

Développement économique Canada pour les régions du Québec

SUSTAINABLE DEVELOPMENT STRATEGY 2003-2006

For a Cost-effective Sustainable Development







Sustainable Development Strategy

Action Plan 2003-2006

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Message from the Minister

It is with enthusiasm that I present the third Sustainable Development Strategy of the Economic Development Agency of Canada for the Regions of Quebec for 2003-2006.

This new strategy arrives at a most opportune time, following as it does the historic meeting of the World Summit on Sustainable Development, held in Johannesburg in August 2002, which brought together more than 100 Heads of State and government, including the Prime Minister of Canada, along with representatives of various interest groups. This meeting is considered the most important ever held on the integration of the imperatives of economic growth with those of social development and environmental protection, the pillars of sustainable development. It was at the World Summit that the Prime Minister of Canada announced he would ratify the Kyoto Protocol, and he proceeded to do so in December 2002.

In the wake of these events, sustainable development appears to have become not only an undeniable reality for government, but also a field representing vast economic potential and new business opportunities for our small- and medium-sized enterprises (SMEs). I am convinced the Agency's new strategy will enable economic players to capitalize further on these opportunities.

The 2003-2006 strategy reflects the priorities of the Government of Canada and the Industry Portfolio, notably with regard to reduction of greenhouse gases and to innovation, eco-efficiency, and development of technologies, processes, products and services fostering the enhancement of natural resources and waste.

The 2003-2006 strategy focusses on the development of enterprises, more specifically on enhancing their productivity through pollution prevention and eco-efficiency, and on increasing their capability to innovate and develop new areas of activity associated with sustainable development. To support development of innovative enterprises, the Agency will foster the advancement, dissemination and sharing of knowledge with respect to sustainable development to contribute to the emergence and reinforcement of knowledge-based competitive advantages. Clearly, then, the new Sustainable Development Strategy will enable our SMEs to capitalize on the vast economic potential afforded by sustainable development and the new business opportunities stemming from it.

Finally, implementation of the new Sustainable Development Strategy will reinforce one of the key elements guiding the Government of Canada's policies over the past few years, namely, the desire to address the issues facing Canadians in a balanced manner. While it is ensured that economic imperatives are considered, social and environmental imperatives will also have to be taken into account. Sustainable development is, unequivocally, a tool of choice for maintaining this profoundly Canadian value.

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Lucienne Robillard Minister of Industry and Minister responsible for Economic Development Agency of Canada for the Regions of Quebec

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Introduction

Under amendments to the *Auditor General Act* in 1995, the position of Commissioner of the Environment and Sustainable Development was created, and departments whose activities have an impact on sustainable development were called upon to draw up a sustainable development strategy (SDS) that they have to update and table in Parliament every three years. The Agency is one such organization, and is now at its third strategy.

For its new strategy, the Agency builds on the experience acquired over the past few years, particularly in the annual evaluations, the most recent of which was conducted in fall 2002. Consultations were carried out alongside the evaluation, to identify the strengths and weaknesses of the previous strategy and propose projects with strategic impact. The Agency has also borne in mind the Commissioner of the Environment and Sustainable Development's thrusts as set out in *Sustainable Development Strategies* — *Making a Difference.*

The principles which guided the drafting of the new strategy's action plan are the same as those for the first two strategies. In general terms, these principles are:

- simplicity and realism
- Agency accomplishments
- consistency with strategies of other departments

and in terms of human resources:

- commitment of management
- endorsement by staff
- incentive-based, non-coercive client approach.

The new strategy ties in with the trends that will be seen in sustainable development for the next few years. In August 2002, the World Summit on Sustainable Development was held in Johannesburg, and the decisions reached there will influence the governance of all participant countries. Following ratification of the Kyoto Protocol, Canada undertook to cut back its greenhouse gas emissions by 6% from their 1990 level, by 2012.

The Agency's Sustainable Development Strategy takes into account Canada's action plan and priorities with respect to greenhouse gas reduction and is consistent with Industry Portfolio priorities.

To follow through on the recommendations in the evaluation of the previous strategy, the new strategy emphasizes staff empowerment, continuation of greening efforts and development of performance measurement. Since the partnership approach was identified as one of the last strategy's strong points, the Agency intends to reinforce existing partnerships, especially with federal partners in Quebec. Finally, the new strategy builds on projects with strategic impact, such as productivity through pollution prevention and eco-efficiency and increasing enterprises' innovation capability with respect to sustainable development.

Part I PROFILE OF CANADA ECONOMIC DEVELOPMENT

Mandate and intervention strategy

The Economic Development Agency of Canada for Quebec Regions' mandate is to promote the economic development of the regions of Quebec, paying special attention to those experiencing slow economic growth and inadequate employment, with a view to the enhancement of prosperity and employment in the long term. To carry out this mandate, the Agency largely draws on national priorities, including innovation, and economic development challenges specific to each region of Quebec.

The Agency seeks to enhance the competitive advantages specific to each of the regions and

Innovation and economic adjustment of regions in difficulty are key Agency concerns. help them acquire new assets to better grasp the development opportunities associated with the emergence of an increasingly integrated, increasingly knowledge-based global economy in a context of

sustainable development. The Agency works closely with a broad array of local and regional economic development organizations, other federal departments and agencies, and the Quebec government. The Agency's strategic intervention framework identifies three strategic outcomes: enterprise development, improvement of the environment for economic development of the regions, and development and renewal of community infrastructure.

To work toward the realization of the first two outcomes, the Agency has instituted, in consultation with the local economic milieu and in each region, forward-looking regional intervention strategies (RISs) geared to the development issues specific to each of the regions. The third strategic outcome consists in implementation of the Infrastructure Canada Program in Quebec, a special mandate entrusted to the Agency by the Government of Canada.

To fulfil its mandate, the Agency has at its disposal a range of financial assistance programs as well as various forms of non-financial assistance (for further detail, please refer to Part V).

Part II REVIEW OF FACTORS INFLUENCING THE SUSTAINABLE DEVELOPMENT STRATEGY

2.1 Definitions

2.1.1 Basic definitions of sustainable development

The meaning of sustainable development varies from one individual to another. For instance, sustainable development for many is limited to environmental issues. This meaning is restrictive, since it does not allow for the economic and social facets of sustainable development. Before specifying the Agency's definition of sustainable development, here are some essential basic definitions, taken from the Commissioner of the Environment and Sustainable Development's Web site.¹

In 1987, the World Commission on Environment and Development (the Brundtland Commission) released a report calling for the emergence of:

"... development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

This definition was included in the amendments to the *Auditor General Act*.

The Brundtland Commission went on to state that:

"... sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs."

Three essential elements of sustainable development are quality of life, integrated decision-making, and equity.

Quality of life

The concept of quality of life recognizes that Canadians value many different aspects of their life in society, including economic and social development and the preservation and improvement of environmental quality. Reconciling economic development, social equity and environmental quality is at the core of sustainable development. Clearly, Canadians want an economy that performs well. A healthy economy meets demands for job creation, economic security and improved living standards. It also allows Canada to pursue social objectives that are key elements of our quality of life — including health, education and protection of the environment - now and for generations to come.

Integrated decision-making

Reconciling development and environmental quality means paying particular attention to integrated decision-making. As the House of Commons Standing Committee on Environment and Sustainable Development has noted:

"The integration of environmental and economic considerations, along with the consideration of equity, is a fundamental underpinning of the concept of sustainable development."

The connections among economic, social and environmental objectives need to be acknowledged, and any conflicts among them that may emerge should be dealt with openly, on the basis of full information and taking advantage of the best tools available.

Equity

The commitment to equity is a third element of sustainable development. Equity involves the fair distribution of the costs and benefits of development between the rich and the poor, among generations, and among nations. Equity also implies that we all have the means to meet basic needs, and that we are all entitled to basic rights.

¹ http://www.oag-bvg.gc.ca

2.1.2 Definition of sustainable development within the Agency

To agree on a definition of sustainable development that reflects its economic development mandate and the different issues that vary from one region to another, the Agency first characterized the concept by talking of *cost-effective sustainable development* and specified certain elements found in it, namely:

- rational management and efficient, sustainable use of resources
- environmental protection, rehabilitation and revitalization of degraded environments

2.2 Legal obligations

With respect to the environment, the Agency is subject to three specific statutes: the *Auditor General Act*, from which the obligation to draw up the Sustainable Development Strategy stems; the *Alternative Fuels Act*; and the *Canadian Environmental Assessment Act*.

The Auditor General Act was amended in 1995 to create the position of Commissioner of the Environment and Sustainable Development and identify 25 departments which have to table a Sustainable Development Strategy in Parliament every three years. The Commissioner's mandate is to ensure that progress is made with respect to the environment and sustainable development. She is required to table an annual report in this regard in which she reports on her assessment of the sustainable development strategies of the different departments and conveys her expectations as to the subsequent generation of strategies.

In Chapter five of her last report in fall 2002, the Commissioner identified paths for improvement: reporting, implementation of action plans, and leadership from senior management. In her report entitled *Sustainable Development*

- enhancement of residual resources
- productivity through pollution prevention and eco-efficiency
- development of "eco-friendly" substitute technologies and products
- increased equity among the regions.

Over the next year, the Agency undertakes to disseminate this definition and ensure it is understood consistently in all of the Agency's business offices.

Strategies — *Making a Difference*,² she specified that for the third generation of SDSs she expects significant commitments with regard to departments' mandates, and a limited but clearly defined number of priorities, goals and objectives, with priority given to tangible results rather than activities, all drafted in simple language.

The Alternative Fuels Act enables Canada to exercise closer control over greenhouse gas emissions, in particular carbon dioxide, by encouraging the replacement of petroleum-based fuels for transportation. In this context, federal agencies are expected to purchase, where this is cost-effective and feasible, vehicles equipped with engines running on alternative fuels.

The Canadian Environmental Assessment Act came into force in 1995. This statute constitutes the legal foundation for federal environmental assessment practice. It guarantees that the environmental effects of projects in which the federal government participates are considered at the earliest project planning stage. Assessments are conducted jointly with the provinces.

² See http://www.oag-bvg.gc.ca/domino/cesd_cedd.nsf/html/03sdd.html

2.3 International summits and agreements

2.3.1 World Summit on Sustainable Development

In Johannesburg in August 2002, more than 100 Heads of State and government and representatives of various interest groups business and industry, labour unions, scientific community, farmers, local communities, Aboriginal peoples, non-governmental organizations (NGOs), women and youth came together at the World Summit on Sustainable Development. This meeting may be considered the most important ever held on the integration of the imperatives of economic growth with those of social development and environmental protection, as defined as pillars of sustainable development 10 years earlier at the Earth Summit in Rio.

The topics covered included measures on the elimination of poverty; changes in unsustainable production and consumption; management of natural resources; sustainable development in the era of globalization; health and sustainable development; sustainable development of small developing island States, Africa and other regions of the world; and institutional framework and implementation of sustainable development.

2.3.2 Climate change and the Kyoto Protocol

Most scientists expect the average temperature to rise by three degrees by 2100. Since the Northern countries will be among the most affected by climate change, Canada is particularly vulnerable. Moreover, we are only just beginning to grasp the scale of the costs associated with climate changes such as warmer summers; higher smog levels in large urban centres; and more frequent extreme weather phenomena, such as drought in the Prairies, ice storms in Eastern Canada, or flooding in Manitoba and Quebec. Disturbance of ecosystems, whether fish or forest resources,

also imposes costs. All this will have a significant impact on our economy, health and quality of life.

The Kyoto Protocol targets
a 30% reduction in
greenhouse gases. In order
to make it easier to grasp
the implications of the
Protocol, a number
of definitions listed in
the Kyoto Protocol are
presented in Appendix I. The action plan
for achievement of Canada's commitmenKyoto Pri
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On December 17, 2002, Canada ratified the Kyoto Protocol and undertook to cut back its greenhouse gas emissions by 6% from their 1990 levels, by 2012.

for achievement of Canada's commitments may also be found on the Web at http://www.climatechange.gc.ca/plan for canada/index.html

Plan d'action 2003-2006

Part III SUMMARY OF SDS CONSULTATION AND EVALUATION

In order to build on the areas of strength in its last strategy, the Agency mandated Consulting and Audit Canada (CAC) to conduct an evaluation of that strategy, and at the same time to hold both internal and external consultations. The objective was to get "in the field" feedback through an independent third party.

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3.1 Consultation highlights

The consultation took place at four levels: vis-à-vis personnel; vis-à-vis intermediary groups; vis-à-vis the Agency's main partners in sustainable development; and vis-à-vis a number of clients who have benefited from Agency programs for sustainable development projects. Details of the approach are provided in Appendix II.

Vis-à-vis personnel, the consultation highlighted the need to:

- provide the Agency with a simple, common definition of sustainable development
- develop tools to enable advisors to identify projects meeting sustainable development principles
- develop training on the use of these tools; this training should enable advisors to make the link more effectively between reduced pollution and increased productivity in an SME
- work in a network with the different economic agents and have enhanced access to scientific and technical expertise.

Vis-à-vis intermediary groups, the consultation highlighted the following:

- the importance of the Agency's financial contributions for the growth of partners serving the environment industry
- the quality of the business relationship with the Agency, their satisfaction in that regard, and the need for reinforcement
- possible solutions for better identification of projects' environmental results.

Vis-à-vis interdepartmental partners, the consultation highlighted the following:

- the need to expand the Enviroclub initiative
- operational success in complementary expertise, that is, for the Agency: financial and managerial evaluation of a project; for Environment Canada: scientific and technical evaluation; and for the National Research Council Canada — Industrial Research Assistance Program (NRC-IRAP): evaluation of processes and technologies
- the need to forge even closer links among partners, improve information-sharing, make resources and expertise better known to the business offices and develop common performance measurement indicators
- the need to expand the network and establish a co-operation agreement with Natural Resources Canada and its affiliated agencies, in particular in the perspective of climate change initiatives to be put in place
- the need to set up a co-ordination mechanism and develop a common approach to take advantage of the national budget envelopes available for sustainable development.

Vis-à-vis clients, the consultation highlighted:

- the ability of SME's to document the main environmental impacts generated or environmental results achieved by their production processes, so that the performance of the projects supported can be measured
- the need for the Agency to gear its information requests to the specific features of enterprises since production processes vary from one enterprise to another, as do environmental effects.

3.2 Evaluation highlights

3.2.1 External component

In terms of projects, the evaluation may be summarized as follows:

Between April 1, 2000 and December 31, 2002, the Agency contributed to the funding of 137 projects identified with respect to sustainable development, in the amount of \$42.4 million. The total value of these projects in the Quebec economy was \$188.3 million. The sustainable development projects fell into four categories:

- 62 projects for development of products, testing and experimentation, representing 74% of the Agency's \$42.4 million in sustainable development expenditures
- 28 projects concerning pollution prevention, productivity and optimization — awareness and environmental management, representing 16% of the amount
- 27 commercialization projects, representing 7% of the amount
- 20 projects for studies and business plans, representing 3% of the amount.

Testing and experimentation projects target the development, testing and experimentation of new products that can, for instance, enhance local natural resources presenting potential for commercialization. These are high-risk projects, but in the great majority of cases they respond to a real need in the industry or the region. Pollution prevention and testing and experimentation projects are areas of strength for sustainable development. These projects adopt an innovation-oriented approach and demonstrate that sustainable development means productivity gains and enhanced competitiveness for SMEs. Enviroclubs are an essential solution and a proven formula for reducing pollution and implementing sound environmental management practices within SMEs. The Agency contributes to several projects to optimize production in facilities devoted to the secondary or tertiary processing of natural resources. Some productivity projects can open up new windows of opportunity revealing a high potential for environmental results over the next few years.

Commercialization projects meet needs in the environment industry or respond to specific issues in the regions. These projects provide essential assistance to the environment industry so it can increase sales of environmental products or technologies.

Support projects meet ad-hoc needs of SMEs or respond to special issues in the regions. The evaluation highlighted the fact that many projects with strategic impact in sustainable development began with production of an opportunity study or a business plan.

3.2.2 Implementation of the Sustainable Development Strategy and partnership

In this respect, the evaluation may be summarized as follows:

Delivery of Agency programming falls to the 14 regional business offices, but most sustainable development projects are developed in only a few of those offices. Three business offices alone account for 45% of the projects and administer close to 60% of the Agency's contributions for sustainable development.

Solid partnerships are currently in place, making leading-edge scientific and technical expertise available to the Agency for project analysis and monitoring as well as performance measurement. They also enable it to organize delivery of its services to SMEs through specialized organizations. The latter leverage the Agency's contributions by maximizing the support it provides for SMEs.

On the interdepartmental front, the main partners are Environment Canada, Quebec Region and the NRC-IRAP, while within the environment industry they are Enviro-Accès (one of the three Canadian Environmental Technology Advancement Centres), RÉSEAU *Environnement* and the *Centre québécois du* développement durable (Région laboratoire). Advisors in the regions also resort on a more ad-hoc basis in certain projects to the expertise of other Government of Canada departments and agencies in Quebec. In the field, and in relation to specific regional issues, they also work in networks with different regional agents, not-for-profit organizations (NPOs), agencies providing support for SMEs as well as research and information organizations. The evaluation brought out the fact that interdepartmental partnerships are effective, but could be developed even further.

3.2.3 Internal component

In terms of greening, the evaluation may be summarized as follows:

Within the Agency, tangible measures have been put in place to encourage a reduction in the use of paper by Agency employees and the introduction of multi-product recycling equipment in the

different business offices. The Agency also participated in the Enviroclub of federal facilities in Quebec, and has organized awareness-raising activities for its employees. The Sustainable Development Committee acts as an intermediary between Corporate Services and the business offices that have

An internal structure has been in place for several years to ensure implementation of the Agency's SDS.

delegated a representative to the Committee.

The evaluation concluded, as did the consultation, that the notion of sustainable development varies within Canada Economic Development. The Agency must therefore acquire a common definition of sustainable development that must forge a better understanding of the link between the Agency's programs and the numerous types of projects associated with sustainable development.

In terms of performance measurement, the evaluation may be summarized as follows:

The scientific and technical expertise provided systematically by a federal partner leads to improved performance monitoring and measurement for the Agency, which will have to try to obtain the partner's support for a larger number of projects.

Canada Economic Development's client manufacturing enterprises are in a position to document the main environmental impacts generated or environmental results achieved by their production processes. But the Agency's information requests will have to be geared to the specific features of the enterprises' production processes and their main environmental effects.

The Agency will have to provide guidance and support for its advisors and clients for environmental performance measurement to become a reality.

Part IV SUSTAINABLE DEVELOPMENT STRATEGY ACTION PLAN 2003-2006

Action plan summary

ACTION PLAN 2003-2006				
1. Internal component	2. External component			
Goal:	Goal:			
To make the Sustainable Development Strategy a tool for change within the organization to further integrate sustainable development concerns into day-to-day operations.	To play a strategic role in advancing understanding and taking ownership of the principles of <i>cost-effective sustainable</i> <i>development</i> within SMEs in the regions of Quebec and with the Agency's different partners, both private and public in a perspective of financial, economic and social viability.			
Objectives:	Objectives:			
 empower staff promote sustainable development continue greening ensure better environmental reporting. 	 encourage and help SMEs to adopt sustainable development practices in their operations foster development and commercialization of innovations in sustainable development foster development, dissemination and sharing of knowledge with respect to sustainable development to contribute to development and reinforcement of knowledge-based competitive advantages. 			

3. Implementation of the SDS - partnerships

Objective:

Reinforce existing partnerships and better co-ordinate Agency efforts with the different federal partners in Quebec.

4.1 Internal component

4.1.1 Goal

To make the Sustainable Development Strategy a tool for change within the organization to further integrate sustainable development concerns into day-to-day operations.

4.1.2 Objectives

First objective Empower staff

The Agency will ensure that a single meaning of sustainable development circulates within the organization. The challenge is to clarify the concept of sustainable development and give it a "flavour" specific to the Agency's mandate that takes into account the different issues facing each region it serves. The Agency commits itself to disseminate the definition and ensure that the same meaning is used consistently throughout the organization.

The Agency will develop and provide specific training geared to managers in order to raise their awareness of sustainable development and the priorities stemming from it. This training should begin during 2004.

Also, by summer 2004, the Agency will develop integrated tools for advisors in the business offices in order to facilitate project analysis and monitoring, as well as monitoring and identification of anticipated environmental results in line with the specific nature of the production of each SME involved. The Agency will ensure that these tools are integrated with its other management tools. Training will be provided to skill all the advisors in the use of these tools by giving examples of concrete cases adapted to the situation in the field. The training sessions should begin during the 2004-2005 fiscal year. The evaluation highlighted a number of advisors' expertise in the development of projects for sustainable development. In fact, some advisors are already far advanced in their understanding of sustainable development and its application at Canada Economic Development, and could act as mentors to those who so desire. As a result, mentoring will be offered to all Agency advisors, thus giving them the chance to benefit from the expertise acquired by some of their peers. Mentors will be available on an ongoing, voluntary basis.

Second objective Promote sustainable development

This objective will be achieved on an ongoing basis during implementation of the new strategy, notably through promotion of best practices and highlighting of innovative projects both in-house and outside the Agency. The dissemination of information is expected to foster a better understanding of sustainable development as well as an enhanced ability to identify opportunities for action in that field. The dissemination of information should generate an emulation effect leading to exploration of new opportunities and creative approaches, too.

The Agency will also put forward ad-hoc initiatives evoking the main principles of sustainable development in order to foster a better understanding of the concept among all staff. These initiatives will be held throughout the implementation of the new strategy.

> In June 2003, the Agency organized a lunch-time talk for all staff on the impact of implementing the Kyoto Protocol in Quebec.

Third objective

Continue greening

The measures associated with this objective are to:

- extend the multi-product recycling program from eight to 12 offices, where the infrastructure permits
- increase from 10 to 20 the number of Agency vehicles equipped with hybrid engines or an electromagnetic module to reduce atmospheric pollution (ECONOPRO® module)
- promote good practices with respect to sustainable development, for instance, two-sided printing and car-pooling
- promote telework from home or in connection with Public Works and Government Services Canada's "satellite office" project
- ensure that an updated sustainable development component is maintained in the handbook for new employees.

It should be emphasized that concrete steps have already been taken to reduce the use

In January 2004, two vehicles at the Agency are fitted with hybrid engines and eight are equipped with electromagnetic modules. of paper by Agency employees and introduce multi-product recycling equipment in the business offices. The Agency also took part in the Enviroclub of federal facilities in Quebec, which ended in March 2003. Finally, it has organized

awareness-raising activities for its employees.

Fourth objective

Ensure better environmental reporting

Within the Government of Canada, much effort has been made to focus performance measurement on results rather than activities. The evaluation showed that the Agency could document the environmental results achieved by the projects it supports, particularly those with respect to pollution prevention, productivity and optimization, as well as testing and experimentation. In fact, the evaluation highlighted the fact that Canada Economic Development's manufacturing enterprise clients were in a position to document the main environmental impacts or results generated by their production processes. Nonetheless, as recommended in the evaluation, the Agency's information requests will have to be geared to the specific features of enterprises' production processes and their main environmental effects. This objective is closely linked to the first objective of empowering staff and developing integrated tools for advisors in the business offices.

Canada Economic Development has selected a limited number of performance indicators. For the internal component, these are development and use of tools for decision-making with respect to sustainable development, presence of advisors trained in sustainable development in the business offices, development of environmental indicators and implementation of strategic projects with interdepartmental partners.

4.2 External component

4.2.1 Approaches tailored to differing regional issues

In drawing up its Sustainable Development Strategy, the Agency keeps its economic development mandate in mind. Moreover, application of the principles of sustainable development can vary from one region to another, in line with the different sustainable development issues found in the regions.

For the resource regions, the issue of sustainable development is above all associated with the exploitation of natural resources. The challenge is therefore to find new ways of ensuring the durability of renewable resources and maintaining an acceptable level of activity in traditional sectors; to upgrade secondary waste processing in order eventually to derive market value from it; and to create employment in regions with declining vitality following the exhaustion of natural resource exploitation activities and the exodus of young people. For instance, the Agency supports projects such as enhancement of marine residue in the Gaspé or restoration of mining sites in Abitibi through the development of environmental technologies and processes in the mining sector.

Major urban centres are faced with problems of highway congestion, the associated increase in greenhouse gas emissions, and pollution in general. There are also issues of sustainable development in connection with waste management and water treatment in both rural and urban regions. In this regard, the Agency participates in numerous projects, including upgrading of generated biogas; experimentation with electric vehicles: demonstration and evaluation of biodiesel in real-use conditions: development and demonstration of a wastewater and industrial sludge treatment process; commercialization of a pork manure treatment technology; and production of fertilizer from treated pork manure.

4.2.2 Goal and Objectives

The goal is to play a strategic role in advancing the understanding and ownership of the principles of sustainable development among SMEs in the regions of Quebec and with the Agency's different partners, both private and public, in a perspective of financial, economic and social viability.

The objectives of the 2003-2006 SDS are integrated with the Agency's plans and priorities.³ They reflect the priorities of the Government of Canada and the Industry Portfolio, notably with respect to innovation, eco-efficiency and development of technology, processes, products and services fostering enhancement of natural resources and residues, or by contributing to greenhouse gas reduction objectives under the Kyoto Protocol on Climate Change.

This strategy emphasizes the areas of strength identified in the evaluation of the previous strategies, namely:

- adoption of new business practices aimed at increasing productivity through pollution prevention and eco-efficiency
- development and commercialization of innovations associated with sustainable development
- partnerships with Government of Canada departments and agencies and environment industry representatives for the evaluation of projects and delivery of services with respect to sustainable development.

In support of the development of innovative enterprises, the Agency will foster the development, dissemination and sharing of knowledge with respect to sustainable development in order to contribute to the development and reinforcement of knowledge-based competitive advantages.

³ The Agency's reports on plans and priorities are available on the Web at http://www.dec-ced.gc.ca.

Strategic outcome #1

Enterprise Development through sustainable development

In a context of globalization and freer markets, enterprises' environmental and even social performance is increasingly integrated into the decision-making of consumers and corporate clients. Enterprises have to show vision in order to respond rapidly to changing market needs, in time with ever-shorter development and commercialization cycles. To support enterprises in this process, the Agency will continue to facilitate their access to new competencies associated with sustainable development, notably through raising of awareness and assistance for the completion of productivity projects through pollution prevention and eco-efficiency.

Objective

Encourage and help SMEs to adopt sustainable development practices in their operations.

Under its third SDS, the Agency continues to raise enterprises' awareness and encourage them to adopt new business practices which translate, for instance, into the establishment of tangible pollution prevention and eco-efficiency measures, in order to help them maintain and reinforce their competitiveness. The Agency will make it possible for 120 SMEs to carry out concrete in-plant productivity projects through pollution prevention and for 500 others to be made aware of new business practices associated with sustainable development.

The Agency provides financial support for eco-efficiency or pollution prevention projects aimed at enhancing enterprises' productivity, competitive capability and market positioning. For further information on the concept of eco-efficiency, please refer to Appendix III.

The **Regroupement des sociétés d'aménagement forestier du Québec (RESAM)** project has developed processes and set up activities to enhance forest land owner groups' performance in terms of reducing the impact of their operations on the environment. It has also sought to introduce rational, efficient long-term management of forest resources

in a perspective of sustainable development and

The evaluation brought out the fact that the Enviroclub concept, developed by Environment Canada in conjunction with the Agency and NRC-IRAP, is a proven formula for encouraging SMEs to adopt pollution control measures and implement sound environmental management practices. The Agency will therefore continue its efforts to establish 10 or so Enviroclubs throughout Quebec. At the term of three SDS's, or after close to 10 years, the Enviroclubs will have helped raise awareness of new business practices associated with sustainable development of some 800 manufacturing SMEs, considered among the most innovative in Quebec, or approximately 10% of Quebec's manufacturing firms.

An **Enviroclub** is a group of 15 or so enterprises in the same region or sector of activity which benefit from funding and consultants' expertise to carry out a tangible in-plant pollution prevention project. Through practical, interactive workshops, for instance, participants explore the different means of optimizing the use of energy or raw materials and reducing pollutant emissions. Environmental gains for three Enviroclubs have already been identified, namely:

- reduced CO₂ emissions corresponding to annual consumption by 5,000 vehicles
- reduced use of petroleum products equivalent to 6,000 barrels
- reduced use of water corresponding to annual consumption by 400 people
- reduction in hazardous waste production of some 25 fully-loaded trailer trucks
- reduced natural gas use corresponding to annual consumption by 108 houses
- reduction in wasted lumber corresponding to 10,000 trees.

eco-efficiency.

Objective

Foster development and commercialization of innovations in sustainable development.

In its third SDS, the Agency intends to foster the development and commercialization of innovations in sustainable development. More specifically, the Agency will enable some 40 enterprises to experiment with new technologies or processes associated with the exploitation of natural resources. It will also make it possible to back 25 projects to support SMEs wishing to commercialize their products on international markets.

The Agency provides financial support to enterprises directly or through specialized organizations which raise SMEs' awareness and provide them with technical support or guidance services for:

- carrying out feasibility studies
- carrying out development, testing or experimentation work
- pre-commercial demonstration
- design or implementation of commercialization plans.

Development of innovation

The Agency targets the development and perfection of products, processes and technologies for the resolution of environmental issues, development of substitute products and enhancement of natural resources and residues. These are high-risk projects which respond, however, to needs in the industry or the region. The projects are varied and can be grouped together in the following categories: feasibility studies, development of new processes and techniques, development of new products, scaling, tests and technological adjustment.

In the long term, the development of innovation will help better preserve resources for future generations, that is, inspire a new perspective concerning natural resources, find new niches for better management of unharvested resources, prolong the life of a good number of non-renewable resources, foster their renewal where possible, and enhance residue generated through the conventional use or processing of natural resources. **Premier Tech 2000 Itée** in 2001 set up a global innovation acceleration program aimed at carrying out 32 R&D projects leading to the development and marketing of 55 new products in several fields (wastewater treatment; biological products for horticulture and agriculture; flexible industrial bagging and stationary or mobile sieving; and recycling of organic and inorganic matter).

Centre techno-pneu inc. produces remoulded and retreaded tires for heavy trucks and automobiles from the bodies of old tires. The project is a technological breakthrough for the enterprise. Indeed, through the acquisition of new technology, the enterprise will be able to raise its output from 300 to 1,000 tires a day by adding merely 10 employees to the current workforce of 60. The reduced pressure on the environment is highly significant, as the project will lead to the recovery of 200,000 tires instead of 65,000. These used tires would usually end up in landfill sites.

The activities of Montreal Centre of Excellence in Brownfields Rehabilitation (MCEBR) have

a highly palpable direct impact on enterprises. Acting among other things as a platform for discussion and co-operation among the different players, the MCEBR opens up scientific and business opportunities for those applying to it. It also encourages the acquisition of advanced technologies, as well as dialogue among governments, cities, industries and the various organizations with regard to technological needs and development of an effective strategy with respect to rehabilitation of contaminated urban sites.

GSI Environnement inc. has developed a competitive technology for dehydration of sludge from septic tanks, as well as swath and pile composting equipment and technology, and offers technologies for management of contaminated soils and special waste.

Development of commercialization

The Agency intends to improve enterprises' access to specialized information on market trends and opportunities, raise their awareness of the challenges of these new trends with respect to commercialization and develop their competencies with regard to export development, market penetration and marketing. Environmental issues represent business opportunities for commercializing more efficient new processes, technologies, substitute or "green" products, and services.

To that end, the Agency will support specialized organizations that offer enterprises export-oriented consulting services, expertise and guidance services. It will support the organization of conferences, seminars and workshops for business people as well as the establishment and facilitation of knowledge-sharing networks. The Agency will continue to provide enterprises with support for the development or implementation of commercialization plans.

The market development service, **RÉSEAU** environnement, proposes to bring the Quebec environmental products and services industry better knowledge of business prospects and increased support for access to outside markets and foreign business contacts. Its objective is to increase the number of SMEs actively exporting. Indeed, since March 2001, it has facilitated access to foreign markets for more than 50 SMEs, for a total of 66 interventions. Six new enterprises were prompted to prospect with a view to initiate international activities.

The Agency supports the **Sustainable Cities Initiative** (SCI), which aims to increase the proportion of Quebec SMEs actively exporting from the present 10% to 25% or 30%. It is estimated that the market represented by sustainable cities is important in view of the world urban population increase over the next 25 years and the inherent problems of water (availability and salubrity) that have become international political and public health issues. The SCI is an innovative co-operation and international trade program with a multi-sector approach (energy, telecommunications, housing, environment, water, city planning, transportation, tourism and waste).

Strategic outcome #2

Improvement of the environment for economic development through application of sustainable development principles

Since enterprises' ability to innovate is largely dependent on an array of external resources (research centres, institutions, university chairs, and support organizations), it is important to support research, development and knowledge-sharing with respect to sustainable development. The goal of this support is to enable the regions and all industrial sectors to take advantage of new knowledge-based competitive advantages. This will lead to identification of new business opportunities and increased contact with much larger markets.

Objective

Foster development, dissemination and sharing of knowledge with respect to sustainable development to contribute to development and reinforcement of knowledge-based competitive advantages.

Under its third SDS, the Agency wishes to continue to provide financial support for research centres, institutions and university chairs in order to foster sharing, networking and dissemination of knowledge with respect to sustainable development. In concrete terms, the Agency plans to carry out 15 projects in this area.

Development of the knowledge field is crucial for fostering innovation. The Agency wishes to continue to support the existing co-operation among enterprises, research centres and government agencies with respect to development of new technologies and products with high commercial potential, in particular concerning the environment. Over the past few years, the Agency has indeed taken great pains to support R&D (technological platform, wind energy experimentation consortium and electric vehicle platform) so as to enable Quebec enterprises to benefit from the latest innovations in sustainable development and be more competitive.

The Agency will provide its support to organizations for the production and dissemination of information, economic analyses or development opportunities likely to lead to the creation or reinforcement of distinctive competitive advantages in their community, region or economic sector. This may involve the organization of learning sessions,

symposiums or learning-sharing networks, and the development of mobilizing strategies. The Agency also provides financial support for scientific research projects and projects to disseminate the results of research, and for development of scientific and technical knowledge, implementation of pre-commercial research projects, and development of scientific networks likely to create a ripple effect on economic activity in a community, region or economic sector.

The trend chart experimentation project with the **Centre québécois de développement durable**

should lead to support for the development planning and implementation process at the regional level and for making its sustainable development focus operational. The trend chart on the state of the Saguenay— Lac-Saint-Jean should provide an overview of the region in terms of seven aspects (human development, environment, social systems, economy, resource management, land use and culture). The knowledge acquired through the trend chart will make it possible to take tangible steps in a perspective of continuous improvement. If the results of this experimentation are conclusive, this trend chart could be used as an example for other Quebec regions interested in identifying avenues for intervention in sustainable development.

The Interuniversity Reference Centre for Life Cycle Assessment, Interpretation and Management of Products, Processes and

Services (CIRAIG) is a research unit comprising some 30 researchers and postgraduate students from several university-level institutions, including the École Polytechnique, University of Montreal, École des Hautes Études Commerciales de Montréal (HEC) and Université Laval in Québec City. The CIRAIG is also working with the Université du Québec à Montréal, the Université du Québec à Trois-Rivières, the Université du Québec en Abitibi-Témiscamingue and the Swiss Federal Institute of Technology Lausanne, Switzerland (École Polytechnique Fédérale de Lausanne) on specific industrial applications or major fundamental themes associated with the life cycle of products and services. The CIRAIG offers activities involving research and guidance for conducting life cycle assessment (LCA) for enterprises and governments as well as the development of eco-indicators. The project consists in setting up a knowledge network with respect to development and adoption of eco-efficient management practices involving management of product and service life cycles. Establishment of the network will help enhance knowledge concerning the integration of life cycle management in enterprises and governments and ensure the dissemination of results.

In February 2003, the **University of Sherbrooke's** *Association de la Maîtrise en environnement* organized a symposium in conjunction with the *Association québécoise pour la maîtrise de l'énergie* entitled "Energy: efficiency and durability". This symposium, attended by 252 people, including some 60 SMEs, had several objectives, in particular to develop special links with Quebec and other Canadian enterprises working in the environment field, discuss the economic and environmental opportunities that efficient energy management can afford and give enterprises concrete tools for harnessing business opportunities generated by efficient, clean energy.

Strategic outcome #3

Development and renewal of community infrastructure

The third strategic outcome consists in implementation of the Infrastructure Canada Program in Quebec, under a special mandate entrusted to the Agency by the Government of Canada.

The Agency is responsible for implementation of the Infrastructure Canada-Quebec program. This program was set up to enhance Canadians' quality of life and has three components:

- drinking water and wastewater infrastructure
- local transportation infrastructure
- projects with urban or regional economic impact.

While this program is not linked to the Sustainable Development Strategy, a large number of projects contribute to attainment of the main objectives of sustainable development. These projects include:

- experimentation with a technology meeting the needs of most sanitary landfill sites in Quebec and leading to the development of Quebec expertise and enhanced environmental management
- experimentation with an innovative nanofiltration system for water treatment that could be used for 80% of the Quebec population who are supplied by surface water
- contribution to a rail infrastructure project leading to reduced greenhouse gas emissions through intermodal transfer and reduced impact from heavy truck traffic on the highway system, in particular on the Québec Bridge
- contribution to creation of a public broadband electronic communication network for Gaspésie, enabling the entire region to be every bit as competitive as other regions by fostering its inclusion in the knowledge economy.

4.3 Implementation of the Sustainable Development Strategy in partnership

Beyond the specific objectives of the internal and external components, under its third SDS, the Agency wishes to strengthen existing partnerships and co-ordinate its efforts more effectively with the different federal partners in Quebec.

The Agency has teamed up with a broad network of development players in all regions of Quebec. In fact, solid interdepartmental partnerships are currently in place, placing leading-edge scientific and technical expertise for project evaluation and monitoring at the Agency's disposal. Partnerships with specialized private or public organizations, for their part, lead to the delivery of services to SMEs and maximize the support provided for them. Interdepartmental and private partnerships were an area of strength in the Agency's second Sustainable Development Strategy.

For instance, the Agency has a co-operation agreement with Environment Canada, Quebec Region for promotion of enterprises' participation in Government of Canada programs and services for the design and commercialization of innovative technologies, products and services, for sustainable development and for enhancement of enterprises' environmental performance. Other partnerships have also been developed, notably with the National Research Council Canada to harmonize and reinforce the services offered to innovative SMEs, enabling them to benefit from value-added advice, strategic intelligence and funding associated with innovation. The Agency has also established a partnership with Agriculture and Agri-food Canada to increase the innovation capability and productivity of enterprises in the agri-food sector. This horizontal partnership especially targets testing and experimentation projects for innovative products and processes in a perspective of knowledge transfer and commercialization. Also, in the mining sector, the Agency works closely with the CANMET Mineral Technology Branch of Natural Resources Canada to promote enterprises' participation in federal R&D programs and services, design and dissemination of technological information and assistance for economic development.

As to partnerships with the public and private sectors, a new partnership was set up among the Forest Engineering Research Institute of Canada (FERIC), Canada's Wood Products Research Institute (FORINTEK) and the Canadian Forest Service (CFS). This partnership offers SMEs a network of expertise and considerable access to knowledge and new technology. Each partner provides expertise developed in its area of competency: the CFS in R&D in order to improve the durability of forests; FERIC in harvesting and transportation of lumber; and FORINTEK in process optimization.

Part V AGENCY'S FINANCIAL AND NON-FINANCIAL ASSISTANCE

5.1 Financial assistance programs (grants and contributions)

The Agency's contribution to the economic development of the regions of Quebec and sustainable development is realized through financial assistance in the form of contributions or, more rarely, grants.

5.1.1 Overview

The Agency's support for enterprises, organizations and local and regional development agents primarily takes the form of financial assistance under programs.

Programs relative to the Agency's core mandate:

- Program of assistance for development of SMEs in Quebec (IDEA-SME)
- Regional Strategic Initiatives (RSI) Program
- Community Futures Program (CFP)
- Canadian Support Program for the Gaspésie and the Îles-de-la-Madeleine Economy.

Program relative to the special mandate from the Government of Canada:

• Infrastructure Canada Program.

Other programs with which the Agency is associated:

- Canada Small Business Financing Act (CSBFA)
- Softwood Industry and Community Economic Adjustment Initiative contribution program (SICEA)
- Canadian Apparel and Textile Industries Program (CATIP)
- Program for Export Market Development (PEMD).

5.1.2 Details

Program of assistance for development of SMEs in Quebec

The IDEA-SME program primarily targets enterprise development. Its goal is to foster the growth of business generated by enterprises in all Quebec regions by facilitating, among other things, access to relevant information, awareness of enterprises' development issues, establishment of strategic enterprises, and consolidation of their competitiveness through new business practices, innovation and commercialization. In this way, this program fosters realization of the regions' economic development potential leading, in the long term, to enhanced prosperity and sustainable employment.

Regional Strategic Initiatives Program

This program involves developing and implementing strategies and action plans fostering the creation of a socio-economic environment conducive to reinforcing the assets and competitive advantages of Quebec regions with a view to enabling them to realize their economic development potential, leading in the long term to lasting improvement in prosperity and employment. The program is used to support major initiatives likely to have a strategic impact on the regional economy, in response to major regional issues identified through a process of local consultation, dialogue and mobilization. The projects and activities stemming from it permit great flexibility and can take various forms, in line with the needs of a single region or a given group of regions.

Community Futures Program

This national program provides support for communities in all parts of the country to help them take charge of their own local economic development. In Quebec, the CFP financially supports 57 Community Futures Development Corporations (CFDCs); it also provides support for 14 Community Economic Development Corporations (CEDCs) and nine Business Development Centres (BDCs).

Canadian Support Program for the Gaspésie and the Îles-de-la-Madeleine Economy

This program is a special measure to improve the economic situation in the Gaspé. It is in addition to the Agency's regular activities and gives priority to: enhancement of federal infrastructure; development of medium-sized enterprises; young people; local empowerment; and emerging initiatives.

Infrastructure Canada Program

Within the framework of the pan-Canadian Infrastructure Program under Treasury Board responsibility, a Canada-Quebec Agreement was signed in October 2000. The objective of this agreement was to upgrade municipal, urban and rural infrastructure in the province as well as improving Quebecers' quality of life. The Agency acts on behalf of the Government of Canada as the federal department responsible for implementation in Quebec.

Canada Small Business Financing Act

The objective of the *Canada Small Business Financing Act* is to encourage participating lending institutions to increase the availability of loans for the establishment, expansion, modernization and upgrading of small business enterprises. Application of this Act, including all administrative arrangements and performance information, is the responsibility of the Department of Industry.

Softwood Industry and Community Economic Adjustment Initiative contribution program

The SICEA is a special initiative under the responsibility of Industry Canada whose implementation falls to the regional development agencies. Its goal is to generate long-term economic spinoffs in the regions and communities affected by the lumber trade dispute, primarily by supporting projects to reinforce community capabilities, diversify local economies and enhance productivity.

Canadian Apparel and Textile Industries Program

Through the IDEA-SME program, the Agency will implement part of the new Canadian Apparel and Textile Industries Program established by Industry Canada to help those industries adjust to the potential effects of the *Least Developed Countries Market Access Initiative*. Apparel and textile enterprises in Quebec will thus be able to benefit from contributions to carry out projects aimed at making them more innovative and ready to pursue new market opportunities.

Program for Export Market Development

The PEMD is a national program which helps small enterprises exporting for the first time, or wishing to penetrate a new market, to find and exploit outlets for their products and services as well as opportunities for tendering for capital projects abroad. The Department of Foreign Affairs and International Trade (DFAIT) is responsible for PEMD budgets and spending. But, in agreement with DFAIT and in direct association with its economic development mandate, the Agency delivers the program to enterprises in the regions of Quebec.

5.2 Non-financial assistance

In synergy with financial assistance from the Agency, various forms of non-financial assistance contribute to enterprise development and improvement of the environment for economic development of the regions. In some cases, these non-financial support measures are implemented by Agency personnel, in others by organizations that the Agency provides with financial assistance to enable them to deliver services to enterprises or local economic development agents. Non-financial assistance takes several forms, depending on the planned result, notably:

- Dissemination of general and specialized information for SMEs. Informing, and raising the awareness of economic development agents concerning new, emerging development issues.
- Non-financial support for development of enterprises' and local economic development agents' business capabilities and networks. As an illustration, this assistance takes the tangible form of participation in the organization and staging of workshops, seminars, learning-sharing groups (in sustainable development, for instance) and events fostering the establishment of business networks. The assistance is aimed particularly at enabling development agents to acquire competencies and knowhow in various specialized fields.

- Non-financial support for development players, at several stages in their progression and by a variety of means, to help them develop, implement and monitor projects with strategic impact. A number of organizations the Agency supports financially provide sustained support, in an incubation context, for enterprise management teams in their pre-startup or startup phases.
- Through the Agency's permanent presence in each region of Quebec, its participation in the different forums and events marking the economic development of each region, its active listening with respect to communities' concerns, its support for the organization of consultations and its approaches within the federal government machinery, Canada Economic Development helps the local economic milieu take part in defining the economic development policies and priorities of the Agency and the Government of Canada. The Agency also promotes the interests of Quebec's regions and SMEs within the Government of Canada.

Appendix I

Definitions from the Kyoto Protocol

To make it easier to understand the implications of the Protocol, here are some of the main definitions used in the Kyoto Protocol:

Climate change

means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Adverse effects of climate change

means changes in the physical environment or biota⁴ resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

Greenhouse gases

means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.

Sink

means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.

⁴ Biota: the flora and fauna of a region.

Appendix II

Internal and external consultations

The following consultation process was adopted:

Vis-à-vis personnel

Topics addressed within the Agency, with a number of managers, advisors and members of the Sustainable Development Strategy committee included the definition of sustainable development, project opportunities, project analysis, available decision-making tools, co-operation with partners, networking with local economic agents, project follow-up and performance measurement, planned results and environmental effects, training and support needs, suggestions and personal concerns.

Vis-à-vis partners

Topics addressed with partners involved in implementation of the Sustainable Development Strategy included the resources and expertise made available by the Agency, performance indicators and measurement, intervention in projects to which the Agency contributes, funding of services delivered by the Agency, constraints and suggestions for improvement, satisfaction and expectations for the next SDS.

Vis-à-vis clients

Topics covered with clients who have done business with the Agency for projects linked to sustainable development included explanation of the production process and environmental impacts or effects, knowledge and the possibility of documenting the environmental results achieved, and the support necessary for performance measurement.

The individuals consulted came from both within the Agency and outside:

Personnel:

Twenty-six advisors in nine regional business offices serving the Île-de-Montréal, Montérégie, Laval— Laurentides—Lanaudière, Québec—Chaudière-Appalaches, Estrie, Saguenay—Lac-Saint-Jean, Bas-Saint-Laurent, Côte-Nord and Abitibi-Témiscamingue regions.

Five managers and advisors attached to Corporate Services, namely, the Interregional Intervention and Partnership Branch; Planning and Strategic Orientations Branch; Quality, Information and Technology Branch; and Administrative Services.

Twenty members of the Agency's Sustainable Development Committee.

The discussions covered 48 sustainable development projects, divided into four types: studies and business plans; product development, testing and experimentation; commercialization; and pollution prevention, productivity and optimization, awareness and environmental management.

Partners:

Two interdepartmental partners for access to scientific and technical expertise in project analysis, follow-up on projects and performance measurement, namely, Environment Canada, Quebec Region and the National Research Council Canada — Industrial Research Assistance Program.

Three environment industry partners for project management and delivery of services to SMEs, namely, Enviro-Accès, RÉSEAU Environmement and the Centre québécois du développement durable (Région laboratoire).

Clients:

A sampling of five enterprises representative of varied sustainable development issues in two Quebec resource regions.

Three enterprises active in the enhancement and processing of resources, giving added value to raw materials: wood products and marine products.

One enterprise in the field of horticultural, environmental, biotechnological, packaging and screening products and equipment.

One enterprise offering forestry equipment-cleaning products and services.

Appendix III

Eco-efficiency

The Agency defines eco-efficiency as a management philosophy of doing more with less. This approach favours the production of high-value-added goods and services, while reducing resource consumption and the associated waste and pollution. In practice, eco-efficiency is attained when the following objectives are achieved: increasing product or service value; reducing use of resources; reducing environmental impact; and reducing the costs associated with the treatment, or enhancing the value, of residues or waste. Because of the cost savings associated with each of these objectives, it is beneficial to achieve them.

Eco-efficiency gives enterprises several competitive advantages, including:

- reduced costs through more efficient use of energy, water, and raw and finished materials
- reduced risk and liability by "designing out" the need for toxic substances
- increased revenue through enhancement of residues
- enhanced brand image through marketing and communicating the efforts of enterprises which show more respect for the environment
- increased productivity and employee morale through closer alignment of the enterprise's values with respect for the environment and enhanced occupational safety
- improved environmental performance by reducing greenhouse gas emissions and increasing the reuse (enhancement) of residues.

To achieve these advantages, heads of enterprises have to adopt a systemic approach to environmental management and prompt their enterprises' different functions to subscribe to the principles of eco-efficiency. These advantages lie in:

- Management: business executives can make better decisions if they are well informed as to the opportunities offered by eco-efficiency, which affords either savings or new business opportunities and markets and provides comparative advantages.
- Product design and development: the enterprise can save by using fewer materials to manufacture its products; it can also increase their life cycle for its clients' benefit.
- Production and distribution: the enterprise can make savings and enjoy access to new markets by optimizing the use of resources and manufacturing processes, and minimizing waste.

Appendix IV

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