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Final Report

Review of the Sustainable Development Strategy

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Executive Summary

Authority for the Project

This review was included in the Public Works and Government Services Canada 2002-2003 Audit and Evaluation Plan which was approved by the Audit and Review Committee (ARC) in February 2002.

Purpose and Objectives

To provide preliminary evidence on the degree of progress attained in the implementation of the PWGSC *Sustainable Development Strategy*, with emphasis on PWGSC's *Greenhouse Gas Reduction Strategy*. This review had as objectives the following:

- To obtain baseline information on the degree to which the PWGSC *Sustainable Development Strategy 2000* has been understood and adopted by Departmental decision makers.
- To examine implementation issues concerning the preliminary contributions of PWGSC's *Greenhouse Gas Emission Reduction Strategy*.

Scope

The scope of the review included PWGSC responsibilities related to the *Sustainable Development Strategy 2000* (SDS 2000) and the Greenhouse Gas Emission Reduction Strategy. The focus of the study was on the related responsibilities of the Real Property Service Branch (RPSB). The sustainable development responsibilities of the Supply Operations Services Branch (SOSB) in the area of fleet management were also considered.¹ The review project did not include PWGSC client related services.

Background

In its *Sustainable Development Strategy 2000* (SDS 2000), PWGSC documented its continued commitment to incorporate environmentally responsible principles and practices into the Department's operations, management and daily activities. The *PWGSC Greenhouse Gas (GhG) Emission Reduction Strategy and Action Plan* was approved in 2001 in response to the Government of Canada's commitment to the Kyoto Protocol, which requires governments, industry and individual citizens to collectively achieve a six percent reduction for 1990 GhG

¹ Subsequent to completion of the study a reorganization transferred responsibilities within PWGSC as described in the Background to this report.

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levels by 2012. Targets related to this strategy have been integrated into SDS 2000 initiatives addressing energy conservation in buildings, waste management, and fleet management.

At the time of the study, the RPSB was the most significant player in terms of implementing the *GhG Emission Reduction Strategy* while the SOSB was involved in regard to its contributions to fleet management. Subsequent to the completion of the study, operational real property and acquisition responsibilities were transferred to a newly created Operations Branch while related program responsibilities remained with the Real Property Program and Acquisitions Program Branches, respectively. Overall policy coordination for sustainable development moved with the Corporate Planning and Policy Directorate from the Government Operational Service Branch to the newly created Corporate Policy and Infrastructure Branch (CPIB). Operational responsibility for PWGSC fleet management moved to the Administration, Accommodation and Coordination Sector, CPIB.

Key Findings and Conclusions

Understanding and Adoption of the Sustainable Development Strategy amongst Decision Makers

A total of 605 survey questionnaires were mailed in June 2002 to all executives and middle managers of SOSB and RPSB as identified by PWGSC's internal mailing lists in order to obtain baseline information on the degree to which the PWGSC *Sustainable Development Strategy 2000* has been understood and adopted by Departmental decision makers. A total of 226 completed questionnaires were returned (37% response rate) providing baseline measures in the following areas:

- The level of awareness of the sustainable development strategy;
- The extent to which sustainable development is being integrated into business activities; and,
- The extent to which the sustainable development strategy has impacted the decision making process.

The majority of respondents felt that sustainable development is having an impact on the way decisions are made and thought that, overall, the Department is making progress towards its sustainable development objectives. The survey data suggested a lower level of understanding of sustainable development goals and objectives and, thus, less integration into decision making, amongst personnel who are not directly involved in sustainable development initiatives. While understanding and perceived levels of adoption varied significantly between decision makers who self-identified as having a high or low involvement in the implementation of sustainable development activities, both groups tended to agree that insufficient funding or dedicated resources had been allocated to incorporate sustainable development practices into their unit's activities.

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Implementation of the GhG Emission Reduction Strategy

Structured interviews were conducted with 50 individuals representative of the various organizational levels and sections involved with implementing the GhG emission reduction strategy in order to obtain evidence on the preliminary contributions of PWGSC's Greenhouse Gas Emission Reduction Strategy as well as the identification of key factors which impact on its achievement. The interviews focused on the following areas:

- The nature of projects that have been undertaken;
- The impact of the strategy on GhG emission reduction activities; and,
- The facilitation of the achievement of GhG emission reduction targets.

The nature of projects that have been undertaken:

- The profile of projects having a GhG emission reduction or an energy efficiency aspect confirms the expected concentration of project take-up in areas with opportunities for incremental reductions in GhG emissions;
- The majority of GhG or energy related projects undertaken over the past two years involved initiatives in the areas of building technologies, fleet management and operating practices;
- Study results indicate that implementation of GhG or energy related projects is relatively balanced amongst the regions, both in the number and types of projects undertaken;
- The key criteria used to select implemented projects were payback analysis, asset integrity or efficiencies, and project feasibility in terms of technology or available funding; and,
- GhG emission reduction activities were funded primarily through annual operating budgets and building management plans.

The impact of the strategy on GhG emission reduction activities:

- Overall, respondents articulated a high level of awareness of Departmental initiatives to reduce GhG emissions within PWGSC;
- The majority of GhG related projects undertaken over the past two years would have been implemented regardless of Departmental GhG emission reduction initiatives. However, Departmental GhG emission reduction initiatives did have an incremental impact on the majority of projects that would have been undertaken regardless, notably in the areas of accelerated implementation and increased project scope; and,
- The majority of respondents estimated that actual reductions had either matched or exceeded targeted achievements of GhG reduction or energy efficiency related projects.

The facilitation of the achievement of GhG emission reduction targets:

Interviews identified the following areas in which the strategy design could be further developed to facilitate take up:

- Development of concrete, actionable objectives that can be easily communicated to all levels;

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- Refinement of the project approval process to facilitate timely response to opportunities for emission reductions;
- Expansion of the scope of the strategy beyond incremental, asset-specific projects that target cost savings to include activities with opportunities for large-scale emission reductions;
- Clarification of roles and responsibilities of the various levels and sections, notably between national and regional as well as between AFMS and AES personnel;
- Provision of further direction through the development of guidelines, procedures and recommended best practices; and
- Allocation of resources in order to alleviate weaknesses in the current funding and approval processes, and to act as a message of senior management's commitment to GhG emission reduction initiatives.

Interviews also identified a need for enhanced knowledge sharing practices in order to reduce redundancies or to leverage Departmental expertise, notably the following:

- Creation of multi-functional working groups to provide leadership for specific initiatives;
- Nurturing the development of communities of practice;
- Development of stronger working relationships with stakeholders such as clients, provinces and industry; and,
- Provision of directed training on new technologies.

The review identified the following areas for improvement in GhG reduction reporting and monitoring:

- Establishment of firm, reliable baseline data for planning and evaluation;
- Enhancement of post-project reviews of impacts and lessons learned;
- Reinforcement of links between resources and results;
- Development of comparative measures that adjust for intervening factors; and,
- Enhancement of regional reporting practices for timely decision making.

As it relates to incremental add-ons to maintenance and asset management projects, the level of program take-up is largely consistent with that outlined in the strategy. However, the ratification of the Kyoto Protocol by the Government of Canada in 2002 and the trend towards increased service demands and initiatives identified by PWGSC personnel via this study suggest that the GhG reduction strategy may no longer be entirely relevant within the current environment.

Input from interviews also suggested that the creation of multi-functional work groups, composed of both national and regional subject matter experts, to assist in the development of objectives and action plans for key initiatives would help to ensure that proposed initiatives take into account regional realities, needs and opportunities while providing a forum from which communities of practice could be nurtured.

The study results indicate a need to strengthen current reporting and monitoring practices in order to ensure the development of relevant targets and objectives, as well as the timely identification of risks and opportunities that impact on the achievement of targeted GhG emission reductions.

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The development of a Results-based Management and Accountability Framework (RMAF) for key GhG emission reduction initiatives would provide a blueprint for managers to plan, measure, evaluate and report on results. It would also help to identify and communicate the linkages of resources, activities, accountabilities and the level of attainment of planned results.

It is recommended that:

1. *the Assistant Deputy Minister, Real Property Program Branch, in consultation with the Assistant Deputy Minister, Operations Branch and the Assistant Deputy Minister, Corporate Policy and Infrastructure Branch, conduct a review of the PWGSC Greenhouse Gas Emission Reduction Strategy and Action Plan to assess the relevance of the strategy within the current environment and to consider the benefits of implementing multi-functional work groups for key initiatives; and,*
2. *the Assistant Deputy Minister, Real Property Program Branch in consultation with the Assistant Deputy Minister, Operations Branch and the Assistant Deputy Minister, Corporate Policy and Infrastructure Branch, ensure that a Results-based Management and Accountability Framework (RMAF) be developed and implemented for key Greenhouse Gas Emission Reduction initiatives to promote timely reporting for results management and accountability.*

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1 Introduction

1.1 Authority for the Project

This review was included in the Public Works and Government Services Canada (PWGSC) 2002-2003 Audit and Evaluation Plan which was approved by the Audit and Review Committee (ARC) in February 2002.

1.2 Purpose

To provide preliminary evidence on the degree of progress attained in the implementation of the PWGSC *Sustainable Development Strategy*, with emphasis on PWGSC's *Greenhouse Gas Emission Reduction Strategy*.

1.3 Objectives

This review had as objectives the following:

- To obtain baseline information on the degree to which the PWGSC Sustainable Development Strategy 2000 has been understood and adopted by Departmental decision makers; and,
- To examine implementation issues concerning the preliminary contributions of PWGSC's Greenhouse Gas Emission Reduction Strategy.

1.4 Scope

The scope of the review included PWGSC responsibilities related to the *Sustainable Development Strategy 2000* (SDS 2000) and the *Greenhouse Gas (GhG) Emission Reduction Strategy*. The focus of the study was on the related responsibilities of the Real Property Service Branch (RPSB). The sustainable development responsibilities of the Supply Operations Services Branch (SOSB) in the area of fleet management were also considered. The review project did not include PWGSC client related services. Subsequent to completion of the study a reorganization transferred responsibilities within PWGSC as described in the Background.

1.5 Background

The Federal government's commitment to greening its operations has grown in scope, depth and accountability since being first set down in the 1992 *Code of Environmental Stewardship*. The code states, amongst other things, that the government commits itself to integrating "environmental concerns with operational, financial, safety, health, economic development and other relevant concerns in decision making." In 1995, amendments to the *Auditor General Act* established the position of the Commissioner of the Environment and Sustainable Development (CESD) within the office of the Auditor General and required that 24 Federal departments and agencies table a Sustainable Development Strategy in Parliament. This marked the beginning of

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a formal, government-wide planning and reporting process to implement sustainable development throughout the federal government.

In the 1999 Speech from the Throne, the Government of Canada committed itself to placing greater emphasis on sustainable development in its decision making and to becoming a model of environmental excellence in its own operations.

As a major provider of common services to government departments and agencies, PWGSC is involved in numerous operations with environmental implications. In its *Sustainable Development Strategy 2000* (SDS 2000), PWGSC documented its continued commitment to incorporate environmentally responsible principles and practices into the Department's operations, management and daily activities.

The *PWGSC Greenhouse Gas Emission Reduction Strategy and Action Plan* was approved in 2001 in response to the Government of Canada's commitment to the Kyoto Protocol, which requires governments, industry and individual citizens to collectively achieve a six percent reduction for 1990 GhG levels by 2012. Targets related to this strategy have been integrated into SDS 2000 initiatives addressing energy conservation in buildings, waste management, and fleet management.

At the time of the study, the RPSB was the most significant player in terms of implementing the *GhG Emission Reduction Strategy* while the SOSB was involved in regard to its contributions to fleet management. Subsequent to the completion of the study, operational real property and acquisition responsibilities were transferred to a newly created Operations Branch while related program responsibilities remained with the Real Property Program and Acquisition Program Branches, respectively. Overall policy coordination for sustainable development moved with the Corporate Planning and Policy Directorate from the Government Operational Service Branch to the newly created Corporate Policy and Infrastructure Branch (CPIB). Operational responsibility for PWGSC fleet management moved to the Administration, Accommodation and Coordination Sector, CPIB.

2 Review Issues Examined

The purpose of this review was to provide preliminary evidence on the degree of progress attained in the implementation of PWGSC's *Sustainable Development Strategy*, with emphasis on PWGSC's *Greenhouse Gas Emission Reduction Strategy*. Based upon the review of submitted documentation and interviews with RPSB and SOSB staff to confirm areas of interest to management, it was decided that the review would focus on the following activities:

2.1 Understanding and Adoption of the Sustainable Development Strategy

To what extent has the PWGSC Sustainable Development Strategy 2000 been understood and adopted into decision making by Departmental decision makers?

2.2 Implementation of the PWGSC Greenhouse Gas Emissions Reduction Strategy

Is there preliminary evidence of implementation and contribution towards achievement of the PWGSC *Greenhouse Gas Emission Reduction Strategy* and, in addition, are there factors which may impact on its achievements?

3 Understanding and Adoption of the Sustainable Development Strategy

3.1 Introduction

3.1.1 Background

The Federal government's commitment to greening its operations has grown in scope, depth and accountability since being first set down in the 1992 Code of Environmental Stewardship. The Code states, amongst other things, that the government commits itself to integrating environmental concerns with operational, financial, economic development and other relevant concerns in decision making. In the 1999 Speech from the Throne, the Federal government affirmed its commitment to incorporate the principles of sustainable development in all decision making. In the 2002 Speech from the Throne, the Government of Canada reaffirmed its commitment to integrate the values of sustainable development into governmental decision making practices.

3.1.2 Objectives

A survey of Departmental decision makers was conducted in order to obtain baseline information on the degree to which the sustainable development strategy has been understood and adopted by departmental decision makers. The survey solicited responses to the following questions:

- What is the level of awareness of sustainable development?
- Is sustainable development being integrated into the Department's business activities?
- To what extent has sustainable development impacted on the decision making process?

3.1.3 Methodology

The methodological approach included three components:

- A review of program documentation which served to develop an understanding of the Sustainable Development Strategy's rationale and to develop the survey methodology and questionnaire.
- Interviews with RPSB and Regional Environmental Service personnel to confirm areas of interest to management.
- A postal survey questionnaire was sent out to all SOSB and RPSB executives and middle managers as per PWGSC's internal mailing lists².

² See Appendix A: Survey Methodology

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3.2 Findings

This section provides the findings of the baseline survey designed to determine to what extent the PWGSC Sustainable Development Strategy 2000 has been understood and adopted into decision making by Departmental decision makers. Actual survey results are provided in tabular format in Appendix B.

3.2.1 Profile of Respondents

A total of 605 survey questionnaires were mailed in June 2002 to executives and middle managers of SOSB and RPSB as identified by PWGSC internal mailing lists. A total of 226 completed questionnaires were returned which represents a 37 percent response rate. Based on information provided by the respondents, 50 percent of those surveyed indicated that they were RPSB employees and 43 percent identified their workplace as SOSB. Forty-seven percent of respondents indicated that they were primarily involved with operations, while 13 percent identified their key activities lay in the area of planning or policy development.

Thirty-seven percent of the survey respondents indicated that they had been actively involved with sustainable development initiatives and 19 percent reported that they had been somewhat involved with initiatives. Thirty-five percent of respondents indicated that they had had limited or no involvement with sustainable development initiatives.

3.2.2 What is the level of awareness of sustainable development?

Awareness and understanding of sustainable development rationale and goals among decision makers is an essential element to the integration of sustainable development into departmental decision making processes.

Thirty percent of survey respondents agreed, responding 4 or 5 on a 5-point scale, that in their unit the benefits of sustainable development are clearly understood (Q14), while 32 percent indicated that they are not understood at all in their work unit.

Similarly, 38 percent of respondents indicated that they have a clear understanding of their unit's sustainable development objectives and goals (Q9), while 24 percent indicated that they had some idea and 28 percent considered that they had limited or no understanding of their units' SDS objectives and goals. Personal involvement with sustainable development activities impacted on decision makers' understanding of their units' SDS initiatives with 68 percent of high SDS involvement respondents citing a clear understanding compared to 23 percent for respondents with low SDS involvement.

Sixty-one percent of those surveyed agreed or somewhat agreed that senior management's communications and actions clearly support and give priority to sustainable development activities and practices (Q7).

3.2.3 Is sustainable development being integrated into business activities?

Integration of sustainable development into business lines represents a key governmental goal.

While 56 percent of survey respondents agreed or somewhat agreed that SDS is impacting on the way their unit does business (Q5), only 16 percent of respondents agreed that adequate resources have been allocated to their unit to implement sustainable development activities (Q13), and 18 percent of respondents indicated that their unit has sufficient funding to incorporate sustainable development practices into their activities (Q8).

Thirty-three percent of surveyed decision makers agreed that information on sustainable development activities and/or issues is readily available for decision making purposes (Q10), and 46 percent agreed that, when needed, analysts or functional experts are available to help their unit make decisions on sustainable development activities or to implement practices (Q4). Yet, 42 percent of respondents felt that sustainable development responsibilities are not clearly assigned or understood within their unit (Q3).

3.2.4 To what extent has sustainable development impacted on the decision making process?

The integration of societal, environmental and economic aspects into decision making processes represents a cornerstone of the Department's sustainable development strategy.

Sixty percent of respondents felt that sustainable development is having an impact on the way decisions are made within their work unit (Q1). While 54 percent indicated that, in their unit, sustainable development activities are linked or somewhat linked to the business planning or the internal financial processes (Q2).

Fifty-three percent of surveyed decision makers felt confident or somewhat confident that their unit will achieve its contribution to sustainable development goals (Q11), and 64 percent thought that, overall, the Department is making progress towards sustainable development (Q12).

4 Implementation of the GhG Emission Reduction Strategy

4.1 Introduction

4.1.1 Background

The *PWGSC GhG Emission Reduction and Action Plan* was developed in 2001 in response to the Government of Canada's commitment to the Kyoto Protocol which requires a collective reduction of six percent from 1990 GhG emission levels by 2010³. Under the Federal House in Order (FHiO) initiative, the Federal government is targeting a 31 percent reduction from its own operations by 2010 from the 1990 baseline GhG emission levels. PWGSC's share of the government's emission reduction target is 52.8 kilotonnes based on a business as usual forecast. This represents a 7.9 percent reduction from the Department's 1998 baseline emissions.

The GhG emission reduction strategy proposed three action plans, two of which required incremental funding and one plan which required no incremental funding. The approved action plan focuses on implementing incremental projects into asset operating and maintenance activities which are self-funded through future energy savings. Key areas of activity targeted by the 2001 GhG emission reduction action plan include⁴:

- Building Workplan:
 - Recommissioning and improved operating practices;
 - Building technology and energy projects;
 - Central heating plants; and,
 - Plug load awareness.
- Solid Waste Workplan; and,
- Fleet Workplan.

Key outcomes and impacts targeted by the strategy include the following:

- Progress in achievement of GhG emission targets with occupant satisfaction goals;
- Enhanced GhG governance;
- Better, more accurate and accessible information;
- Integration of energy and portfolio management;
- Enhanced building and fleet energy performance
- Decreased plug load; and,
- Enhanced awareness, attitudes and decision-making.

³ See Appendix C - PWGSC Greenhouse Gas Emission Reduction Strategy Environment

⁴ See Appendix D - Logic Model for PWGSC Greenhouse Gas Emission Reduction Strategy and Action Plan

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4.1.2 Objectives

The objective of the study was to provide preliminary evidence on the implementation of the Departmental Greenhouse Gas (GhG) Emission Reduction Strategy. Specifically, to collect information that seeks to provide answers to the following questions:

- What is the nature of projects that have been implemented?
- What has been the impact of the strategy on GhG emission reduction activities?
- How can the achievement of GhG emission reduction targets be facilitated?

4.1.3 Methodology

The methodological approach included three components:

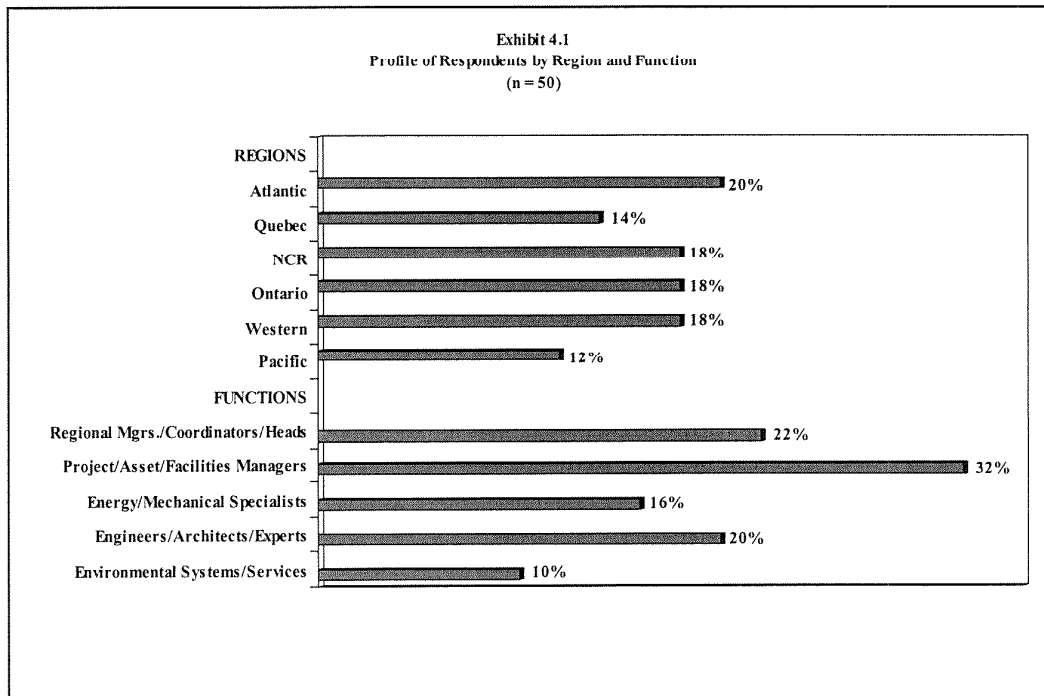
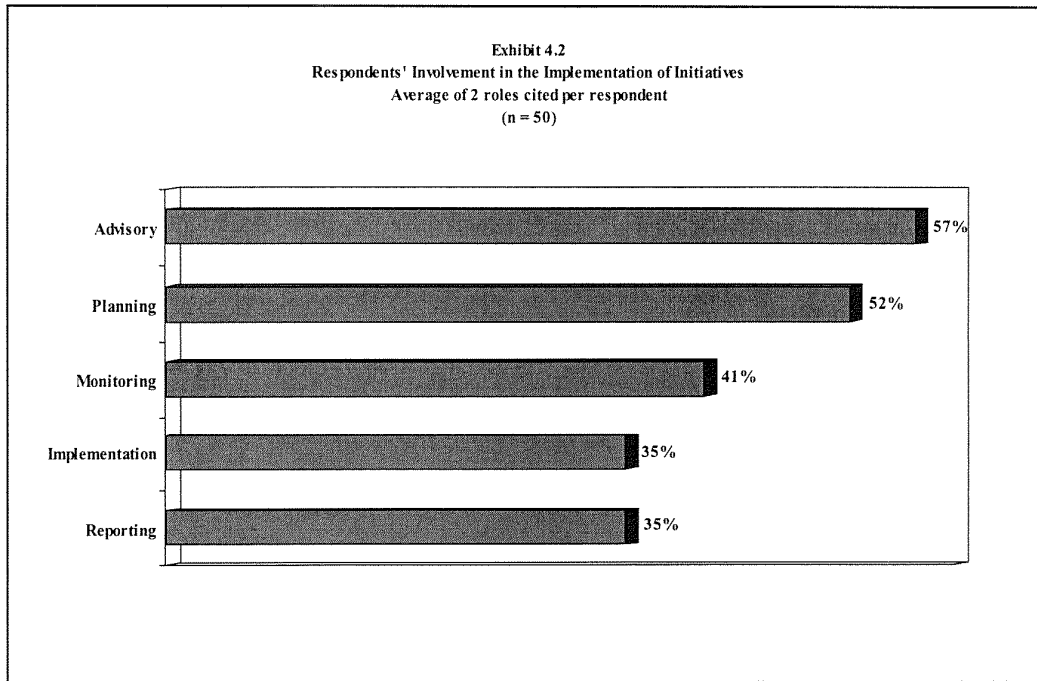
- A review of program documentation which served to develop an understanding of the strategy, estimate program activity and develop the interview guide;
- Interviews with Environmental Services' personnel to confirm areas of interest to management; and,
- Direct telephone interviews with 50 staff members (n=50) involved with the implementation of GhG emission reduction activities.

4.1.4 Profile of Respondents

Study participants were selected in such a manner as to ensure a diverse cross-section of individuals representative of the various organizational levels and sections involved with the implementation of the GhG emission reduction strategy. This resulted in a good dispersion of respondents across both the regions and functional roles (Exhibit 4.1). Given the early stage of implementation, extra emphasis was given to senior and coordinating roles (n=9) as well as to personnel with specialized knowledge or skill sets, such as engineers, architects and energy experts (n=11), and environmental systems and services staff (n=6). Just under half of the interviews (48 percent) were conducted with project, asset, fleet or facilities managers (n=16), and energy or mechanical maintenance specialists (n=8).

Another area of interest was to develop a profile of the respondents' range of involvement in the implementation of GhG emission reduction initiatives (Exhibit 4.2). The majority of respondents indicated that they play an advisory role or are involved with the planning of GhG initiatives or projects (57 and 52 percent respectively), while 41 percent of respondents reported involvement with the monitoring of GhG reduction or energy efficiency initiatives. The relatively low number of respondents that cited direct involvement with implementation or reporting activities (35 percent), may be reflective of the early implementation phase of the GhG emission reduction strategy or of biases resulting from the respondent selection process that included a significant number of regional managers, coordinators and advisory personnel.

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4.2 Findings

The purpose of this section is to summarize the key findings of the preliminary review of the GhG Emissions Reduction Strategy. While the strategy and related objectives of the Sustainable Development Strategy 2000 (SDS 2000) have only been implemented over the past two years, this study has provided some relevant information on the activities undertaken by the program and the early outcomes achieved to date. The following summary findings, organized according to the study objectives, are based on information obtained through detailed interviews with 50 individuals representative of the various organizational levels and sections involved with implementing the GhG emission reduction strategy:

4.2.1 What is the nature of projects that have been undertaken?

The profile of projects having a GhG emission reduction or energy efficiency aspect confirms the expected concentration of project take-up in areas with opportunities for incremental reductions in GhG emissions. This is consistent with a key component of the GhG emission reduction strategy that targets asset-specific projects that are funded through the payback of future operating or maintenance savings.

The majority of GhG or energy related projects undertaken over the past two years involved initiatives in the areas of building technologies and operating practices. The most frequent types of projects cited for building related initiatives were upgrades to boilers and chillers, building retrofits or upgrades, enhancements to energy or building management systems, and an increased reliance on cleaner, renewable energy sources. Within the solid waste initiative, the recycling or reuse of construction, building and office waste were the main activities reported. Fleet management activities included enhancements to vehicle maintenance practices, ongoing promotion of fuel efficient and alternative transportation fuel vehicles (ATF) (approximately 25% of the fleet are ATF), outsourcing, as well as a pilot project purchase of a hybrid electric vehicle.

Study results indicate that implementation of GhG or energy related projects is relatively balanced amongst the regions, both in the number and types of projects undertaken. The key criteria used to select implemented projects were payback analysis, asset integrity or efficiencies, and project feasibility in terms of technology or available funding.

GhG emission reduction activities were funded primarily through annual operating budgets and building management plans. In order to further support the drive towards energy efficient buildings, \$10 million in supplementary funding was allocated over the past two years from the Innovations and Solutions Program. Of respondents who reported involvement in project implementation (n=31), 42 percent indicated that they had received supplementary funding and the estimated percentage of incremental funding to total costs exceeded twenty-five percent of total costs for 19 percent of cited projects.

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4.2.2 What is the impact of the strategy on GhG emission reduction activities?

Overall, respondents articulated a high level of awareness of Departmental initiatives to reduce GhG emissions within PWGSC. However, although the review results reveal that ongoing communications and discussions has resulted in a shared understanding of GhG issues and priorities, many respondents indicated uncertainty regarding key program aspects.

Of the respondents who cited direct involvement with the implementation of GhG reduction or energy efficiency projects (n=31), 48 percent indicated that more than seventy-five percent of GhG related projects undertaken over the past two years would have been implemented regardless of Departmental GhG emission reduction initiatives and only 10 percent indicated that implemented projects were a direct result of the strategy. However, over half of the respondents who reported that projects that would have been undertaken regardless of GhG/SDS targets indicated that Departmental GhG reduction or SDS 2000 initiatives did have an incremental impact on these projects, notably in the areas of accelerated implementation and increased project scope.

In order to obtain preliminary information on the success of implemented projects in the reduction of GhG emissions, respondents were asked to provide an opinion as to the reductions achieved in energy or GhG emissions as compared to targets set out in funding or project proposal submissions. The majority of respondents queried estimated that actual reductions had either matched or exceeded targeted achievements of GhG reduction or energy efficiency related projects

4.2.3 How can the achievement of GhG emission reduction targets be facilitated?

While awareness of GhG emission reduction initiatives as a Departmental goal was high among those interviewed, there was less clarity regarding what is expected to be done or how. The review identified the following areas in which the strategy design could be further developed to facilitate take up:

- Develop concrete, actionable objectives that can be easily communicated to all levels;
- Review the project approval process to enable timely response to opportunities for emission reductions;
- Expand the scope of the strategy beyond incremental, asset-specific projects that target cost savings to include activities with opportunities for large-scale emission reductions;
- Clarify roles and responsibilities of the various levels and sections, notably between national and regional as well as between AFMS and AES personnel;
- Provide increased direction through the development of guidelines, procedures and recommended best practices; and,

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- Allocate resources in order to alleviate weaknesses in the current funding and approval processes, and to act as a message of senior management's commitment to GhG emission reduction initiatives.

This study also identified a need to enhance knowledge sharing practices in order to reduce redundancies or to leverage Departmental expertise, notably the following:

- Create formal working groups to provide leadership for specific initiatives;
- Nurture the development of communities of practice;
- Develop stronger working relationships with stakeholders such as clients, provinces and industry; and
- Provide directed training on new technologies.

Current reporting and monitoring practices should be strengthened in order to ensure the development of relevant targets and objectives, and timely measurement of results. Enhanced reporting and communications at both the regional and central levels would also help to reduce time gaps between strategy development and implementation. The review identified the following elements:

- Establish firm, reliable baseline data for planning and evaluation;
- Enhance post-project reviews of impacts and lessons learned;
- Reinforce links between resources and results;
- Develop comparative measures that adjust for intervening factors; and,
- Enhance regional reporting practices for timely decision making.

5 Conclusions and Recommendations

5.1 Understanding and Adoption of the Sustainable Development Strategy

The majority of respondents felt that the Sustainable Development Strategy is having an impact on the way decisions are made and thought that, overall, the Department is making progress towards its sustainable development objectives. The survey data suggested a lower level of understanding of sustainable development goals and objectives and, thus, less integration into decision making, amongst personnel who are not directly involved in sustainable development initiatives. While understanding and perceived levels of adoption varied significantly between decision makers who self-identified as having a high versus low involvement in the implementation of sustainable development activities, both groups tended to agree that insufficient funding or dedicated resources had been allocated to incorporate sustainable development practices into their unit's activities

5.2 Implementation of the GhG Emission Reduction Strategy

Structured interviews were conducted with 50 individuals representative of the various organizational levels and sections involved with implementing the GhG emission reduction strategy in order to obtain evidence on the preliminary contributions of PWGSC's *Greenhouse Gas Emission Reduction Strategy* as well as the identification of key factors which impact on its achievement. The interviews focused on the following areas:

- What is the nature of projects that have been undertaken?
- What is the impact of the strategy on GhG emission reduction activities?
- How can the achievement of GhG emission reduction targets be facilitated?

The nature of projects that have been undertaken:

- The profile of projects having a GhG emission reduction or an energy efficiency aspect confirms the expected concentration of project take-up in areas with opportunities for incremental reductions in GhG emissions;
- The majority of GhG or energy related projects undertaken over the past two years involved initiatives in the areas of building technologies and operating practices;
- Study results indicate that implementation of GhG or energy related projects is relatively balanced among the regions, both in the number and types of projects undertaken;
- The key criteria used to select implemented projects were payback analysis, asset integrity or efficiencies, and project feasibility in terms of technology or available funding; and,
- GhG emission reduction activities were funded primarily through annual operating budgets and building management plans.

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The impact of the strategy on GhG emission reduction activities:

- Overall, respondents articulated a high level of awareness of Departmental initiatives to reduce GhG emissions within PWGSC. Many respondents, however, indicated uncertainty regarding key program aspects;
- The majority of GhG related projects undertaken over the past two years would have been implemented regardless of Departmental GhG emission reduction initiatives. However, Departmental GhG emission reduction initiatives did have an incremental impact on the majority of projects that would have been undertaken regardless, notably in the areas of accelerated implementation and increased project scope; and,
- The majority of respondents estimated that actual reductions had either matched or exceeded targeted achievements of GhG reduction or energy efficiency related projects

Facilitation of the achievement of GhG emission reduction targets:

Interviews identified the following areas in which the strategy design could be further developed to facilitate take up:

- Development of concrete, actionable objectives that can be easily communicated to all levels;
- Refinement of the project approval process to facilitate timely response to opportunities for emission reductions;
- Expansion of the scope of the strategy beyond incremental, asset-specific projects that target cost savings to include activities with opportunities for large-scale emission reductions;
- Clarification of roles and responsibilities of the various levels and sections, notably between national and regional as well as between AFMS and AES personnel;
- Provision of further direction through the development of guidelines, procedures and recommended best practices; and,
- Allocation of resources in order to alleviate weaknesses in the current funding and approval processes, and to act as a message of senior management's commitment to GhG emission reduction initiatives.

Interviews also identified a need for enhanced knowledge sharing practices in order to reduce redundancies or to leverage Departmental expertise, notably the following:

- Creation of multi-functional working groups to provide leadership for specific initiatives;
- Nurturing the development of communities of practice;
- Development of stronger working relationships with stakeholders such as clients, provinces and industry; and,
- Provision of directed training on new technologies.

The review identified the following areas for improvement in GhG reduction reporting and monitoring:

- Establishment of firm, reliable baseline data for planning and evaluation;
- Enhancement of post-project reviews of impacts and lessons learned;

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- Reinforcement of links between resources and results;
- Development of comparative measures that adjust for intervening factors; and,
- Enhancement of regional reporting practices for timely decision making.

As it relates to incremental add-ons to maintenance and asset management projects, the level of program take-up is largely consistent with that outlined in the strategy. However, the ratification of the Kyoto Protocol by the Government of Canada in 2002 and the trend towards increased service demands and initiatives identified by PWGSC personnel via this study suggest that the GHG strategy may no longer be entirely relevant within the current environment.

Input from interviews also suggested that the creation of multi-functional work groups, composed of both national and regional subject matter experts, to assist in the development of objectives and action plans for key initiatives would help to ensure that proposed initiatives take into account regional realities, needs and opportunities while providing a forum from which communities of practice could be nurtured.

The study results indicate a need to strengthen current reporting and monitoring practices in order to ensure the development of relevant targets and objectives, as well as the timely identification of risks and opportunities that impact on the achievement of targeted GhG emission reductions. The development of a Results-based Management and Accountability Framework (RMAF) for key GhG emission reduction initiatives would provide a blueprint for managers to plan, measure, evaluate and report on results. It would also help to identify and communicate the linkages of resources, activities, accountabilities and the level of attainment of planned results.

It is recommended that:

1. *the Assistant Deputy Minister, Real Property Program Branch, in consultation with the Assistant Deputy Minister, Operations Branch and the Assistant Deputy Minister, Corporate Policy and Infrastructure Branch, conduct a review of the PWGSC Greenhouse Gas Emission Reduction Strategy and Action Plan to assess the relevance of the strategy within the current environment and to consider the benefits of implementing multi-functional work groups for key initiatives; and,*
2. *the Assistant Deputy Minister, Real Property Program Branch in consultation with the Assistant Deputy Minister, Operations Branch and the Assistant Deputy Minister, Corporate Policy and Infrastructure Branch, ensure that a Results-based Management and Accountability Framework (RMAF) be developed and implemented for key Greenhouse Gas Emission Reduction initiatives to promote timely reporting for results management and accountability.*

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Appendix A - Survey Methodology

Summary Table of Survey Methodology Used Sampling Design Decisions

Survey Objective:

To obtain baseline information on the degree to which the sustainable development strategy has been understood and adopted by departmental decision makers.

Data Specifications:

Type of Study:	Descriptive: cross-sectional
Collection Method:	Postal
Source of Primary Data:	Decision makers

Population, Sampling Frame and Sampling Technique:

Population:

The set of RPS and SOS managers, analysts and other specialists who participate in branch decision making processes.

Study Objects:

Individuals listed on the PWGSC internal mailing lists for SOS/RPS Executives (excluding ADMs) and Middle Managers (N=605)

Response Rate:

37 percent (226 decision-makers)

Aspects Studied:

Background (B):	1 questions
Program Integrity (PI):	4 questions
Awareness (A):	5 questions
Impacts (I):	6 questions

Questionnaire Construction Requirements:

The questionnaire needed to be brief enough to encourage participation (average administration time of questionnaire of 10 minutes). Other requirements included precise, clear language to avoid irregularities in comprehension and a balanced coverage of aspects studied. The questionnaire was administered by internal mail during the month of June, 2002.

Statistical Packages:

EXCEL

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Appendix B - Summary of Survey Results

<i>Respondents by Branch</i>		
SOS Branch	98	43%
RPS Branch	113	50%
No Answer	15	7%
Totals	226	100%

Q1 - Sustainable development is having an impact on the way decisions are made within my work unit

Entirely (5)	22	10%
Generally (4)	65	29%
Somewhat (3)	47	21%
Not really (2)	35	15%
Not at all (1)	30	13%
Non-Applicable	5	2%
Don't Know	20	9%
No Answer	2	1%
Totals	226	100%

Q3 - Within our unit, sustainable development responsibilities are clearly assigned and understood.

Entirely (5)	13	6%
Generally (4)	40	18%
Somewhat (3)	51	23%
Not really (2)	51	23%
Not at all (1)	44	19%
Non-Applicable	12	5%
Don't Know	13	5%
No Answer	2	1%
Totals	226	100%

Q5 - Sustainable development is impacting on the way our unit does business.

Entirely (5)	23	10%
Generally (4)	51	23%
Somewhat (3)	52	23%
Not really (2)	34	14%
Not at all (1)	45	20%
Non-Applicable	4	2%
Don't Know	15	7%
No Answer	2	1%
Totals	226	100%

<i>Respondents' Key Activities</i>		
Planning/Policy	30	13%
Operations	105	47%
No Answer	91	40%
Totals	226	100%

Q2 - In our unit, sustainable development activities are linked to the business planning process or the internal financial process.

Entirely (5)	17	7%
Generally (4)	54	24%
Somewhat (3)	51	23%
Not really (2)	36	16%
Not at all (1)	28	12%
Non-Applicable	11	5%
Don't Know	26	12%
No Answer	3	1%
Totals	226	100%

Q4 - When needed, analysts or functional experts are available to help my unit make decisions on sustainable development activities or to implement practices.

Entirely (5)	34	15%
Generally (4)	70	31%
Somewhat (3)	27	12%
Not really (2)	21	9%
Not at all (1)	25	11%
Non-Applicable	11	5%
Don't Know	36	16%
No Answer	2	1%
Totals	226	100%

Q6 - Within our unit, performance expectations for sustainable development initiatives are clearly laid out and accepted by those involved.

Entirely (5)	12	5%
Generally (4)	28	12%
Somewhat (3)	58	26%
Not really (2)	44	20%
Not at all (1)	53	23%
Non-Applicable	15	7%
Don't Know	13	6%
No Answer	3	1%
Totals	226	100%

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Q7 - Senior management's communications and actions clearly support and give priority to sustainable development activities and practices.

Entirely (5)	17	8%
Generally (4)	65	29%
Somewhat (3)	54	24%
Not really (2)	31	14%
Not at all (1)	33	14%
Non-Applicable	5	2%
Don't Know	19	8%
No Answer	2	1%
Totals	226	100%

Q8 - In our unit, sufficient funding is available for us to incorporate sustainable development practices into our activities.

Entirely (5)	7	3%
Generally (4)	33	15%
Somewhat (3)	35	15%
Not really (2)	45	20%
Not at all (1)	55	24%
Non-Applicable	13	6%
Don't Know	36	16%
No Answer	2	1%
Totals	226	100%

Q9 - I have a clear understanding of our unit's contribution to the Department's sustainable development goals and objectives.

Entirely (5)	35	15%
Generally (4)	51	23%
Somewhat (3)	55	24%
Not really (2)	24	11%
Not at all (1)	40	18%
Non-Applicable	6	3%
Don't Know	12	5%
No Answer	3	1%
Totals	226	100%

Q10 - Information on sustainable development activities and/or issues is readily available for decision making purposes.

Entirely (5)	18	8%
Generally (4)	57	25%
Somewhat (3)	56	25%
Not really (2)	39	17%
Not at all (1)	22	10%
Non-Applicable	3	1%
Don't Know	29	13%
No Answer	2	1%
Totals	226	100%

Q11 - I feel confident that our unit will achieve its contribution to sustainable development goals.

Entirely (5)	13	5%
Generally (4)	49	22%
Somewhat (3)	58	26%
Not really (2)	36	16%
Not at all (1)	17	7%
Non-Applicable	20	9%
Don't Know	31	14%
No Answer	2	1%
Totals	226	100%

Q12 - I think that overall, the Department is making progress towards sustainable development.

Entirely (5)	28	13%
Generally (4)	66	29%
Somewhat (3)	50	22%
Not really (2)	32	14%
Not at all (1)	10	4%
Non-Applicable	2	1%
Don't Know	36	16%
No Answer	2	1%
Totals	226	100%

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Q13 - *Adequate resources have been allocated to our unit to implement sustainable development activities.*

Entirely (5)	6	3%
Generally (4)	29	13%
Somewhat (3)	39	17%
Not really (2)	47	20%
Not at all (1)	58	26%
Non-Applicable	18	8%
Don't Know	27	12%
No Answer	2	1%
Totals	226	100%

Q14 - *In our unit, the benefits of sustainable development are clearly understood.*

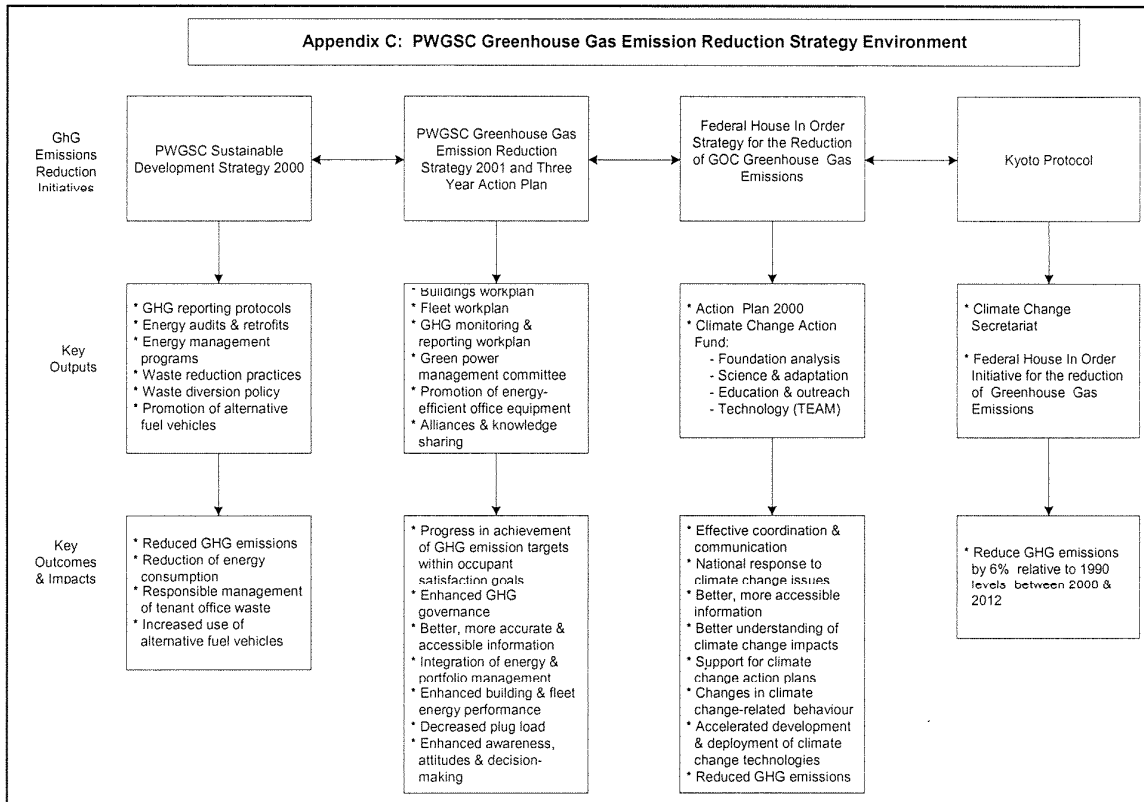
Entirely (5)	18	8%
Generally (4)	50	22%
Somewhat (3)	59	26%
Not really (2)	37	16%
Not at all (1)	34	15%
Non-Applicable	8	4%
Don't Know	18	8%
No Answer	2	1%
Totals	226	100%

Q15 - *I am, or have been, actively involved with sustainable development initiatives.*

Entirely (5)	32	14%
Generally (4)	52	23%
Somewhat (3)	43	19%
Not really (2)	32	14%
Not at all (1)	49	21%
Non-Applicable	8	4%
Don't Know	8	4%
No Answer	2	1%
Totals	226	100%

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Appendix C - Greenhouse Gas Emission Reduction Strategy Environment



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Appendix D - Greenhouse Gas Emission Reduction Strategy Logic Model

