the cross-sectoral diffusion of goods and services that enable activities that can improve economic and environmental performance.

2.4 Implications for Canadians

The move toward a knowledge-based, sustainable economy has broad implications for Canadians. While such a move holds the prospect of improved economic and environmental performance, and social progress, it will be important to create new partnerships among government, business, academia, the science and technology community, consumers and non-governmental organizations to help capture the benefits. This transition also introduces adjustment challenges for Canadians, including businesses, consumers and governments.

Business — Industry is already in transition in response to both environmental pressures and the recognition that knowledge is a fundamental input for maintaining and enhancing competitiveness. Over the last two decades, business has made considerable progress in integrating environmental concerns at the operational and technical level. A new trend is now emerging based on broader, longer-term business and technology strategies. A small but growing number of companies are developing strategies based on increased knowledge inputs, higher investments in technological innovation, more efficient use of resource and material inputs, lower waste outputs and the sale of knowledge and technologies to a growing international market in which sustainable development is a major competitiveness factor.

Consumers — Sustainable patterns of consumption are an important dimension of a sustainable economy. Accurate and credible information about the full range of factors related to consumers' purchasing decisions, including quality, price, range of sources, substitutes and environmental attributes, can help them make choices that contribute to sustainable development.

Governments — Governments have an important role to play in providing a smooth transition to the knowledge-based, sustainable economy — primarily through policies that shape the marketplace climate for business and consumer decisions and through policies and programs that more directly influence knowledge- and technology-based innovation. Governments have a responsibility to continuously re-examine how their policies contribute to the development of a strong, knowledge-based, sustainable economy.

3. Industry Canada's *Sustainable Development Strategy*

Sustainable Development Goal

Industry Canada will promote sustainable development in pursuing its overall mission for a growing, competitive, knowledge-based Canadian economy.

Strategic Objectives

Marketplace Climate

Foster a marketplace climate in Canada that promotes sustainable development

Innovation

Enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development

Trade and Investment

Encourage trade and investment flows which contribute to sustainable development in Canada and abroad

Stewardship and Management

Continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development

Industry Canada has articulated four objectives — marketplace climate, innovation, trade and investment, and stewardship and management — to achieve its sustainable development goal. These objectives are founded on, and aligned with, the department's broader strategic objectives as outlined in the *1997–98 Main Estimates, Part III* (see Annex 1). For each strategic objective, the department has established priorities and action plans to incrementally integrate sustainable development into key areas of departmental activity within committed resource levels. This allows the Strategy to build on a strong foundation of existing activities.

The Strategy concentrates on pragmatic aims such as making eco-efficiency and environmental management systems work, finding means to diffuse sustainable development technologies and using the most appropriate mix of policy instruments. However, given that the department is in the early stages of advancing sustainable development, the Strategy also emphasizes improving understanding, the importance of creating a substantive knowledge base on sustainable development matters, and strengthening partnerships to share the knowledge.

The Strategy includes a range of actions to operationalize and promote progress on the departmental priorities identified for each strategic objective. Some actions are ongoing and are integral to the department's current foundation supporting sustainable development. A challenge will be to track and measure the results of these activities. Other actions are more discrete and have a clearly defined output such as a study or publication.

Measurable results are important. The performance evaluation framework for the *Sustainable Development Strategy* is explained in more detail in Section 4. This framework plays a role in integrating the Strategy into the broader departmental business plan and will provide an essential tool for ongoing assessment by senior management.

Industry Canada's *Sustainable Development Strategy*

Goal

Industry Canada will promote sustainable development in pursuing its overall mission for a growing, competitive, knowledge-based Canadian economy.

Marketplace Climate

Objective

Foster a marketplace climate in Canada that promotes sustainable development

Priorities

- Marketplace rules and services
- Reasoned advocacy to shape sustainable development policy
- Consumer choice and the marketplace

Innovation

Objective

Enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development

Priorities

- Innovative tools and practices
- Technology development and diffusion

Trade & Investment

Objective

Encourage trade and investment flows which contribute to sustainable development in Canada and abroad

Priorities

- Trade policy
- Trade promotion and investment

Stewardship & Management

Objective

Continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development

Priorities

- Making better decisions
- Greening operations

3.1 Marketplace Climate

Strategic objective
Foster a marketplace climate in Canada that promotes sustainable development

Priorities
- ***i) Marketplace rules and services — assess the links between the marketplace "ground rules" and sustainable development***
- ***ii) Reasoned advocacy to shape sustainable development policy — bring economic, competitiveness, trade and consumer expertise and concerns to policy development which supports sustainable development***
- ***iii) Consumer choice and the marketplace — draw consumers more effectively into the promotion of sustainable development by raising awareness and providing information***

3.1.1 Marketplace Rules and Services

Knowledge- and technology-based innovation requires a marketplace climate that is stable, predictable, efficient and responsive. A healthy marketplace climate attracts investment and facilitates trade, which in turn stimulates the wealth and innovation that can be used to support sustainable development.

The micro-economic rules that govern the way businesses operate — for example, those addressing incorporation, competition, bankruptcy, labelling, advertising and intellectual property — play an important role in influencing the marketplace climate. The nature of these rules and how they are administered have an important impact on investment decisions. Firms need a marketplace climate that encourages innovation and the kind of long-term investment decisions required to develop and use new technologies and approaches that create wealth and jobs. The resulting prosperity can contribute to sustainable development.

Industry Canada's Role

Industry Canada has the primary responsibility within the federal government for setting marketplace rules and ensuring that they are implemented and enforced. The department administers some 20 business- and consumer-related laws, including the *Bankruptcy and Insolvency Act*, the *Canada Business Corporations Act*, the *Competition Act* and the *Consumer Packaging and Labelling Act,* and provides related services to ensure a fair, efficient and competitive marketplace.

Through its marketplace framework responsibility, Industry Canada affects a wide range of business activities, and influences the way firms and consumers make decisions. The department can help to create a marketplace climate that enables companies to invest in innovations that improve their business performance and their ability to address growing environmental challenges.

As part of its broader marketplace legislative reform agenda, Industry Canada has reviewed various statutes where discrete environmental issues were raised. For example, reforms to two of the department's marketplace framework statutes — the *Bankruptcy and Insolvency Act* (BIA) and *Companies' Creditors Arrangement Act* (CCAA) — advance sustainable development objectives by promoting the clean-up of environmentally contaminated properties of bankrupt debtors or debtors reorganizing under the BIA or CCAA. These reforms will help to avoid "orphan site" problems, alert environment ministries quickly to environmental problems and provide available funds from the estate to help finance the clean-up. The reforms to the BIA and CCAA demonstrate an innovative approach to integrating economic and environmental considerations.

Marketplace framework laws can work for or against sustainable development. Industry Canada is continuing its efforts to examine framework legislation and rules to ensure that they support sustainable development objectives. The ongoing review of the many complex statutes under the Minister of Industry's responsibility is a challenging task. It is driven by a range of factors, including concerns about the inefficient operation of markets, international

developments in framework law and technological change. An important step is to better understand the links between marketplace framework legislation and sustainable development.

Action Plan Item — Marketplace Rules and Services

- *Pilot project to help develop a general framework for situating marketplace framework legislation from a sustainable development perspective based on economic, environmental and social impacts. Using this framework, the project will determine the links between the* Canada Business Corporations Act *(CBCA) and sustainable development.*

3.1.2 Reasoned Advocacy to Shape Sustainable Development Policy

Environmental pressures and the response of governments, business and consumers to these pressures have an increasing impact on the marketplace. Governments have a responsibility to ensure that the views and activities of business and consumers are represented in policy development.

Both groups have important perspectives to contribute. Their views can help to shape environmental policy into a positive force that contributes to sustainable development and encourages innovative approaches to meeting environmental objectives. Business, for example, looks to government to: set clear priorities among environmental issues and between these issues and other priorities related to job creation and economic growth; formulate environmental regulations that do not hinder competitiveness; and create a stable, predictable environmental regulatory climate that gives business the incentive and flexibility it needs to develop long-term, innovative approaches to managing environmental pressures.

Consumers are concerned about health and safety related to the use of products and services; the effect of environmental pressures and policies on the economy and jobs; the availability of reasonably priced products and services; and the broader socio-ethical implications of advanced technologies.

Canadian environmental policy continuously evolves as it seeks to facilitate solutions to a broad range of environmental issues. Governments recognize that it is largely industry and consumers that will generate the innovation needed to tackle these tough challenges. Leading companies are turning risks into opportunities as they learn that innovative, cost-effective ways to improve environmental performance are also good for business. Stronger consumer involvement with business and government in managing environmental issues is building support for non-regulatory approaches. Combined, these business and consumer endeavours feed back into policy development and reinforce a more efficient, effective blend of performance-based regulations, market-based instruments and voluntary approaches.

Business and Consumer Needs

Canadian business and consumers need an environmental management regime that encourages innovation in meeting environmental and economic objectives. Governments have a responsibility to ensure that this regime does the following:

- sets environmental objectives based on sound, risk-based scientific analysis
- meets environmental objectives through policy instruments which encourage pollution prevention, technological innovation and cost-effective, innovative responses by the private sector
- responds to evolving practices and trends in the private sector
- is open and transparent, and is based on cooperative work with business, consumers and non-governmental organizations with expertise in environmental and sustainable development issues.

Industry Canada's Role

Industry Canada plays an important advocacy role in bringing business and consumer perspectives and activities to federal policy development. The department pursues a reasoned advocacy role to shape sustainable development policy. It works with Environment Canada and other federal departments to ensure that trade and competitiveness matters, private-sector innovation and consumer perspectives are taken into account in the formulation

of environmental policies. The department will continue these endeavours, building especially on leading business practices and consumer efforts to manage environmental challenges and promote sustainable development.

Integrating economic, trade and competitiveness considerations — Industry Canada's role to ensure that competitiveness and trade considerations are taken into account in developing environmental policy is evident in several recent initiatives. These include the *Canadian Environmental Assessment Act* (CEAA), the Toxic Substances Management Policy and the *Canadian Environmental Protection Act* (CEPA). The department's role also extends to global issues such as climate change, the transboundary shipment of hazardous wastes and persistent organic pollutants. Climate change is an important departmental priority during the current round of protocol negotiations leading up to the third session of the Conference of the Parties to the United Nations Framework Convention on Climate Change to be held in Kyoto, Japan in December 1997. In helping to develop Canada's position, the department's objective is to achieve an outcome from the negotiations that allows Canada to meet any new climate change commitments in a manner that best reflects our national economic circumstances.

Canada's resource-intensive, export-oriented economy is vulnerable to international competitiveness pressures. Business must have the flexibility it needs to take cost-effective action to limit greenhouse gas emissions and the incentive to take advantage of current and emerging climate change-related market opportunities both at home and abroad. Industry Canada will continue to focus on ensuring that trade, competitiveness and marketplace factors are reflected in federal climate change policy and program considerations and that business perspectives are brought to policy development on the basis of substantive analysis and knowledge.

Sectoral analysis to inform policy makers — Industry Canada works with several industrial sectors to maintain and improve their competitiveness. Many of these sectors — for example, the automobile, paints and coating, plastics, metal smelting, and pulp and paper industries — face environmental challenges. The department develops Sector Competitiveness Frameworks[1] which create a strong knowledge base from which the department can assess the implications of specific environmental regulations at the sectoral level.[2]

Four Tenets of Risk Management Approach

Good science — objective assessment of scientific knowledge to determine if exposure to the pollutants in question may represent a significant danger to human health or the environment

Risk-based priorities — environmental problems should be ranked in order of priority by a comparative risk process

Risk trade-offs — proposed regulations and initiatives should reduce risks of targeted pollutants by a greater degree than they increase other risks

Cost-benefit — the costs of regulations or initiatives must be reasonably related to the degree of risk reduction expected from the pollution reduction

Risk management approach — Risk management can strengthen the credibility of environmental policy by giving it a stronger basis in science and economics. Industry Canada promotes

Bringing the business perspective to policy development

1 Please see Sector Competitiveness Frameworks in Section 3.2.1 for more details.

2 For example, Industry Canada contributed to the work of the Task Force of the Canadian Council of Ministers of the Environment to reduce transportation fuel emissions and to set minimum standards for modified fuels by evaluating the refinery modifications and costs necessary to manufacture nine different scenarios of gasoline and diesel fuel quality. These results were later used in assessing the relative costs and benefits of these quality improvements. The cost-benefit analysis is being updated as part of the multi-stakeholder Sulphur in Fuels Joint Study.

the value of risk management in assessing existing environmental regulations and in developing new policy and program initiatives. Risk-based assessment is required to guide decision making on priorities for the government's Toxic Substance Management Policy and under CEPA.

Effective use of policy instruments — Industry Canada supports the use of a range of policy instruments to meet its objectives. These include regulations, market-based instruments, information, voluntary approaches and strategic investments. The department advocates using the best mix of policy instruments to achieve the maximum societal benefit at the least cost. It concentrates on finding innovative ways to improve the effectiveness of the policy instruments used to serve economic, environmental and social objectives. It focuses particularly on the following areas:

Assessment and reform of environmental regulations — Industry Canada recognizes the importance of including well-designed environmental regulations in the mix of instruments. Both existing and proposed environmental regulations must be assessed on an ongoing basis to ensure that the management of environmental problems also addresses economic, environmental and social objectives. It is important to involve business in the development and assessment of environmental regulations to ensure a better understanding of how the regulations will affect business and competitiveness, and to engage the private sector in developing innovative new approaches to managing environmental issues. Industry Canada has focused on encouraging an effective business-oriented analysis of regulatory proposals and on developing market-based and voluntary approaches as complements or alternatives to regulations. It encourages the use of such micro-economic tools as the Business Impact Test (BIT), which identifies the impacts of regulatory initiatives on Canada's physical, intellectual, industrial and capital resources.

Market-based environmental policy instruments — Industry Canada supports the use of market-based instruments and has concentrated recently on promoting emissions trading. Analytical work demonstrates that the abatement cost differences among sectors in Canada are large enough to provide companies with the incentive to trade. Industry Canada and Environment Canada have worked together on such projects as studying the feasibility of emissions trading in Atlantic Canada and the co-sponsorship of a report on emissions-trading case studies. Industry Canada is also participating in the Pilot Emission Reduction Trading (PERT) project, a multi-stakeholder examination of the environmental and economic impacts of, and important design issues related to, an emission-reduction trading system for oxides of nitrogen and volatile organic compounds in the Windsor–Cornwall corridor.

Voluntary approaches for environmental management — Voluntary approaches are increasingly accepted as a complement or alternative to other policy approaches. The department works to expand the knowledge base for voluntary policy instruments and seeks new opportunities to support their application. In particular, Industry Canada is pursuing opportunities to use new tools and practices such as those relating to eco-efficiency and environmental management systems, through voluntary approaches (see Section 3.2 for more detail).

Information — Industry Canada recognizes the importance of keeping Canadians aware and informed about sustainable development matters so that they can integrate economic, environmental and social considerations into their decision making. The department supports the use of a wide range of information and awareness tools that improve decision making. These include labelling initiatives, technology development and sharing, sustainable development indicators, quality standards and research. Industry Canada also supports the sharing of this knowledge and information through the most effective communication avenues available, including Internet Web sites and publications.

Growing Use of Voluntary Approaches

Canada and other countries increasingly use voluntary approaches to achieve environmental goals. These approaches range from codes of practice and other self-initiated management practices in the private sector to more formal "covenants" among government, industry, consumers and communities.

The Canadian Chemical Producers' Association (CCPA), for example, launched its Responsible Care® program in 1985. The program, which consists of detailed environmental guidelines and codes of practice relating to community awareness and emergency response, research and development, manufacturing, transportation, distribution and hazardous-waste management, has since been adopted in other countries and is recognized by the United Nations Environment Programme. In 1995, the Minister of Industry and the Minister of Environment signed a Memorandum of Understanding with the CCPA to reinforce the program by encouraging and publicly recognizing the progress of the association and its member companies.

Industry Canada also works with Environment Canada, other departments and the private sector to develop and implement voluntary multisectoral government-industry partnership agreements. These endeavours have led to several initiatives such as the Major Industrial Accidents Council of Canada (MIACC)[1] and the Accelerated Reduction/Elimination of Toxics (ARET) program.[2]

Memoranda of Understanding (MOUs) between government and industry regarding commitments to manage environmental issues also have considerable potential. Industry Canada has helped to establish several MOUs, such as those with the CCPA, the Vinyl Council of Canada and the Canadian Vehicle Manufacturers' Association (CVMA). The CVMA Pollution Prevention MOU has been the model for other sectoral MOUs such as those signed with automotive parts manufacturers, metal finishers, and the printing and graphics industry.[3] The department will strengthen its efforts in this area.

Voluntary approaches provide an opportunity for governments, businesses, consumers and other stakeholders to work together to better define their respective roles and responsibilities in meeting specific environmental objectives. The success of such endeavours depends on ensuring that a number of critical factors are addressed. These include adequate planning and analysis; appropriate management systems; open, transparent reporting; and, satisfactory levels of stakeholder involvement. Industry Canada intends to improve the knowledge base on these critical factors of success related to voluntary approaches.

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1 Formed in 1987, MIACC is a uniquely Canadian, not-for-profit organization that works to minimize the risk from major accidents involving hazardous substances by promoting the implementation of prevention, preparedness and response programs. It pursues its objectives through voluntary, consultative and consensus-building processes.

2 ARET has significantly reduced emissions of toxic substances through facility-based commitments and action plans in eight sectors, which together represent more than 40 per cent of Canadian industrial production. ARET participants have reduced their toxic emissions by 17 460 tonnes (49 per cent from base-year levels) and have committed to reducing by a further 8 000 tonnes by 2000. The Ministers of Industry, Environment and Health have recognized this success.

3 The first sectoral voluntary pollution prevention MOU was signed on May 29, 1992 by the CVMA, Chrysler Canada Ltd., Ford Motor Company of Canada Ltd., General Motors of Canada Ltd., and the federal and Ontario governments. The project is a success story: significant amounts of the toxic substances targeted have been reduced or eliminated.

Bringing the consumer perspective to policy development

Industry Canada and consumer representatives are working together to integrate consumer analysis and perspectives as early as possible into the government's policy formulation process. To accomplish this, the department is building innovative networks and partnerships with other stakeholders; instituting a market-focused, analytical approach to consumer and related marketplace issues; and ensuring that stakeholders have the information they need to provide meaningful input.

This approach has led to important consumer contributions in several areas. They include: the review of the *Canadian Environmental Protection Act*; climate change policy developments; the renewal of the *National Biotechnology Strategy*; the regulation of sulphur in gasoline; and the establishment of environmental codes of practice. The department also provided technical and financial support to develop an environmental labelling system in Canada.

Industry Canada will continue to work with the consumer movement to select where and how consumer analyses and perspectives can be brought to the government's policy formulation process. Some of the priorities being discussed — such as the environmental issues mentioned above — have strong links to sustainable development. Others represent issues whose links to sustainable development are largely unexplored but are matters of concern to consumer groups. These include electronic commerce, privacy issues and access to the Internet, regulatory reform in telecommunications and electricity, the *Agreement on Internal Trade*, and new approaches to consumer policy and law in a knowledge-based economy.

In particular, Industry Canada's work on voluntary environmental codes of practice emphasizes the need to have all relevant stakeholders, including consumer and environmental groups, at the table when such codes are being developed and implemented. This work has successfully brought consumer, business and environmental groups together to share information and expertise.

Action Plan Items — Reasoned Advocacy to Shape Sustainable Development Policy

- *Bring expertise on economic, trade, competitiveness, consumer and related marketplace factors into policy development and implementation on high-priority environmental/economic files (e.g.* Canadian Environmental Protection Act, *climate change, toxic substances, transboundary movement of hazardous wastes and transportation fuels issues).*
- *Undertake analysis on economic, trade, competitiveness, consumer and related marketplace factors in relation to the climate change issue.*
- *Based on work with Treasury Board Secretariat, other government departments, business, consumers and environmental groups, publish a* Voluntary Codes Guide *to better inform government and non-government organizations regarding the conditions under which voluntary codes of practice are most likely to be successful, and the steps needed to develop and implement a successful code.*
- *Work in partnership with government departments, business and other stakeholders to develop and encourage effective and innovative use of policy instruments for environmental management with a major focus on voluntary initiatives. For example, work through: Memoranda of Understanding with the private sector; broadening participation in the Accelerated Reduction/Elimination of Toxics program; and reviewing the success of select voluntary initiatives and identifying areas where improvements could be made, as well as candidate sectors for new voluntary initiatives.*

3.1.3 Consumer Choice and the Marketplace

Ultimately, it is the consumer — in Canada and abroad — who will decide the fate of environmentally friendly products and technologies and the rate of progress toward sustainable development. Consumers are frequently at the forefront of generating change. In addition to fair, efficient and competitive markets, consumers must have access to credible information and effective feedback mechanisms to sellers, producers and the science and technology community working on sustainable development.

Surveys over the past decade show that people will do their part to protect the environment as long as the claims behind the product or service are credible, and the price, quality and product features are comparable. The success of the blue box program is one example of how the interests of consumers and industry can be satisfied concurrently.

However, consumers have become more sophisticated in demanding clear, accurate information about goods and services, and may be unwilling to pay a premium for items or services to support sustainable development goals. This is the result of many years of little or no growth in household incomes, rising consumer debt, record levels of consumer bankruptcies and the need to be reassured that "green products" are truly valid.

Consumers are more likely to consider information credible if it is validated by more than one group (e.g. government, industry, the academic community or public-interest organizations). Multistakeholder networks, partnerships and voluntary arrangements thus become critical in raising consumer awareness and acceptance and developing two-way information exchanges.

Industry Canada's Role

Industry Canada will continue to raise awareness and provide information to consumers so that they can make informed decisions that contribute to sustainable development. This involves making existing information more readily available; establishing a mutual understanding of the kind of information consumers need and who can best provide it; and bringing consumer, business and environmental groups together to share knowledge and expertise. Industry Canada will continue to explore new ways to get information to consumers, both electronically and in print.

Industry Canada plans to build on the experience it gained in the Biotechnology, the Consumer and the Canadian Marketplace research program[3] to find the best ways to reach consumers with information about advanced technologies and products. Such areas might include the commercial use of the Internet; the application of electronic commerce to banking, other financial services and government services; and environmental technologies, products, services and related issues.

Action Plan Items — Consumer Choice and the Marketplace

- *Consistent with past project funding under Industry Canada's Grants and Contributions Program for consumer groups, provide financial support and technical assistance to consumer groups for project research, analysis and advocacy work related to the environment and sustainable development.*
- *Facilitate networks and partnerships between consumer groups and other government departments and public-interest groups on priority areas related to sustainable development.*

[3] This program helped to identify the information needed by consumers to raise awareness and understanding of biotechnology and its applications, which groups can best provide this information, and effective mechanisms for stimulating the flow of information among consumers, consumer groups and other stakeholders.

3.2 Innovation

Strategic objective

Enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development

Priorities

i) Innovative tools and practices — work in partnership with industry to develop innovative tools and practices which improve business and environmental performance

ii) Technology development and diffusion — encourage the development and diffusion of clean-production and enabling technologies that produce long-term economic and environmental benefits

3.2.1 Innovative Tools and Practices

Environmental challenges increasingly affect the competitiveness of many industries, not only in terms of clean-up and pollution-control costs but also in the marketplace. Consumers are demanding certain performance standards (e.g. European concerns about the clearcutting of Canadian forest areas have led to product boycotts in some markets). As well, the financial community, worried about long-term environmental liabilities, has begun to exert pressure on business to improve its environmental performance (e.g. cleaning up contaminated sites and wastes).

Many companies are adopting business approaches that improve both their economic and environmental performance. They are doing so largely in response to increasing environmental pressures and the growing recognition that medium- and long-term business success is inextricably linked to resource and environmental constraints. The transformation to a knowledge-based economy — one in which information, new technologies and applications are the agents of growth — creates new opportunities for companies to improve their environmental and business performance.

Over the past two decades, business has made considerable progress in integrating environmental concerns at the operational and technical level. While this has been driven largely by efforts to reduce risks and cut costs associated with discrete environmental pressures and regulations, it also reflects an emerging and growing business environmental ethic. The achievements made in pollution prevention demonstrate a strong business commitment to environmental stewardship and have saved companies millions of dollars as well as contributed to the development of the environmental industry.

A related trend is emerging in which companies are shifting away from shorter-term, discrete, risk-reduction and cost-saving approaches to ones based on the longer-term strategic advantages that stem from continuously pursuing excellence in economic and environmental performance. More and more companies are realizing that the application of business and technology strategies to environmental pressures and sustainable development could in fact translate into profitability. In pushing beyond "greening" to the broader concept of sustainability, these firms are moving toward pollution prevention and product stewardship. Some are advancing even further through long-term strategic planning and investment in products, processes, technologies and approaches that are expected to generate revenue and increase market share. One multinational chemical firm, for example, has committed itself to seeking growth through sustainability by shifting the technology base of its agriculture business from bulk chemicals to biotechnology. Another has become a major shareholder in a Canadian company specializing in fuel-cell technology.

Leading companies in Canada and abroad are embracing the concept of "eco-efficiency" — that is, producing more valuable products or services using fewer material and energy inputs, and creating less pollution. Developed by the World Business Council for Sustainable Development (WBCSD),[4] eco-efficiency is a way of operationalizing sustainable development from a business

[4] The WBCSD is a coalition of 120 multinational corporations from 33 countries, representing more than 20 major industrial sectors.

WBCSD's Seven Elements of Eco-efficiency

- Reduce the material intensity of goods and services
- Reduce the energy intensity of goods and services
- Reduce toxic dispersion
- Enhance material recyclability
- Maximize the sustainable use of renewable resources
- Extend product durability
- Increase the service intensity of goods and services

perspective, and many WBCSD members pursue it as a key competitive strategy. Growing evidence suggests that good eco-efficiency performance contributes to stronger business performance. For example, the UNI Storebrand Scudder Stevens Environmental Value Fund has developed a sustainability index based on the WBCSD elements of eco-efficiency. Its analysis of the world's top 500 companies shows a significant positive correlation between good eco-efficiency performance and superior economic performance as measured by annual rate of return.

The WBCSD maintains that the business benefits associated with eco-efficiency are inherent in the concept itself — that is, by "producing more from less" companies not only minimize environment-related costs but improve overall productivity. Eco-efficiency may also help companies gain market share by compelling them to become more innovative in their business practices and in the goods and services they produce. Finally, as businesses strive to become more eco-efficient, they demand more goods and services from producers of eco-efficient technologies. This emergence of niche markets — at home and abroad — provides opportunities for innovative small- and medium-sized Canadian companies that supply environmental technologies and services.

Eco-efficiency provides a management framework within which companies can set operational sustainable development goals and select the appropriate mix of tools to achieve them. These tools include science-based environmental risk assessments, pollution prevention, environmental management systems, "green" accounting practices and lifecycle analysis. For example, the emerging importance of climate change as both an environmental and trade issue highlights the need to develop and implement environmentally effective and profitable solutions.

Environmental management systems (EMS) are another comprehensive and widely recognized tool for improving environmental protection. The International Organization for Standardization (ISO) has finalized its 14000 series of standards for EMS and related auditing practices. Based on the principle of continuous improvement, these standards help companies prepare systematic policies and procedures for managing environmental risks. They cover topics such as setting goals and objectives, reporting and monitoring, employee training, product lifecycles and evaluating risk.

Canadian companies are expected to face growing pressure from customers and regulators to adopt ISO 14000-consistent standards. Particularly vulnerable are companies seeking access to markets in Europe, where ISO certification is quickly becoming a requirement of doing business. Companies seeking to demonstrate their commitment to environmental responsibility while adding value to their products, may find it useful to draw on sustainable development concepts such as eco-efficiency to set goals and measure progress within an EMS framework. An EMS can be an important part of a company's drive for eco-efficiency.

Industry Canada's Role

A number of Canadian industrial sectors have shown leadership in developing innovative approaches to the management of environmental issues. Industry Canada will continue to actively encourage and support leading business practices and endeavours such as the Canadian Chemical Producers' Association's voluntary stewardship program, Responsible Care®, the Whitehorse Mining Initiative and the Canadian Standards Association's Sustainable Forest Management Standard. Other sectors such as pulp and paper and electrical utilities are also developing similar approaches.

At the same time, Industry Canada recognizes that not all sectors and firms are prepared to lead. Those who innovate less quickly may, in the longer term, undermine their own competitiveness. Industry Canada will continue to work with public- and private-sector partners to develop appropriate accountability mechanisms that will help to protect the environment.

Sector Competitiveness Frameworks

The nature of the challenges posed by environmental pressures and the opportunities to improve both environmental and business performance vary from sector to sector — there is no "one size fits all" solution. Industry Canada works with representative stakeholders in each sector to develop Sector Competitiveness Frameworks (SCFs). SCFs are a combined analytical and action-oriented tool. They help industries identify the potential for increased investments and exports and to evaluate opportunities and challenges in areas affecting business performance, such as technology, trade, investment, human resources and sustainable development.

SCFs include an initial "Overview and Prospects" profile of each sector which examines trends and prospects, and a follow-up "Framework for Action" which identifies steps to improve competitiveness. SCFs provide an ideal partnership forum for evaluating broader sustainable development issues within an economic context. The "Framework for Action" creates additional opportunity to bring stakeholders together to prioritize activities and move ahead on agreed-upon actions.

Industry Canada has established departmental management processes to ensure a systematic evaluation of environmental issues as part of the SCF work. Most of the "Overview and Prospects" profiles produced to date have identified environmental pressures affecting competitiveness and new business opportunities. Industry Canada will use the sectoral "Framework for Action" documents to promote sustainable development and to help businesses take advantage of opportunities identified in the profiles.

Tools and Practices for Sustainable Development

While SCFs operate at the sectoral level, Industry Canada has been working to identify new management approaches to help individual firms address environmental pressures in a more systematic, integrated fashion. The department has strengthened its capacity with respect to eco-efficiency and the range of tools and practices available for companies to put sustainable development into practice.

In this way, Industry Canada brings the concept of sustainable development down to a "nuts and bolts" level — that is, helping companies understand how the concept translates into daily operations and can lead to profit and prosperity. Several companies in Canada are pioneering in this area. Industry Canada recognizes the importance of finding creative ways to reach other companies including small- and medium-sized enterprises (SMEs) to improve their awareness of leading practices. Industry Canada can play a networking role in bringing these firms together to share information and experience.

Industry Canada has a keen interest in the links between eco-efficiency and innovation. It is particularly interested in the extent to which business practices to improve eco-efficiency lead to the development and diffusion of new processes, products and technologies, as this will be important

Partnerships to Assist SMEs

Industry Canada is working with industry associations and other federal and provincial departments to improve the environmental awareness of small- and medium-sized enterprises (SMEs) and of the tools available to them to improve their environmental and business performance. The department and its partners are creating an Internet-based ***Virtual Office*** to provide SMEs with industry-specific information on how to improve their environmental performance.

The department is also working through the Aboriginal Business Canada program to provide information and help develop Aboriginal-managed SMEs. The development of innovative products and services such as the ***Spirit of Aboriginal Enterprise*** Internet Web site, and partnerships with Aboriginal business groups in other countries, extends awareness of combining new technology and business applications with traditional ecological principles of resource management.

Industry Canada has also helped the Economic Developers Council of Ontario hold workshops with municipal economic developers to raise awareness about practical ways that SMEs can improve their eco-efficiency.

indicator of the extent to which eco-efficiency at the company level can contribute to broader sustainable development goals.

Industry Canada has provided leadership on the ISO series 14000 standard for environmental management systems (EMS). The department contributed to this and other EMS initiatives through the Environmental Management System information product series and the Canadian Standards Association's *Competing Leaner, Keener, Greener: A Small Business Guide to ISO 14000*. The department also worked with the Standards Council of Canada to develop and implement a program for accreditation of ISO 14000 registrars. As well, the department co-sponsored the Canadian Environmental Auditors Association's development of a certification program for environmental auditors.

The development of innovative tools and practices in partnership with industry supports the department's "reasoned advocacy" role. As more companies use approaches such as eco-efficiency and other measures to improve their business and environmental performance, governments will experience less pressure to intervene to control pollutants.

Action Plan Items — Innovative Tools and Practices

- *Build sustainable development considerations more systematically into Sector Competitiveness Frameworks for all sectors.*
- *Work with Alliance of Manufacturers and Exporters of Canada (AMEC), Environment Canada and Ontario government to demonstrate and communicate the business case to implement ISO 14001.*
- *Work with industry, other government departments and other stakeholders to identify opportunities to use eco-efficiency indicators for improving the competitiveness and trade opportunities of Canadian companies in key sectors.*
- *Through the federal representative on the Standards Council of Canada, support and pursue initiatives in the voluntary standards system which promote sustainable development.*

3.2.2 Technology Development and Diffusion

Through the development, diffusion and application of new products, services and processes, innovation can lead to improved productivity, enhanced market opportunities, increased employment, improved quality of life and reduced stress on the environment. An evolving innovation system that nurtures the links among wealth, job creation, quality of life, the environment and the advancement of knowledge is central to encouraging the innovation that contributes to sustainable development. Such a system involves innovation at the local, regional and national levels. The sources of innovation — such as manufacturers, engineering companies and academic research establishments — form a key part of Canada's innovation system.

Another important element of Canada's innovation system is the network of strategic alliances of science and technology organizations. These alliances facilitate the development, diffusion and transfer of knowledge and technologies that promote sustainable development, both within the country and between Canada and other nations.

The international transfer of knowledge and technology, coupled with the unprecedented international mobility of capital, makes Canadian producers and consumers part of a truly global economy. To take advantage of this situation — and the resultant increased access to foreign markets — Canada, like many industrialized nations, will focus on improving its technology development capabilities

Canada's Innovation System

Canada's innovation system is comprised of the interconnected networks of universities and colleges, federal and provincial laboratories, industry-university consortia, and many entrepreneurs engaged in science- and technology-related enterprise. Financial institutions support the system by providing venture and other types of capital. Canadian firms and laboratories are involved in numerous strategic alliances with international partners, linking the Canadian system and the global economy.

by fostering a more effective, efficient innovation system. New foreign markets will open up for Canadian companies selling technologies that promote sustainable development, while domestic producers and consumers will have increased opportunities to use the knowledge and technologies obtained from other countries.

Technologies to Promote Sustainable Development

As Canada moves toward a knowledge-based, sustainable economy, the technological approaches used by firms to enhance their environmental and business performance will shift from using traditional remediation or "end-of-pipe" pollution control and treatment technologies to incorporating pollution-prevention technologies into the redesign of industrial processes, practices and products. The shift will be gradual as new facilities are constructed and existing ones are upgraded or replaced. For companies seeking to improve their environmental performance but unable to invest in large-scale process changes, pollution control will remain an important option.

Pollution control and treatment — Canada is a leader in several technologies and processes to control and clean up pollution and waste, particularly with respect to water. One firm, for example, is experiencing strong demand for its membrane-based products for cleaning wastewater. This technology is also proving to be a cost-effective way to desalinate sea water. A second firm's ultraviolet radiation treatment of wastewater is another Canadian success story. Canada has also developed expertise in the bioremediation of toxic wastes, the treatment of sludge and its conversion to oil, and the continuous monitoring of emissions and effluent.

Pollution prevention technologies — Canadian companies are increasingly investing in pollution prevention technologies as opposed to conventional end-of-pipe technologies. It is no longer sufficient to simply capture and treat contaminants. Leading companies consider pollutants as an indicator of inefficiency and are taking steps to eliminate their pollution by optimizing their production processes. As well, the pace of innovation in the area of clean-production processes, particularly in manufacturing, is accelerating. One multinational company, for example, has voluntarily undertaken pollution-prevention initiatives at nine of its plants. All of the initiatives resulted in environmental improvements and some have financially paid for themselves. In other areas, such as film processing, carpets and plastics, companies have developed technologies which prevent pollution through off-site recycling.

Several industries are also taking a strong product stewardship role that, in turn, stimulates innovations in product re-design. Choices made early in the design process can reduce material and energy inputs and eliminate toxic residues or disposal problems. Examples include "clean car" technologies, CFC-free refrigerators, biodegradable plastics and energy-efficient light fixtures.

Eco-industrial parks can contribute significantly to pollution prevention. Based on the principles of natural ecosystems, these parks have evolved in such a way that a number of companies are reusing and recycling the by-products of each other's production processes. This, along with sharing common transportation and utility systems, allows firms in these parks to reduce or avoid creating waste by-products and to become more eco-efficient.

"Enabling" technologies — Industrial sectors can apply and adapt technologies to enable new activities that lead to economic and environmental benefits. For example, biotechnology can enhance the productivity and sustainability of commercial tree species, contributing to more sustainable forestry practices. As well, fuel production from biomass such as corn-based ethanol, can create new market opportunities and help reduce reliance on non-renewable energy sources. Information and telecommunications technologies can enable business and consumers to develop ways to increase the efficiency and reduce the environmental impact of their activities. For example, computer-assisted design and manufacturing systems increase the efficiency of production processes while reducing waste through more sophisticated "green design" techniques.

Information and Communications Technologies

Canada's high-technology sector has made significant advances in developing information and communications technologies. As well as the need to develop new technologies in this area, there is untapped potential in key industrial sectors to use existing information and communication technologies more broadly to enhance business and environmental performance. For example, information technology used by the chemical industry to identify and classify wastes may have applications in other industrial sectors.

Information and communications technologies have strong potential for creating, disseminating and utilizing environmental intelligence. Their interactive nature (e.g. the Internet) makes them ideal for facilitating the flow of information among consumers, producers and other economic players. A Canadian-based technology is at the cutting edge of environmental data manipulation, modelling and analysis. Using advanced information and telecommunications technology, geographic-based information is processed to visually identify areas of future environmental concern in a way that can be easily understood by non-experts.

The Information Highway plays a critical enabling role in the transition toward a knowledge-based, sustainable economy. The Information Highway is the integrated, high-capacity, interactive communications and information infrastructure that weaves together Canada's continuously evolving telecommunications, broadcasting and computer networks. Scientific, environmental and economic information related to sustainable development can be transmitted inexpensively over great distances and accessed by many users at any time. The Information Highway will be critical in advancing our understanding of the complex linkages among economic, ecological and social systems through the sharing of ideas and expertise among different disciplines. It will also enable activities — such as telework, telehealth and distance education — which can promote sustainable development.

The development and diffusion of pollution control, pollution prevention and enabling technologies are critical to sustainable development. Already a leader in pollution control, Canada is moving more aggressively into the development of pollution-prevention technologies and the cross-sectoral diffusion of enabling technologies. Often, where development strengths exist, opportunities for broader diffusion coincide. Industry Canada plans to strengthen its efforts to facilitate the diffusion of such technologies. By focussing on understanding and promoting the "enabling effect" of these technologies and identifying the barriers to their diffusion, the department will be better equipped to promote their use.

Industry Canada's Role

Industry Canada's technology mandate is to accelerate sustainable economic growth and job creation in an increasingly competitive, knowledge-based economy through the encouragement of technology development, diffusion and application. The federal government's *Science and Technology Strategy for the New Century* (the S&T Strategy) highlights the importance of scientific and technological innovation for advancing sustainable development. Industry Canada will build on the S&T Strategy to extend technology policies and activities so that more firms use advanced technology more effectively.[5]

The federal S&T Strategy stresses the need for a more effective, integrated system for innovation in Canada. The effectiveness and efficiency of the innovation system depends not only on its capacity to access and produce new knowledge and technologies, but also to distribute the information quickly and practically. Industry Canada, in partnership with other departments and stakeholders, can act as a catalyst for institutional and systemic changes that will enhance the capacity of the

5 In 1997, the federal government announced the $800-million Canada Foundation for Innovation which supports commitments made under the S&T Strategy. The Foundation will provide funding to upgrade and modernize university and hospital research infrastructures in the areas of science, health engineering and the environment.

Canadian innovation system to produce and distribute new knowledge and technologies that promote sustainable development.

The generation and flow of new knowledge and technologies will enable the development of innovative solutions to mitigate or eliminate environmental degradation, as well as contribute to economic and social improvements. Industry Canada plays an important role in promoting the development and diffusion of these technologies. It does so through several discrete, yet related, initiatives.

Technology Partnerships Canada (TPC) — is an innovative investment fund to encourage the commercialization of research and development (R&D) leading to technologies that will contribute to sustainable development. In addition to aerospace and defence technologies, TPC will support environmental and "enabling" technologies such as biotechnology, selected information and communication technologies, and advanced materials and manufacturing technologies. For example, TPC is investing in the Pulp and Paper Research Institute's five-year R&D program on closed-cycle technologies to prevent pollution and eliminate the need for end-of-pipe effluent treatment.

CANARIE (Canadian Network for the Advancement of Research, Industry and Education) — includes the promotion of partnerships with firms involved in environmental research. For example, two Canadian companies are working together to design and implement a nationwide data-handling system to ensure timely, uniform air pollution monitoring. They will send the data via the Internet to industry, regulatory bodies and research groups.

Canadian Health Information System (CHIS) — Industry Canada will provide support for a National Advisory Council on the Canadian Health Information System, and conduct other activities aimed at stimulating industrial development opportunities in health informatics and telehealth.

Networks of Centres of Excellence (NCE)
The NCE program links Canada's centres of scientific and engineering expertise into networks of public- and private-sector research communities that share R&D goals and resources and work together to develop and apply technologies. The Networks have led to a number of spin-off companies and include several networks that relate to sustainable development, including the sustainable forest management NCE.

National Biotechnology Strategy (NBS) — Current efforts concentrate on more fully understanding the links between biotechnology and sustainable development and on creating the appropriate business climate for the commercialization and diffusion of biotechnology. Industry Canada is currently working with other departments to formulate a broadened *National Biotechnology Strategy*.

Industry Canada will undertake more work with the private sector to facilitate the development of innovative technologies that promote sustainable development. It is currently exploring opportunities to identify how environmental pressures will shape future market demands and how this could influence technology needs. An important contribution in this area are the "technology roadmaps," which the department and the private sector are creating together. These roadmaps identify the critical technologies (many of which contribute to sustainable development), technical skills and core competencies that an industry will require to meet future market demands. The Technology Roadmap for Canadian Forest Operations, for example, highlights the fact that technological innovation is the key method by which environmental challenges may be addressed.

Industry Canada uses the Information Highway as one way to electronically provide information on clean-production and enabling technologies. *Strategis* gives industry an electronic window into

departmental activities, including those related to technology and sustainable development. *Canadian Environmental Solutions* (CES) is a multimedia product, available on diskette, CD-ROM and *Strategis*, which identifies some 1500 Canadian solutions to more than 2000 environmental problems. A special information section on Traditional Environmental Knowledge was incorporated into the CES CD-ROM by Aboriginal Business Canada (ABC). The department also worked with other federal and provincial departments, institutions and environmental industry associations to create the Internet-based *Virtual Office* which gives users single-window access to the information and services these organizations provide.

Industry Canada also continues to promote growth in the information technologies and telecommunications industries through such programs as SchoolNet Digital Collections, the Community Access Program (CAP) and Student Connection. These programs address both the economic and social dimension of sustainable development. For example, SchoolNet Digital Collections gives Canadians aged 15 to 30 entrepreneurial and technology-based job experience in converting collections of materials into digital form for display on SchoolNet. The program helps young Canadians acquire the skills demanded in the knowledge-based economy and gain work experience. It also provides users with wider access to Canadian material of public interest via the Information Highway, and demonstrates the economic benefits of digitization.

Action Plan Items — Technology Development and Diffusion

- *Technology Partnerships Canada (TPC) will continue to fund innovative and new clean-production and enabling technologies which contribute to sustainable development. In addition, TPC's performance evaluation will be undertaken by 2001. The broad range of evaluation criteria will include impacts on the environment and sustainable development.*
- *Promote the development of eco-industrial parks in Canada through a survey of potential sites and a study on the potential role of governments and private-sector organizations in fostering development of eco-industrial parks in Canada.*
- *Where possible, better integrate economic and environmental factors into ongoing and planned Technology Roadmaps to identify opportunities for technology development which contribute to competitiveness in future markets where environmental pressures are expected to have a major impact.*
- *Establish and maintain an Internet Web site within* Strategis *on Industry Canada's* Sustainable Development Strategy *including: periodic progress reports on the strategy's action items; links to departmental resources (for example, the Internet-based* Virtual Office *and* Consumer Connection*); and information from sources external to Industry Canada, including private-sector best practices.*
- *Update and expand the next version of the* Canadian Environmental Solutions *database to include the integration of enabling information and communications technologies.*
- *Conduct two studies to identify the benefits of and barriers to the cross-sectoral diffusion of technologies that contribute to sustainable development: 1) clean-production technologies; and, 2) enabling information and communication technologies.*

3.3 Trade and Investment

Strategic objective

Encourage trade and investment flows which contribute to sustainable development in Canada and abroad

Priorities

i) Trade policy — promote the establishment of international rules which further the objectives of sustainable development

ii) Trade promotion and investment — encourage investment in and export of Canadian knowledge, products, practices and technologies which further the objectives of sustainable development

3.3.1 Trade Policy

With the liberalization of trade and investment, a key force behind global economic development, the world's economies are becoming increasingly interdependent. As an open economy which trades approximately 74 per cent of its GDP in both exports and imports combined, Canada must enhance the international competitiveness of its companies and ensure a fair, open trading system. To this end, Canada is a signatory to several global, regional and bilateral agreements that promote trade liberalization.

At the same time, Canada also works with other nations to address global and regional environmental challenges such as climate change, trade in hazardous wastes, ozone depletion, the loss of biological diversity and the long-range transport of airborne pollutants. Only through international cooperation can these matters be effectively addressed. Canada seeks to negotiate commitments in these areas in a way that achieves environmental objectives while, at the same time, taking into account economic impacts and how these impacts are shared among countries.

These parallel trends are closely integrated in the sustainable development context. The links between environment and trade at the global level are complex. Trade liberalization plays an important role in supporting sustainable development through the creation of wealth at the global level, particularly in previously less-developed countries. It can also open up trade for knowledge, technologies, goods and services that advance the economic, environmental and social objectives of sustainable development.

Industry Canada's Role

The principal objective of Canada's trade policy is to create a system of international rules that maximizes the country's international competitiveness while opening world markets. Industry Canada contributes significantly to the development of Canadian trade policy. Its activities include the ongoing assessment of tariffs and non-tariff barriers, rules of origin, trade rules and government procurement, as well as the trade-related aspects of competition policy, telecommunications, intellectual property, regulatory policy and standards.

Industry Canada also plays an increasingly important role in the area of trade and the environment. Industry Canada is a member of the Canadian delegation for the World Trade Organization (WTO) Committee on Trade and the Environment. The department participated in the review of trade rules to determine if they are flexible enough to deal with the use of trade measures in multilateral environmental agreements. Industry Canada worked with other federal departments to conclude, in agreement with other WTO member countries, that the multilateral trading system has the capacity to further integrate environmental considerations without undermining its open, equitable and non-discriminatory character. The Committee is currently exploring, among other things, the establishment of guidelines for the development and management of future multilateral environmental agreements.

Industry Canada works with Environment Canada, the Department of Foreign Affairs and International Trade (DFAIT) and other federal departments to

help establish Canada's negotiating position with respect to multilateral and regional environmental agreements. As in the development of domestic environmental policies, the department's objective is to ensure that trade and competitiveness considerations, as well as consumer perspectives, are taken into account. The department also seeks to ensure that the agreements encourage private-sector innovation, are consistent with Canada's international trade obligations and policies, and protect long-term competitiveness interests.

For example, Industry Canada is working with Environment Canada and DFAIT to promote the mutual recognition of assessments of new chemicals under the *North American Free Trade Agreement* (NAFTA). A mutual recognition approach would give Canada both economic and environmental benefits by eliminating trade barriers, introducing new "greener" chemicals already available in the U.S., and making Canada's assessment process more efficient by recognizing new chemical assessments done in the U.S.

Recognizing the complexity of international environmental issues as well as the relationship between trade and the environment, Industry Canada will continue to work with other departments and stakeholders to ensure that trade and environment policies are mutually supportive.

Action Plan Items — Trade Policy

- *Continue to support Canadian government efforts in international fora to address the integration of economic and environmental issues at the global level (for example, through World Trade Organization, United Nations Commission on Sustainable Development, Organisation for Economic Co-operation and Development and Commission on Environmental Cooperation).*
- *Work with key federal departments, in consultation with clients, to develop policy guidelines that could lead to a "rules framework" for international discussion which would guide the development and negotiation of Multilateral Environmental Agreements.*

3.3.2 Trade Promotion and Investment

Several countries are starting to incorporate sustainable development concepts into their national policy development, decision making and investments. This trend encourages actions to operationalize sustainable development principles in national policies, programs and activities. It also encourages companies that trade to consider incorporating a sustainable development perspective in their decision making.

The global market for knowledge, products, practices and technologies which contribute to sustainable development is growing rapidly. The worldwide market for environmental technologies alone is expected to be substantial by the turn of the century. The market for information technologies, biotechnologies and other "enabling" technologies is also growing rapidly. These market opportunities go beyond the export of technologies to include major innovations in institutional arrangements, policy instruments and business practices.

Canada is well positioned to capture a significant share of this market. For example, our expertise in air and water pollution-control equipment, such as scrubbers and ultra-fine filters, and the trend in innovation toward the development of pollution-prevention technologies, gives Canada a strong domestic base for exports.

Canada's ability to increase its share of the global market will be influenced by the pace and nature of its technology development. A policy framework that addresses environmental problems and creates strong incentives for innovation can strengthen Canada's capacity to develop and export sustainable development technologies. This strength can be enhanced through mechanisms such as the *Canadian Environmental Industry Strategy* (CEIS) to enhance the marketability of Canadian environmental technologies by, for example, supporting the independent verification of performance claims.

Canadian Environmental Industry Strategy (CEIS)

The CEIS consists of 22 initiatives, as well as new and continuing government programs and activities which support the growth of the Canadian environmental industry. Ten of these initiatives aim to improve the environmental industry's access to domestic and international markets by doing the following:

- developing domestic and foreign market intelligence
- disseminating market intelligence via the Environmental Industry ***Virtual Office***
- enhancing the knowledge of trade representatives abroad about the environmental industry and equipping them with the CD-ROM, ***Canadian Environmental Solutions***, to promote Canadian expertise
- supporting the independent verification of the performance claims of new environmental technologies and enhancing their international marketability
- assisting Canadian companies to take commercial advantage of international agreements by helping them to meet with representatives in new markets
- facilitating the formation of strategic alliances to give SMEs the collective capacity to offer clients "full service" capabilities
- improving industry awareness about federal export support through the Export Development Corporation
- strengthening industry participation in projects funded by Official Development Assistance.

Canada also has an opportunity to export scientific expertise, innovative institutional arrangements (e.g. cooperative arrangements and partnerships among federal and provincial governments, business and the environmental community), and innovative policy tools such as economic instruments and voluntary codes.

Industry Canada's Role

Canada's International Business Strategy (CIBS) is the focus of Industry Canada's international business development efforts. CIBS provides an umbrella under which Industry Canada and DFAIT work in partnership with the provinces and private sector to coordinate Canadian trade and investment promotion activities. CIBS is closely linked to the "Trade Team Canada" initiatives which have opened business opportunities for Canadian companies in China, South Korea, Thailand, Philippines, Latin America, India, Pakistan, Indonesia and Malaysia. Some 27 National Sector Teams (NSTs), comprised of stakeholders from federal and provincial governments and the private sector, now exist, many led by Industry Canada.

A key NST activity is the development of annual sector-based strategies. These strategies provide an overview of promising international business opportunities and identify emerging trends, challenges and opportunities in key markets. More than half of the 22 sector-based strategies contain elements which support sustainable development. As well, an NST has been established, and a sector-based strategy produced, for the Canadian environmental industry.

Industry Canada is also a key player in several international S&T arrangements (e.g. with the European Union, Japan and Germany) which help Canadian industry maintain access to best-practice technologies from abroad through participation in international R&D activities. Several of these agreements contain a strong sustainable development focus. For example, under the Industry Canada-led S&T agreement with Germany, Canadian companies were active in the environmental clean-up of the former East Germany.

The CEIS has also supported Industry Canada's direct role in facilitating technology transfer involving a range of clean-production technologies. For example, under a Canada–Poland MOU, Industry Canada has led business missions to promote Canadian technologies in the areas of hazardous-waste management, small-scale hydro-electric power generation, biogas fuel sources and wastewater treatment.

Under the CEIS initiative to support strategic alliances, Industry Canada has been working with Environment Canada and many small- and medium-sized enterprises (SMEs) to improve their access to export markets. These activities include market intelligence, "door-opening" workshops in developing markets, and helping SMEs to form strategic alliances to provide full-service capabilities which, in turn, will help them penetrate foreign markets. To date, two consortia have been formed to undertake projects in South America. One consortium provides fully integrated products and services in the pulp and paper sector; the other provides environmental services, technologies and operational expertise in the areas of water, soil and waste.

Through a CEIS initiative, Industry Canada has trained its overseas trade representatives to better promote Canada's environmental industry and has provided information to help them match Canadian companies with overseas projects. An important information tool is the *Canadian Environmental Solutions* database which has been distributed to many developing countries and is available on the Internet and on CD-ROM.

Industry Canada works with DFAIT, industry and other national governments to attract and retain foreign direct investment in Canada. Investment Partnerships Canada (IPC) is a new investment unit established by Industry Canada in partnership with DFAIT. It focuses on multinational enterprises and high-growth companies from key sectors such as information technologies, automotive, life sciences, agri-food, aerospace, chemicals, forest and building products, and mining.

Action Plan Item — Trade and Promotion

- *Continue to deliver the* Canadian Environmental Industry Strategy *and its 22 initiatives, review its success and consider the development of a follow-up strategy.*

3.4 Stewardship and Management

Strategic objective

Continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development

Priorities

i) Making better decisions — make decisions based on a continually improving awareness and understanding of the economic, environmental and social implications of existing and proposed activities

ii) Greening operations — ensure that day-to-day physical operations at Industry Canada have minimal impacts on the environment

3.4.1 Making Better Decisions

Federal departments have a responsibility to ensure that their own decisions regarding policies, programs and projects are based on a careful consideration of the environmental, social and economic implications of their activities. Industry Canada is taking several steps in this direction and will work with the Atlantic Canada Opportunities Agency, Federal Office of Regional Development (Quebec) and Western Economic Diversification, as well as other departments to share knowledge and coordinate where appropriate. All endeavours are designed to increase awareness and understanding among employees and management, as well as clients, stakeholders and others, regarding sustainable development matters. These steps will help to change and improve the way we conduct our operations.

Improving Existing Programs

Baseline studies are an important tool for increasing understanding of the extent to which departmental programs contribute to sustainable development. This increased understanding will allow the department to continuously improve the design and delivery of its programs.

Industry Canada is helping to fulfil the government's commitment to undertake a comprehensive baseline study with respect to federal taxes, grants and subsidies and other fiscal disincentives to sound environmental practice. Industry Canada does not have many major grant and subsidy programs. In response to the commitment, Industry Canada has completed an assessment of the Aboriginal Business Canada program and found that it contributes positively to sustainable development. The department will also evaluate its Technology Partnerships Canada program by 2001, using a range of evaluation criteria that will include impacts on the environment and sustainable development.

Technology Partnerships Canada (TPC)

As the TPC program is relatively new, the department has concentrated on integrating sustainable development criteria and indicators into the evaluation framework to measure the program's success.

The evaluation framework provides an integrated mechanism to evaluate performance in the medium and long term against a broad range of criteria, including impacts on the environment and sustainable development. It stresses that the environment and sustainable development are critical factors to consider during the implementation and review of TPC.

Long-term, sustainable development impacts include the following:

- improved environmental performance/indicators
- the creation and stability of high-quality jobs
- increased Canadian production and sales with access to new markets
- technology spinoffs and diffusion
- improved world competitiveness.

The department assesses projects for funding purposes on the extent to which they have the potential to generate economic, environmental and social benefits. It will also review projects under the ***Canadian Environmental Assessment Act*** (CEAA).

Environmental assessments can also help to improve existing programs. The department has established a process for undertaking environmental assessments when necessary under the *Canadian Environmental Assessment Act* (CEAA). The system includes the use of a procedures manual, training and coordinating environmental assessment officers, and registering departmental assessments in the Federal Environmental Assessment Index.

While analyzing existing programs is important, Industry Canada will concentrate future efforts on innovative approaches to integrating sustainable development concepts into new policies and programs.

New Policies and Programs

As a policy-oriented department with a strong economic mandate, Industry Canada recognizes the importance of integrating environmental and social considerations into its policy and program decisions. It is committed to strengthening its capacity for the sustainable development assessment of new policy and program proposals, and to incorporating such assessments as early as possible into the process.

The department has a range of activities at its disposal for incorporating sustainable development considerations into its new policies and programs. It has been gaining expertise in building sustainable development criteria into Sector Competitiveness Frameworks (Section 3.2.1), environmental assessments, evaluation frameworks, research and training. Partnerships with other departments and private-sector stakeholders contribute to the development of expertise in these areas.

Environmental Assessment (EA) — Industry Canada is a member of the Interdepartmental Working Group on Strategic Environmental Assessment, chaired by the Canadian Environmental Assessment Agency. The Working Group is a focal point for federal efforts to integrate environmental assessments into new policies and programs. It recently produced a Training Module which, building on the practices and experiences of federal departments and the international community, offers a simple, practical approach to conducting environmental assessments of policies and programs. The department recognizes the importance of establishing an improved mechanism for its own new policies and programs.

Aboriginal Business Canada (ABC)

The department performed a baseline study of ABC. It used a quantitative analysis of the program's performance in conducting environmental assessments with respect to projects falling under the ***Canadian Environmental Assessment Act*** (CEAA), and a qualitative assessment of the integration of sustainable development into its other projects, business perspective and practices. The analysis confirmed that ABC contributes to the economic, environmental and social dimensions of sustainable development.

ABC's Project Environmental Assessments in 1996–97 indicate that approximately 7 per cent of its projects were physical ventures (such as construction of commercial buildings and modifications to production facilities) requiring an environmental assessment under CEAA. The remainder involved business promotion, research and support for developing business and financial plans.

Qualitatively, the program integrates sustainable development into its business perspective and practices by building on Aboriginal principles of resource management. The department considers it a priority that Canadians understand the value of combining business applications of new technologies with traditional ecological knowledge.

Evaluation Frameworks — One way to ensure that new programs contribute to sustainable development is to build relevant criteria into the programs' evaluation frameworks. Industry Canada has done this with its Technology Partnerships Canada (TPC) program and will use the framework when it evaluates the program's success. Industry Canada views such frameworks as one promising way to promote sustainable development in its programs.

Research — To strengthen overall comprehension of the interrelationships among economic, environmental and social factors, the department conducts internal research on such matters as the following:

- linkages between environmental policy and competitiveness
- sustainable development indicators
- barriers to the cross-sectoral diffusion of enabling technologies
- market-based and voluntary instruments for environmental management
- policy options to address climate change
- the application of benefit-cost analysis to environmental regulation.

Industry Canada also participates in an interdepartmental research agenda on issues related to sustainable development. The department uses the results of the research to improve its decision making on new policies and programs.

Training — Industry Canada offers its employees a range of training courses. Its major strengths are in training program officers and policy analysts in business and economic analysis. Such courses help employees remain current in their fields, as well as learn new concepts and develop an interdisciplinary approach to doing their work. The department will build on this strength to develop knowledge and skills related to sustainable development. Ultimately, a deeper understanding of sustainable development will strengthen the organization's analytical capacity and improve its advice both to its own managers and to other departments, the business community, consumers and other groups working on sustainable development issues.

Awareness and Understanding — Industry Canada will continue to raise the awareness and understanding of its employees through a series of incremental steps designed to explain the concept of sustainable development and show how it translates into daily activities. The creation of the department's first *Sustainable Development Strategy* was, in itself, a learning experience, raising the issue's profile both within the department and, during the consultation process, among clients, stakeholders and others. Broad, department-wide messages about Industry Canada's sustainable development efforts are cultivating a growing awareness and interest among employees.

Implementation of the Strategy

The success of Industry Canada's first *Sustainable Development Strategy* depends in large part upon the commitment and engagement of both the department's management and its employees.

Industry Canada's senior management has been engaged in the development of the department's Strategy and will be directly responsible for its implementation. At the planning stage, senior management directed the Strategy's development and reviewed such critical components as the issues scan and background papers, as well as the draft Strategy itself. Senior management will continue to be directly engaged in the Strategy's implementation through regular updates on status and progress.

At the staff level, employees from different responsibility centres across the department have participated in the preparation of this strategy and will be involved in the implementation of the action items. Further, there will be ongoing internal efforts for departmental staff to improve their understanding and awareness of sustainable development through research, training and discussion.

Action Plan Items — Making Better Decisions

- *Continuous improvements to the process of Project Environmental Assessment (EA), the approach to training and the use of the Industry Canada network of environmental coordinators are ongoing. As new programs like Technology Partnerships Canada evolve, environmental coordinators will be trained in procedures of conducting EAs and reporting under the* Canadian Environmental Assessment Act.
- *Work with Industry Canada program and policy managers to ensure that evaluation frameworks for recent and new initiatives build in sustainable development criteria as appropriate (modelled on Technology Partnerships Canada evaluation framework).*
- *Undertake policy research and analysis to support the department's strategic policy objectives with industry, consumers, other government departments and non-governmental organizations, with an emphasis on the factors that contribute to sustainable development in a knowledge-based economy.*
- *Develop a training program on sustainable development concepts and practices, as well as practical tools developed by other government departments and the private sector which policy and program officers can use in departmental initiatives such as Sector Competitiveness Frameworks, Technology Partnerships Canada and Technology Roadmaps.*
- *Develop and assess, on a pilot-project basis, an approach for conducting improved Environmental Assessments of new Industry Canada policies and programs. This initiative will include training selected staff to undertake these assessments.*
- *Provide general messages and information department-wide to promote environmentally friendly office practices using electronic media. Articles about environmental and sustainable development concepts will be featured in Industry Canada's departmental newsletter with examples of current and future departmental sustainable development initiatives.*

3.4.2 Greening Operations

Industry Canada is taking steps to improve the "greening" of its operations when possible. This involves ensuring that its operations are conducted in a manner consistent with good environmental stewardship principles. These principles call for protecting and fostering the sustainable use of the environmental resources under the department's control or influence.

Industry Canada recognizes that the accumulated impact of many small improvements regarding its operations — such as those related to its offices (e.g. energy use in buildings and use of paper and office supplies) and its vehicles (e.g. energy consumption and emissions) — can produce significant environmental benefits. As a federal organization, the department also accepts that it has a responsibility to follow best practices. This is particularly important if it is to serve effectively as an advocate of sustainable development with industry clients.

Departmental greening operation actions are focusing on improvements to the environmental management framework, development of a baseline of environmental information, and cost-effective initiatives in areas where strong potential exists for achieving environmental benefits.

Improvements to the Environmental Management Framework

The department's current approach to environmental management is to encourage and rely on individual managers to integrate environmental issues into their day-to-day decision making. Some of the elements of an environmental management framework, including overall objectives and planning criteria, are currently in place and action has begun on issues such as hazardous waste, paper recycling and fuel efficiency. However, the development of the *Sustainable Development Strategy* has prompted a more systematic approach to addressing environmental concerns.

Organizations in Canada and around the world are recognizing that the effective management of environmental issues requires the same sort of tools used to manage other critical aspects of their businesses, such as finances and human resources.

Many are considering the adoption of formal environmental management systems (EMS) and are assessing the merits of various models, such as the International Organization for Standardization (ISO) Environmental Management Standards (14000 series), the Canadian Standards Association (CSA) Voluntary Environmental Management System (CSA Z-750), and the best practices of other private and public sector organizations.

The department is assessing its current approach to environmental issues against applicable models for EMSs. Based on this assessment, it will clarify and expand its approach to make it more comprehensive and systematic. The objective is to put in place an effective, efficient EMS and to integrate it with the department's overall business planning systems. The EMS will address a variety of issues such as policies, objectives and targets, roles and responsibilities, training and awareness, and performance measurement. It will also establish a planning framework, which will include a common approach with Public Works and Government Services Canada (PWGSC) regarding facilities.

Development of Baseline Environmental Information

The EMS requires baseline information on the environmental aspects of the department's operations in order to select priorities, establish targets and performance measures, and plan effectively. The department's strategy will be to collect existing information from internal databases and to obtain samples of additional information from specific facilities and organizations. The baseline information will be organized according to key environmental aspects and will include data on underlying matters such as facilities, floor space, number of vehicles, energy consumption, waste volumes, energy efficiency and recycling rates. It will also identify associated risks and opportunities, information gaps and possible performance indicators. The department will undertake additional information-gathering audits when justified by the risk and opportunities assessment and information gaps.

Implementing Priority Actions

Although establishment of an EMS and collection of baseline information are important, they should not delay the implementation of cost-effective measures that have clear potential for environmental benefits. The department is moving ahead with a series of priority actions in the following areas:

- energy and water conservation
- responsible, informed green procurement
- vehicle fleet management
- non-hazardous waste reduction and recycling
- hazardous materials management.

Targets will be based on overall federal commitments (e.g. to reduce waste by 50 per cent by the year 2000) and on process milestones (e.g. provide lists of green suppliers by January 1998). Once a baseline survey is complete, the *Greening Operations Action Plan* will be reviewed and updated.

Action Plan Item — Greening Operations

→ *Work to implement the* Greening Operations Action Plan *to ensure that the department's operations are conducted in a manner consistent with good environmental stewardship principles and practices. Key elements of the* Plan *include: designing a more comprehensive environmental management system and integrating it into the department's business planning system; developing baseline environmental information; and, implementing a series of priority actions in specific operational areas.*

4. Measuring Progress

Measuring progress involves identifying and reporting the difference that Industry Canada will make as a result of its first *Sustainable Development Strategy*. This section sets out the department's initial steps to establish a system that captures the performance information needed to support ongoing management and reporting. Industry Canada is committed to defining the results required to demonstrate practically how policy direction is being translated into effective action.

Approach to Measuring Progress

Industry Canada takes two broad perspectives on measuring progress. At the project level, measuring progress involves assessing the results of individual initiatives and ensuring that managers and staff have a clear understanding of how their daily activities contribute to department-wide goals and priorities. At the corporate level, performance measurement is about organizational commitment to strategic objectives and change. Senior management will monitor the implementation of the Strategy and ensure that an adequate organizational capacity exists to achieve desired results over the long term. Industry Canada is currently developing a measurement and reporting system that meets both project- and corporate-level needs.

Measuring the Results of Individual Initiatives

Industry Canada's first *Sustainable Development Strategy* identifies specific initiatives for giving concrete expression to the department's short- and medium-term priorities related to sustainable development.

To foster results-based management, the department is establishing an ongoing monitoring system to measure the progress and achievements of each initiative. The system is based on a clear articulation of expected near-term results, and indicators to measure the extent to which results have been achieved. The expected near-term results are presented in the following table.

Many of the initiatives involve partnerships, an approach that is frequently integral to moving ahead with sustainable development. This often puts the achievement of desired outcomes beyond the department's direct control or influence. Where possible, the Strategy expresses the expected near-term results at a level at which accomplishments can be measured and attributed to the actions of the department. This strengthens Industry Canada's accountability to the public.

One key feature of the approach adopted for performance measurement is that it reinforces the department's commitment to results. The framework balances the traditional concern for *outputs* related to specific actions with a perspective that focuses on desired *outcomes* that support sustainable development objectives.

Strategic Objectives and Expected Near-term Results

Strategic objective ***Marketplace Climate — foster a marketplace climate that promotes sustainable development.***	
Priorities	**Expected Near-term Results**
Marketplace Rules and Services	• better understanding of the links between ***Canada Business Corporations Act*** and sustainable development
Reasoned Advocacy to Shape Sustainable Development Policy	• improved knowledge and collaboration in policy development and implementation on high-priority sustainable development challenges through the provision of expertise on economic, trade, consumer and other marketplace factors • more informed government, business, consumers and environmental groups of the conditions under which voluntary codes are most likely to be successful through publication of related information • enhanced opportunity for innovative use of policy instruments such as voluntary initiatives to achieve sustainable development through related research • enhanced awareness of potential application of voluntary initiatives by business through determination of areas for improvement and identification of candidate sectors for new voluntary endeavours
Consumer Choice and the Marketplace	• improved integration of consumer perspectives into sustainable development policy emanating from consumer research, partnerships, networks or advocacy work
Strategic objective ***Innovation — enhance the ability of Canadian firms to develop and use innovative technologies and tools which contribute to sustainable development.***	
Priorities	**Expected Near-term Results**
Innovative Tools and Practices	• increased integration of sustainable development perspective in Sector Competitiveness Frameworks • influence and inform the business community, including small- and medium-sized enterprises, by demonstrating through business case studies the benefits of implementing environmental management systems such as ISO 14001 • improved identification of the potential uses of eco-efficiency indicators for enhancing business application through selected research • enhanced support and encouragement for using the voluntary standards system as a tool to promote sustainable development through Standards Council of Canada representation
Technology Development and Diffusion	• development and adoption of new technologies supportive of sustainable development objectives primarily through the Technology Partnerships Canada program • enhanced awareness of the potential application of eco-industrial parks through a survey of potential sites and review of roles • better understanding of opportunities for potential development of technologies supportive of sustainable development objectives by selected industry sectors through technology roadmaps • enhanced awareness of sustainable development initiatives through establishment of a Sustainable Development Web site within ***Strategis***

Strategic Objectives and Expected Near-term Results (cont'd)

	• revised ***Canadian Environmental Solutions*** to provide new information for business on enabling information and communications technologies • better understanding of the barriers to diffusion of information and communication technologies, as well as clean-production technologies, through special studies
Strategic objective ***Trade and Investment — encourage trade and investment flows which contribute to sustainable development in Canada and abroad.***	
Priorities	**Expected Near-term Results**
Trade Policy	• continued participation on Canadian delegations so that stakeholder interests are represented in a manner that balances economic and environmental objectives • cooperation among key federal departments on the formulation of policy guidelines for the purposes of negotiating international environmental agreements
Trade Promotion and Investment	• improved access to domestic and global market opportunities for Canadian environmental companies through the ***Canadian Environmental Industry Strategy*** • improved marketing of Canadian environmental companies through improved access to relevant federal programs, services, and strategic information and intelligence
Strategic objective ***Stewardship and Management — continue to improve the capacity of Industry Canada to manage and deliver departmental policies, programs and operations which contribute to sustainable development.***	
Priorities	**Expected Near-term Results**
Making Better Decisions	• enhanced integration of sustainable development criteria in relevant program evaluation frameworks • improvements to project-level environmental assessments through training of appropriate officers and improved coordination • policy research on the factors that contribute to sustainable development in a knowledge-based economy • enhanced knowledge of sustainable development concepts and practices by affected policy and program officers through training • better understanding of approaches for undertaking environmental assessment of new policy and program proposals on a pilot-project basis • enhanced awareness of sustainable development challenges among Industry Canada managers and staff through internal communications initiatives
Greening Operations	• establishment of an appropriate environmental management system with relevant baseline data • increased integration of environmental considerations into operational decisions and the department's planning system • reduced use of raw materials, energy, water and other resources; reduced generation of waste, toxic substances and emissions • assurance that Industry Canada meets or exceeds the letter and spirit of federal environmental laws and where appropriate, is compatible with provincial and international standards

Measuring the Overall Progress of the Strategy

Industry Canada will also develop an evaluation framework for periodically assessing the overall effectiveness of the Strategy's implementation. The framework document will allow issues-oriented, corporate monitoring of departmental progress relative to strategic objectives and priorities for sustainable development.

The evaluation framework will provide a more strategic perspective on the achievement of desired results. It will identify how to relate specific, short-term accomplishments to broader concerns about progress related to strategic objectives and priorities. This will require the development of performance indicators or measures associated with longer-term interests such as improvements in marketplace climate and the enhanced use of appropriate technologies that contribute to sustainable development. The department is in the early stages of developing meaningful indicators, and accomplishing this is an important challenge in determining concrete progress. In the short term, examples of success and accomplishment will be reported as a measure of progress.

Effectiveness measurement at the corporate level will also address governance issues such as the following:

Relevance/Responsiveness
Has the nature of the need for the Strategy changed since implementation? How well is the department anticipating and responding to change?

Appropriateness
Are the design and selected methods for pursuing objectives sensible and sufficient? Are clients and stakeholders satisfied with departmental efforts?

Organizational Capacity
Does the department have the right mix of skills and resources to support the implementation of the Strategy?

Reporting Considerations

The department will report to Parliament annually through the Industry Canada *Performance Report*. It will also periodically assess longer-term performance trends and report to Parliament on these every three years, as required.

5. Conclusion and Next Steps

Industry Canada's first *Sustainable Development Strategy* builds on the foundation of the department's mandate and existing activities, and sets a course for the next three years to better integrate economic, environmental and social objectives into departmental policies, programs and operations.

Industry Canada plays an important role in supporting a smooth transition to a knowledge-based, sustainable economy. A key aspect is the department's work to better understand the complex linkages among economic, environmental and social objectives and the challenges inherent in providing a high quality of life for both current and future generations. The department's efforts over the next three years to integrate sustainable development more fully into the nation's marketplace climate, innovation, trade and investment activities will also contribute to this transition. Industry Canada's determination to translate its broad commitment to sustainable development into concrete, incremental actions will deepen understanding of the practice of sustainable development and allow the department to measure its performance in achieving its sustainable development objectives.

The success of Industry Canada's first *Sustainable Development Strategy* depends on several factors. Commitment among management and staff is critical. Ongoing internal efforts to improve understanding and awareness through research, training and discussion will support this commitment. New and stronger partnerships with other departments and stakeholders are also essential, as is an openness on the part of the department and its partners to pursue innovative ways to integrate economic, environmental and social considerations into their business. The Strategy is based on consultation with other federal departments, the business community, consumer groups, environmental organizations and others with expertise and interest in sustainable development, and these partnerships will continue to be central to implementing the Strategy.

With this first strategy, Industry Canada has embarked on a journey. The department looks forward to working with others over the next three years to advance understanding of sustainable development and to take practical, incremental steps toward a knowledge-based, sustainable economy which provides a high quality of life for current and future Canadians.

Annex 1 Departmental Profile[6]

Industry Canada's mission, role, lines of business and current activities provide a strong foundation for promoting sustainable development. The department's first *Sustainable Development Strategy* builds on this foundation, in partnership with the private sector and other government departments, to set long-term sustainable development objectives, medium-term priorities and concrete actions to achieve measurable results.

Industry Canada's mission is to foster a growing, competitive, knowledge-based economy that:

- ***provides more and better-paying jobs for Canadians***
- ***supports stronger, sustainable business growth***
- ***gives consumers, businesses and investors confidence that the marketplace is fair and efficient.***

As part of its *Jobs and Growth Agenda*, the federal government has refocussed its role in the economy. Rather than subsidize activity and jobs, the government is addressing the structural factors that most directly contribute to Canada's economic expansion. These structural factors — globally competitive trade and investment regimes, science and technology development and diffusion, an advanced information and telecommunications infrastructure, a skilled workforce and a healthy marketplace climate — are critical. Countries that adapt rapidly to the realities of today's economy will improve the standard of living for their citizens.

Industry Canada has a range of micro-economic instruments to help promote the growth of a rapidly evolving, increasingly knowledge-based economy — an economy where government sets the legislative and regulatory framework and provides leadership on key emerging issues. For Industry Canada, these instruments include industrial and technological development, fostering scientific research, setting telecommunications policy, investment promotion, trade, small-business development and tourism marketing.

In addition, the department provides information and services that support the effective operation of the marketplace. Some 20 legislative acts set the policy and regulatory framework in such areas as intellectual property, bankruptcy and insolvency, weights and measures, competition and the restraint of trade, incorporation and corporate governance, packaging and the performance of non-food consumer products (except safety), and spectrum management.

The department works with industry to promote sustainable approaches to the development of the country's industrial economy. Canadian companies have made considerable progress in reducing pollutants, limiting waste and energy use and improving natural resources management. Continuing these efforts is essential to meeting the needs of present and future generations and the standards of the global marketplace.

Industry Canada serves a diverse client base and works with Canadians throughout the economy and in all parts of the country. Clients include firms in such sectors as telecommunications, aerospace, manufacturing, the service sector, small businesses, science and academic communities, consumer organizations and professional groups. All are linked by the important role that investment, innovation, trade and a fair, efficient marketplace play in determining their future economic prospects.

The department serves its clients in all regions of Canada through its headquarters in the National Capital Region and through five main regional offices located in Halifax (Atlantic), Montreal

[6] Adapted from the *1997–98 Main Estimates, Part III.*

(Quebec), Toronto (Ontario), Edmonton (Prairies and Northwest Territories), and Vancouver (Pacific). It also has subsidiary service points in more than 50 communities.

Strategic Objectives

Industry Canada focuses on four objectives to improve the climate for economic growth in Canada:

- improving conditions for investment in the Canadian economy
- improving Canada's innovation performance and the transition to the knowledge-based economy
- working with Canadian companies to increase Canada's share of global trade
- building a fair, efficient, competitive marketplace for businesses and consumers.

Improving conditions for investment, both foreign and domestic, contributes strongly to economic growth. Investment in research and development is required to create the new products and processes that will increase Canada's productivity and make the country more competitive internationally. Investment in plants, equipment and processes is fundamental to Canada's long-term competitiveness. Foreign direct investment creates not only jobs and growth, but also access to global technology pools and management expertise. The level of investment inflow from abroad is also a hallmark of international confidence in our economy.

Improving Canada's innovation performance and its transition to a knowledge-based economy drives productivity increases. Without innovation, real income growth will not meet society's expectations. Activities in the innovation chain include basic research carried out in public laboratories (e.g. the Communications Research Centre), development of a skilled scientific and technical workforce, research and development to produce new products, the application of leading-edge technologies in the workplace and the building of the Canadian information and communications infrastructure.

Increasing Canada's share of global trade is a direct outcome of investment and innovation. Companies that succeed internationally generally do so because they have invested in leading-edge, high-quality and competitively priced products and services that are marketed globally. Increasing the number of exporting firms (especially small- and medium-sized enterprises) and expanding the markets to which they export holds great potential to create long-lasting, high-quality jobs. When a firm succeeds globally, it usually means it is more competitive at home.

Building a fair, efficient, competitive marketplace is the foundation for investment, innovation and trade. It provides the stability and efficiency required to conduct business while maintaining the confidence of consumers in the products, services and transactions of our marketplace.

Achieving these objectives requires the concerted effort of many partners and stakeholders representing businesses, associations, workers and consumers as well as other federal departments and other levels of government.

Lines of Business

To deliver on these strategic objectives, Industry Canada is organized around three principal lines of business:

- micro-economic policy
- industry sector development
- marketplace rules and services.

These three lines of business are supported by Industry Canada's corporate and management services.

Micro-economic Policy

Industry Canada develops the policies, strategies and frameworks needed to improve Canada's productivity growth and help Canadians take advantage of the knowledge-based economy. Policy activities

focus on research, analysis and development of policy and legislative frameworks that encourage increased investment, innovation, the transition to a knowledge-based economy, the development of a world-leading Information Highway, stronger and more diversified trade and a healthy marketplace climate.

Industry Sector Development

Industry Canada helps improve the competitiveness of Canadian businesses by working with them to improve the climate for growth, identify and overcome barriers to growth and take advantage of emerging opportunities. This includes strategic approaches to trade development, investment, technology and sustainable development. In this overall context, the department also has several specific activities directed to small businesses (Small Business Loans Administration), telecommunications research and development (Communications Research Centre), developing the Information Highway and new ways of delivering strategic information through *Strategis*, economic development in Northern Ontario (the Federal Economic Development Initiative for Northern Ontario), Aboriginal economic development (Aboriginal Business Canada) and tourism marketing and promotion (Canadian Tourism Commission).

Marketplace Rules and Services

Industry Canada promotes a fair, efficient and competitive marketplace for business and consumers and promotes Canadian marketplace standards internationally. Confidence in the marketplace expands investment and innovation, leading to improved trade performance. By providing information and services, and developing and administering marketplace standards and regulations, this business line enables businesses and consumers to contribute to and benefit fully from an efficient and stable marketplace. Components of this business line include bankruptcy and insolvency supervision, incorporations and corporate governance, measurement regulation, intellectual property protection and dissemination, consumer information and marketplace analysis, consumer labelling and advertising regulation, competition law and spectrum management.

Corporate and Management Services

Industry Canada's three lines of business are supported by corporate and management services. The department provides the infrastructure and support required to deliver the best possible service to Canadians. It does this by developing new ways of interacting with clients using information technology, streamlining management practices, renewing and revitalizing our work force, communicating what we do, and encouraging the highest standard of public service.

Annex 2 Issues Scan

The federal government's *Guide to Green Government* suggests that departments conduct an "issues scan" as a first step in developing their sustainable development strategies. Early in 1996, Industry Canada undertook a two-step process to assess departmental activities in terms of their impact on sustainable development. This issues-scan process was comprised of an initial baseline study followed by an analysis of emerging sustainable development themes relevant to departmental activities.

Baseline Study

The baseline study included a review of all existing departmental policies, programs and operations to identify the nature, extent and rationale for the initiatives most closely connected with the concept of sustainable development. The scan focused in particular on creating an inventory of those initiatives that promoted the integration of economic and environmental objectives. This study is available on request.

Three key results emerged. First, Industry Canada created a comprehensive inventory of connections between departmental activities and the concept of sustainable development. Second, the identified initiatives were grouped according to broad themes to help establish the various roles Industry Canada could play to promote sustainable development within the boundaries of its mandate. Third, the issues scan identified for senior management the positioning and management challenges of integrating the sustainable development perspective into all departmental activities.

Inventory of Current Initiatives

Industry Canada's mission to foster a competitive, knowledge-based economy is clearly focused on supporting economic development. Given that economic prosperity and sustainable development are closely interlinked, the baseline study could have included most departmental activities. However, Industry Canada's challenge is to encourage environmental enhancement and protection while fostering a strong business climate. Sustainable development involves harnessing market forces so that they work for both the environment and the economy. The baseline study, therefore, concentrated on identifying those aspects of departmental activity that had the greatest potential to promote both economic and environmental objectives.

Sustainable Development Themes

In general, the baseline study determined that the department was involved in a broad spectrum of activities consistent with the promotion of sustainable development. These activities divide into the following themes: greening operations; environmental advocacy (domestic and international); partnerships and voluntary actions; trade development; technological innovation; and marketplace climate.

This grouping of departmental activities served as the first organization of the potential roles Industry Canada could pursue in promoting sustainable development. Subsequent analysis and external consultation on the priority functions that should be carried out by Industry Canada led to the structure of the *Sustainable Development Strategy*.

Analysis of the issues scan data also revealed that Industry Canada's roles in promoting sustainable development are currently carried out through five main means which were also integrated into the *Sustainable Development Strategy*:

- *policy advocacy* — to promote the achievement of the government's environmental objectives in a manner that supports industrial competitiveness and innovation as well as consumer and other related marketplace objectives
- *framework policies and legislation* — to promote sustainable development through the department's existing role in setting the policy framework for the marketplace (the micro-economic agenda)

- *funded programs* — through programs such as Technologies Partnerships Canada and the *Canadian Environmental Industry Strategy*, to support economic growth and job creation through the strategic support of the development, application and demonstration of near-market, innovative technologies that solve environmental problems
- *partnerships* — working with industry and other federal departments, through initiatives such as the *Canadian International Business Strategy*, to expand market opportunities for Canadian environmental and enabling technologies, and encourage improved environmental performance and sustainable operations among domestic firms
- *information products and services* — for example, through *Strategis*, to provide information products and services that emphasize the need to improve the environmental performance of industry's products, processes and technologies and to provide advice and guidance on how to do so.

Positioning and Management Challenges

An important goal of the baseline study was to enhance overall awareness within Industry Canada of the relationship between current activities and sustainable development. At the time the baseline study was performed, few people either within or outside the department appreciated the potential contribution to sustainable development that Industry Canada could make from its main lines of business.

From a management standpoint, the baseline study revealed two key challenges facing the department. First, Industry Canada, like most institutions, must learn how to integrate environmental, economic and social factors into its business. Several initiatives were launched to provide greater assurance that the sustainable development perspective is taken into account in the departmental decision-making process. The status of this work, as of autumn 1997, is described in Section 3.4.1 (Making Better Decisions) of this strategy.

The second major management challenge involves the need to establish a results-oriented performance management system. This includes the need to develop indicators or performance measures to help define the department's corporate performance in supporting sustainable development, target the sectors with which Industry Canada should work, and measure progress against a baseline. The status of this work, as of autumn 1997, is summarized in Section 4 (Measuring Progress) of this strategy.

Given the broad range of departmental activities that promote sustainable development, senior management had to consider which thematic roles to emphasize in the Strategy. To help make their decision, the senior managers asked officers to submit thematic working papers.

Thematic Working Papers

When the baseline study was completed, the department launched a process to engage more managers and staff in articulating Industry Canada's role in promoting sustainable development. Managers from across the department were asked to draft working papers in the main theme areas identified in the baseline study. The authors were selected based on their expertise in the key policy areas of industry partnerships; technology (environmental, biotechnology and information technologies); trade and investment; and consumers. Each author was asked to identify the links between their assigned theme area and sustainable development, suggest strategic goals and objectives for the Strategy, and identify current and proposed initiatives.

This process deepened the department's understanding of its possible roles in promoting sustainable development. The results of this process formed part of the discussion document used in the initial external consultations. The engagement of managers and staff from across the department was an initial step in contributing to the process of cultural change in Industry Canada and the broad recognition of the significance of the sustainable development perspective.

Annex 3 Stakeholder Consultations

In the spring of 1996, during the early stages of designing Industry Canada's *Sustainable Development Strategy*, consultations were conducted with a cross-section of stakeholders to scope out their interest in participating in building the department's *Sustainable Development Strategy*.

This scoping phase showed that stakeholders wanted a structured and focused process which minimized consultation burden. In particular, they wanted to start consultations based on a discussion document which outlined the department's role, strategic directions and proposed actions regarding sustainable development.

In the fall of 1996, a discussion document was prepared and officials throughout the department built a list of people to be consulted. Approximately 50 people were identified from primarily industry, consumer and environmental groups. Of these, about 30 accepted an invitation to participate in consultation sessions which were held in January and February of 1997. Those who could not attend were invited to forward written comments. One person responded in writing.

Consultation Principles

The consultations process was founded on three principles:

- To involve stakeholders early in the design stage.
- To concentrate on efficient and effective consultations, rather than elaborate consultations.
- To adopt an interactive and iterative approach which involved stakeholders throughout all stages of building the Strategy.

The outcomes of these consultations were captured in a synthesis report. The report, which was distributed to all participants, highlighted the major messages received during the consultations and included detailed summaries of each session.

Based on feedback from these consultations, a first draft of Industry Canada's *Sustainable Development Strategy* was completed by April 30, 1997. That draft was reviewed by departmental management, other government departments, and a small group of stakeholders. Based upon the suggestions provided, a refined draft strategy was prepared for final consultations with stakeholders and made available to the public on *Strategis*, the department's Web site.

Officials throughout the department contributed to building a list of about 135 people to be consulted mainly from industry, consumer and environmental groups. Of these, 32 accepted an invitation to attend consultation sessions held in Toronto and Ottawa in early September 1997. In addition, some people provided comments by phone and in writing. The outcomes of these meetings provided final adjustments to the Strategy and were summarized in a synthesis report which was distributed to all participants.

Further Information

All documents referred to above relating to stakeholder consultations are available upon request.