Evaluation of the Pilot Emission Removals, Reductions and Learnings (PERRL) Initiative

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Acronyms used in the report

BPI	Baseline Protection Initiative
CCAF	Climate Change Action Fund
CCS	Climate Change Secretariat
CDM	Clean Development Mechanism
CEA	Credit for Early Action
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
DAEC	Departmental Audit and Evaluation Committee
EC	Environment Canada
EPS	Environmental Protection Service
GHG	Greenhouse gas
LFE	Large Final Emitter
NAICC-CC	National Air Issues Coordination Committee on Climate Change
NCCP	National Climate Change Process
NIS	National Implementation Strategy on Climate Change
NRCan	Natural Resources Canada
Mt	Megatonne
OE	Opportunities Envelope
OTC	One-Tonne Challenge
PERRL	Pilot Emission Removal, Reductions and Learnings

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Prepared by Environment Canada's Evaluation Division, Audit and Evaluation Branch

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EXECUTIVE SUMMARY

As identified in the Departmental Audit and Evaluation Plan 2005/6 to 2007/8, an evaluation of the Pilot Emission Removals, Reductions and Learnings (PERRL) Initiative program was conducted.[1] The primary objective of the summative evaluation of the PERRL Initiative was to assess the learnings from the use of a market-based purchasing mechanism as a means to encourage project-based greenhouse gas (GHG) emission reduction activity. The evaluation also assessed how the Initiative led to improvements in Canadian expertise in identifying, achieving, quantifying and verifying removals and reductions in strategic areas. Finally, the impact of the Initiative on policy development was also examined.

This document presents the findings and lessons learned of the summative evaluation of the PERRL Initiative. Note that on April 13, 2006, the Minister of Natural Resources Canada (NRCan), in a public news release entitled "First Steps Taken Towards Made-in-Canada Approach," confirmed the Government of Canada decision to include the PERRL Initiative among the programs that have completed their work.[2] In light of this, no recommendations are made with respect to the PERRL Initiative other than to note the lessons learned that would apply to the design of any relevant future program.

Through a series of auction or request for proposals rounds, the PERRL Initiative was designed to allow the federal government to purchase verified and cost-effective GHG emission reductions from eligible projects on a fixed-price-per-tonne basis. Canadian entities (e.g., municipalities, private sector, non-for-profit organizations and individuals) with an interest in any of the four strategic areas were eligible to submit bids and project proposals to PERRL. The PERRL Initiative aimed at encouraging immediate action in Canada to achieve GHG emission reductions in strategically important areas. It was also designed to develop Canadian capacity and expertise in conceiving, planning, implementing and administering project-based GHG emission reductions. Finally, the Initiative was designed with the intention of informing the analysis and development of future policies through the learnings gained.

The evaluation examined the following four evaluation issues:

a. ***Relevance*** assessed whether PERRL addressed actual needs.
b. ***Success*** focussed on whether PERRL has met its outcomes.
c. ***Design and delivery*** investigated whether the Initiative was designed and delivered in the best possible way.
d. ***Cost-effectiveness*** asked whether the most appropriate and efficient means were used to achieve PERRL outcomes.

In accordance with best practices, the approach for the evaluation involved the use of multiple lines of enquiry including document review, key informant interviews and an analysis of

[1] Evaluations of two other climate change programs, namely the Opportunities Envelope (OE) and the One-Tonne Challenge (OTC) were also conducted. The three climate change programs were selected for evaluation given the central role played by Environment Canada (EC) in regard to their shaping and implementation, their contribution to helping EC address its broader priorities by way of fostering multi-jurisdictional collaboration, enabling sound decision-making, and empowering citizens to make informed decisions, and the need to respond to program specific risks and issues.

[2] The news release indicated that the Initiative is to be wound down in 2008-2009 in order to fulfill existing obligations.

relevant bid information. An evaluation committee was created to support the evaluation process from start to finish. This committee was comprised of officials from Environment Canada's (EC) Audit and Evaluation Branch as well as from the PERRL program.

The following represents the summary findings from this report by evaluation issue.

Relevance

The evaluation found that the PERRL Initiative was relevant as it helped Canada gain experience in the area of GHG mitigation. A number of key federal climate change policy documents did indeed set the stage for the establishment of a program like PERRL to provide ongoing analysis and decision-making on opportunities and challenges under the Kyoto Protocol. On one hand, PERRL was designed to encourage Canadian entities to undertake immediate and "least-cost" actions by providing an incentive which would be allocated pursuant to a competitive process. Moreover, the pilot approach used by PERRL was an appropriate means to develop the technical knowledge and capacity required to tackle the new activity of measurement of GHG emissions in addition to better grasping the value of competitive bidding to encourage action. As these areas were underdeveloped, the many real-life experiences provided by PERRL's project-based GHG emission reduction projects represented an important basis upon which other related programs, policies and programs could be developed.

Success

Under the circumstances, PERRL performed well in encouraging early action to reduce GHG emission in most strategic areas. While the PERRL Initiative does not appear to have been the key catalyst to the GHG reduction and removal activities, the evaluation did find that PERRL project proponents represented the "early actors" in the area of GHG mitigation. Their participation was strongly motivated by the potential learnings (e.g., quantification and verification methods, use of a market mechanism, and familiarisation with governmental requirements). The ongoing uncertainty around the rules governing the eligibility of PERRL projects in alternative opportunities as well as the PERRL requirements (i.e., generally stringent) were, however, at the centre of PERRL proponents' concerns. These factors helped explain overall participation in PERRL.

The evaluation also found that there existed a consensus on the importance of the learnings gained from PERRL. The learnings concerned the capacity and expertise in project-based GHG emission reduction measurement (i.e., in the area of quantification and to a lesser extent in verification methods), which has also benefited a number of relevant initiatives. Learnings on the operation, and potential role, of a market mechanism to achieve low cost GHG emission reductions, through competitive bidding, were also gained despite the challenges in trying to simultaneously achieve the needed learning in the area of GHG measurement (e.g., strategic area representation, PERRL requirements, and institutional rigidities). The PERRL experience also contributed to various design and implementation aspects of other related programs, including the separation of emission reduction/removal validation and purchasing activities.

Design and Delivery

The design and delivery of PERRL allowed it to achieve its learning objectives. The 'learning-by-doing' approach contributed to building the knowledge and capacity required to maximise the understanding of project-based GHG emission reductions in strategic areas.

There was, however, overall concern that PERRL requirements, in terms of the application and reporting processes, were too stringent given that the Initiative was a learning one and that the exactitude of, and/or capacity to provide, the required information was limited. This nevertheless represents an important PERRL learning in itself. Concerns were also shared regarding the dissemination of the learnings. While there were ongoing exchanges between relevant officials and on issues of importance (e.g., various public and private sector needs), PERRL did not provide a systematic approach in regard to the sharing of the learnings generated during the implementation of PERRL.

Cost-effectiveness

The use of a competitive bidding process, despite the challenges in implementing such a process, helps to explain why PERRL was comparatively more cost-effective than similar alternatives undertaken at that time, including those that needed to balance a low cost-per-tonne criterion with other selection criteria such as regional balance. PERRL, however, was prevented from leveraging third-party funding, including that of provincial and territorial governments, as under competitive bidding; there is no guarantee that the funds would be spent on projects in their own jurisdiction. Finally, PERRL could have been more cost-effective had the learnings been shared in a more formal and timely fashion. Indeed, the PERRL Office's efforts to pursue the dissemination of its learnings through the development of a PERRL Learning paper will enhance the cost-effectiveness of the Initiative.

Conclusions and Lessons Learned

Based on these findings, this evaluation concluded that well-designed experiments conducted within the right conditions should be more widely considered in order to base new policy ideas and approaches on stronger foundations. As the PERRL experience indicates, the need to share learnings in a more formal and timely fashion, to maintain simplicity and to provide certainty to pilot participants are key ingredients to success. These considerations were deemed particularly important in a policy environment that has been committed to "learn" from its investments (Project Green 2005, Climate Change Plan for Canada 2002, National Implementation Strategy 2000). Hence, in moving forward on Canada's effort to combat climate change, closer scrutiny should be given to the learnings generated by the PERRL Initiative. In particular, the evaluation presented four detailed lessons learned regarding the Initiative that may also assist in the design of similar types of initiatives.

First, having such an initiative's *learnings shared on an ongoing basis and in a formalized manner (lesson 1)* would provide for more informed and timely policy responses. Second, having such an initiative's *learnings shared with the key communities of interest (lesson 2)* would also enhance effectiveness, for example, by ensuring that appropriate needs are captured. Third, in order to increase participation and hence enrich the set of policy rich information (e.g., on measurement practices, state of knowledge across areas/industries), such pilot programs should be more tailored and/or flexible, in terms of *adopting simpler program guidelines and requirements (lesson 3)*. Finally, closer scrutiny should be given to the conditions surrounding policy experiments such as the PERRL Initiative. The finding that the achievement of a number of PERRL's outcomes was highly influenced by the ongoing development of other related initiatives does shed light on the need for *increased coordination among programs/groups within the climate change area (lesson 4)*. Such coordination would, among other things, provide more certainty to the Canadian entities that are playing a key role in reducing GHG emissions in Canada.

Management Response

Learnings of this evaluation will be taken into account in the development of any future and relevant programs.

In addition, the following specific responses have been made.

Response to Lesson 1 *(Learnings gained should be shared on an ongoing basis and in a formalized manner)*

Agree. Throughout the program's development and operation, PERRL learning has been shared through validation and claim review meeting discussions on an informal basis and within a fairly small group. The sharing will be improved further through the following action: A formal learning report is being developed and will be made available by September 2006. This document will help to organize the learning in a more systematic fashion, bringing together all the issues and new learnings (such as verification issues arising in first half of 2006) of the program. It will be able to provide valuable, handy information to other, similar government programs as well as other interested stakeholders.

Response to Lesson 2 *(Learnings should be shared with the key communities of interest)*

Agree. The learning has been shared in the public sector. As mentioned earlier, PERRL has been passing on its learning to other colleagues in the Canada GHG Offset System (CGHGOS). In addition, PERRL has been a member of the inter-departmental Accepted Practice Working Group (APWG) whose mission is to share acceptable practices related to GHG emission reduction/removal projects and emission trading. In addition, PERRL's review team members are from several departments and are bringing the experience back and applying it in their own departments. Still, the sharing with the key communities can be improved through the following:

- PERRL will help and work more closely with the National Offset Quantification Team (NOQT), whose mission is to design and review quantification protocols for the CGHGOS and whose members are composed of colleagues from Alberta's Climate Change Central, Canadian Standard Association, several federal departments and most provincial and territorial governments.
- PERRL will collaborate more closely with the GHG verification Services (GVS) to provide them with PERRL project data and to exchange information related to verification processes.
- The private sector is very interested in learning more about GHG emission reduction project application, validation, quantification and the verification process. PERRL will use its project examples and experiences to help potential private sector proponents participate in the Offset System. This can be done by participating in meetings with organized sector associations, non-profitable organizations or other federal or provincial departments.

Response to Lesson 3 *(Simpler program guidelines and requirements should be adopted)*

Agree. Simplicity has always been the PERRL's guiding principle. Consequently, throughout the operation of the program, application procedures, quantification protocols and verification guidelines have been revised a number of times in order to be more concise and clear to the proponents. Also, the PERRL Office is updating the Emission Reduction (ER) Claim Reports

and Verification Guidelines to provide the project proponents a more clear illustration of the requirements of the program. Version 2.0 of the ER Claim Reports and Verification Guidelines will be completed and made available to the proponents by the end of September 2006, in order to prepare for the following ER Claim period.

Because the Initiative terminates at the end of 2007, the adoption can be improved further through the following actions:

- PERRL continues to provide inputs and transfers the above learning experience to make CGHGOS documents such as the Project Document easy to read and the requirements simple to follow.
- PERRL will design checklists and templates to help save time and effort for the Validation Officers when they review project applications.
- PERRL will help fine-tune the Quantification Template to make it straightforward to implement for the protocol developers.
- PERRL continues to help GVS in updating its training course and making it more relevant and concise by providing these colleagues with the latest PERRL verification data and results.

Response to Lesson 4 *(Increase coordination among programs/groups within the climate change policy area)*

Agree. PERRL has been participating in the Offset Working Group (WGO) whose members are from Agriculture and Agro Foods Canada, Natural Resources Canada, PCO, Foreign Affairs Canada, Industry Canada and Environment Canada and whose objective was to set policy for the Offset System as well as to work with PERRL validation and claim review team members who provide GHG emission related policy recommendations to their own departments. However, the coordination can be improved further by implementing the following:

- PERRL will work with other departments that manage climate change related programs (such as the CDM/JI program at the Department of Foreign Affairs and International Trade and the Office of Energy Efficiency at Natural Resources Canada) so that these colleagues can use PERRL results in designing their program policies.
- PERRL will provide Large Final Emitters and Clean Air groups with information such as renewable energy and geological CO2 capture and storage sector quantification methodologies to help them design policies.

1.0 INTRODUCTION

Environment Canada's (EC) Audit and Evaluation Branch conducted evaluations of three climate change programs, namely the One-Tonne Challenge (OTC), the Pilot Emission Removals, Reductions and Learnings (PERRL) Initiative and the Opportunities Envelope (OE).[3] These programs are part of a broader set of programs and initiatives on climate change that the Government of Canada established ranging from technology development to emissions trading. The three climate change programs were selected for evaluation given the central role that EC has played in regard to their shaping and overall implementation. Furthermore, in order for the department to undertake an appropriate balance of evaluation work and that it be strategically focused, the three programs were also selected given their contribution to helping the department address its broader priorities by way of fostering multi-jurisdictional collaboration, enabling sound decision-making, and empowering citizens to make informed decisions. These priorities are key in helping the department implement the Competitiveness and Environmental Sustainability Framework (CESF).[4]

While all three programs aim to address the issue of climate change, the evaluations were conducted separately given their differences in terms of goals and requirements, design and delivery aspects and targeted audiences. Close attention, however, was given to the overall design of the evaluations as is reflected in the choice of evaluation issues and questions. This has facilitated the roll-up of the evaluations' findings and lessons learned under common broad themes, including the following: greenhouse gas (GHG) measurement is a young and complex area of activity; there is a need for clearer alignment between tools/approaches used and desired outcomes and overall certainty and coordination is needed when implementing initiatives. It is important to note that the conclusions of these evaluations are by no means meant to directly apply to other climate change programs, policies and initiatives.

This document presents the findings and lessons learned of the summative evaluation of the PERRL Initiative. Note that on April 13, 2006, the Minister of Natural Resources Canada (NRCan), in a public news release entitled "First Steps Taken Towards Made-in-Canada Approach," confirmed the Government of Canada decision to include the PERRL Initiative among the programs that have completed their work. In light of this, no recommendations are made with respect to the PERRL Initiative other than to note the lessons learned that would apply to the design of any relevant future program.

An evaluation committee was created to support the evaluation process from start to finish. This committee is comprised of officials from EC's Audit and Evaluation Branch as well as from the PERRL program.

[3] All three evaluations are included in the EC 2005-06 Audit and Evaluation Plan which was approved by EC's Departmental Audit and Evaluation Committee (DAEC) on June 15, 2005.

[4] The CESF aims to attain the highest level of environmental quality as a means to enhance the well-being of Canadians, preserve our natural environment, and advance our long-term competitiveness. The five pillars supporting this framework are decision-making, information, science and technology, compliance and enforcement, and education.

2.0 INITIATIVE SUMMARY

2.1 Brief History

The PERRL Initiative is a pilot program launched in October 2002 under the federal government's Action Plan 2000.[5] The Initiative was designed to provide Canadian companies, organizations and individuals with an economic incentive to undertake immediate reductions in greenhouse gas (GHG) emissions. As a pilot program, it was also intended to provide learnings about the quantification and verification of GHG emission reductions in strategic areas and inform the analysis and development of future policies from the learnings gained.

PERRL evolved from a number of discussion bodies that were established immediately following the negotiation of the Kyoto Protocol in December 1997.[6] The National Climate Change Process (NCCP) was an important one of these bodies. The NCCP brought a number of experts from across Canada and representatives from all levels of government to a series of issue tables and working groups to learn about potential options to reduce Canadian GHG emissions and about the implications of these emissions, including their socio-economic and environmental impacts.[7] In total, 16 issue tables/working groups were established from industry, academia, non-governmental organisations, and governments.

The PERRL Initiative also evolved from the discussions held in one of these issue tables, namely the Credit for Early Action (CEA) Table. Two specific needs were identified through those discussions. First, there was the need to remove a disincentive to taking early action. The Baseline Protection Initiative (BPI) was established to remove this disincentive. The BPI was a voluntary program under *Canada's First National Climate Change Business Plan*.[8] The program ensured that organizations that act early to reduce GHG emissions are not disadvantaged should potential climate change policies based on emission levels be implemented.[9] Second, there were discussions around the need to have the government provide a financial incentive for taking action to reduce GHG emissions. The PERRL Initiative was intended to address this by providing Canadian entities with an incentive by purchasing verified GHG emission reductions and removals from qualified projects.[10]

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[5] *Action Plan 2000*, announced in the federal Economic Statement of October 2000, was a five-year $500 million initiative. While focused primarily on introducing greenhouse gas mitigation measures, *Action Plan 2000* also aimed at advancing knowledge- and foundation-building in climate science, impacts and adaptation, northern and Aboriginal communities, and technological innovation. Another important climate change investment package of the time included *Climate Change Action Fund (CCAF)*. Established in the 1998 Federal Budget (and renewed in Budget 2000), the CCAF also aimed at promoting early action and improving understanding of climate change in Canada.

[6] The Government of Canada ratified the Kyoto Protocol in December 2002 and requires that Canada reduce its GHG emissions by an average of 6 percent below 1990 levels over the period 2008-12.

[7] The NCCP was completed in 2000 and resulted in the development of over 200 recommendations designed to reduce GHG emissions and increase Canada's knowledge base.

[8] *Canada's National Implementation Strategy on Climate Change* and *Canada's First National Climate Change Business Plan* were also released in October 2000. The latter lists objectives under the key themes identified in the former and the actions underway or under consideration by federal, provincial, and territorial governments. The two documents can be viewed at http:www.nccp.ca.

[9] The initiative was announced by federal, provincial and territorial energy and environment ministers in October 2000. Canadian organisations could register (as of April 2002) on-line the actions they have taken to reduce GHG emissions. Participants in the BPI will have their emission baselines adjusted to reflect the reduction actions they have taken since January 1, 1990.

[10] Note that 'removals', the first "r" in PERRL, refers to removals of carbon dioxide from the atmosphere through the process of biological sequestration; photosynthesis results in the storage of carbon in forests and agricultural

In November 2000, the National Air Issues Coordinating Committee on Climate Change (NAICC-CC) agreed that a working group would be struck to develop a detailed program design.[11] All jurisdictions were invited to participate in the working group. Prior to the latter's creation, the NAICC-CC identified the following four strategic areas to be explored under the PERRL Initiative: (1) landfill gas capture and combustion; (2) renewable energy; (3) biological carbon sequestration (agriculture and forest sinks); and (4) C02 capture and geological storage. A number of considerations motivated the selection of these strategic areas, including the collection of information on reduction potential/opportunities and the cost of these, the measuring of the effectiveness of a monetary incentive in generating emission reductions across different areas, and the assessment of the different areas' level of readiness in reducing GHG emissions.[12]

The PERRL Working Group, led by EC, had representatives from British Columbia, Alberta, Saskatchewan, Ontario, Quebec, Natural Resources Canada and the National Climate Change Secretariat (CCS).[13] While the federal government would have preferred to proceed with PERRL on a joint basis, no other jurisdiction came forward with a formal offer to partner in PERRL. As the federal government recognized the need to move forward with the design and implementation of PERRL, it decided to proceed while providing an ongoing opportunity to the provinces and territories to participate.

2.2 PERRL Role and Objectives

The PERRL Initiative was designed with the following three broad objectives in mind. First, through the provision of a financial incentive, the PERRL Initiative aimed at encouraging immediate action to achieve incremental GHG emission reductions in strategically important areas. In addition, the PERRL Initiative was designed to develop Canadian capacity and expertise in conceiving, planning, implementing and administering project-based GHG emission reductions. Finally, the Initiative was designed to inform the analysis and development of future policies through the learnings gained.[14]

The PERRL Initiative was not intended to affect Canada's commitment under the Kyoto Protocol.[15] In the case of the PERRL Initiative, the federal government would take ownership

soils. The common term of "emission reduction" will nevertheless generally be used throughout the report to refer to either the reduction of emissions from sources (i.e., landfill gas, renewable energy projects), or the removal of atmospheric $C0_2$ through the enhancement of sinks (i.e., agricultural and forestry sink projects).

[11] Along with the NCCP, the NAICC-CC was another key coordinating body established during the period following the negotiation of the Kyoto Protocol in December 1997. The NAICC-CC emphasised, among other things, the need for coordination in federal/provincial/territorial approaches to climate change.

[12] The process through which these areas were selected involved first the examination by EC officials of potential options. These options were then put forward as suggestions to the NAICC-CC for a final decision. The four strategic areas were all endorsed by the NAICC-CC.

[13] The CCS, established in 1998, also served as a coordinating body within the Government of Canada. The Secretariat was the mechanism by which the many issues associated with climate change were addressed across the federal government. It also aimed at encouraging coherence in policy and in international and federal/provincial/territorial approaches to the issue.

[14] The logic model in **Annex 1** depicts the linkages between the activities, outputs and outcomes of PERRL.

[15] It is important to note here that the real/verified reductions in GHG emissions generated during the PERRL period were not to be accounted in Canada's GHG inventory, which is used to demonstrate compliance with Canada's commitment under the Kyoto Protocol and accounts for reductions in the year that they occur. However, as PERRL projects were also assessed, among other criteria, on their potential to create a continuous

of the reductions. More precisely, no "carbon credits" or any other tradable commodity would be created through PERRL. PERRL also declared that it would make no claim of ownership on emission reductions that were created after the end of the pilot (after December 31, 2007). In other words, while the federal government would forever own the reductions generated during the course of PERRL period, it would not own any emission reductions from 2008 and beyond, should a project continue and generate ongoing emission reductions.[16]

2.3 PERRL Approach and Audience

Through a series of auction or request for proposals rounds, the federal government would purchase verified GHG emission reductions from eligible projects on a fixed-price-per-tonne basis.[17] Canadian municipalities, private entities, non-for-profit organizations and even individuals with an interest in any of the four strategic areas were all eligible to submit bids and project proposals to PERRL. All projects had to be located in Canada.

The following describes the key steps involved in the PERRL Initiative. These steps are also illustrated in **Annex 2**.

Request for Submissions
The PERRL Office issued a Request for Submissions of proposals describing new projects to reduce GHG emissions or enhance GHG removals. The Request for Submissions outlined a number of elements of the auction round, including: the types of projects which were eligible to bid; the minimum size of the project (expressed as the number of tonnes of CO2 equivalent the activity will generate); the maximum payment allowed for any one project; the deadline for receipt of submissions; and other sources of information.

Entities that were interested in responding to the Request for Submissions were required to subscribe to the MERX tendering system used by the Government of Canada, in order to obtain the necessary documentation containing the forms and submission templates, including the PERRL Application Manual.[18] During the time that an auction was in process, all communication between participating entities and the PERRL office was required to be channelled through EC's Procurement and Contracting Services officers who provide the coordination between proposing entities and MERX.

Project Proposal Description
In order to apply for funding, proponents had to develop a proposal which described the intended operation and anticipated results of a future project. Proponents were required to provide information on a number of elements of the proposed project, such as detailed information on ownership of emission reductions and the roles and responsibilities of all parties involved, including how the financial benefits received from PERRL would be shared between project partners, project costs, received or expected sources of funding, project development time, and project monitoring and data management systems.

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stream of emission reductions beyond the end of the PERRL pilot (December 31, 2007) and throughout the Kyoto commitment period (2008-12), PERRL indirectly intended to affect Canada's Kyoto commitment.

[16] The PERRL period included emission reductions that were generated from projects starting from the beginning of 2004 to the end of 2007.

[17] Three auction rounds were held in the 2001/02 through 2003/04 fiscal years.

[18] MERX is an electronic-tendering service that is used by the federal and most provincial governments through which Canada's businesses of all sizes can access a variety of public (and private) contracting opportunities.

Furthermore, PERRL project proponents were also obliged to conform to a number of mandatory requirements which were used for compliance purposes. Specifically, emission reductions had to be real (reductions result from a specific and identifiable action), measurable (actual level of GHG emission with the project in place and the level of GHG emissions in the baseline case can be quantified), verifiable/verified (based on a calculation methodology that is accurate, transparent and replicable and for which the raw data required to verify/audit the calculations can be made available). Emission reductions had to be surplus (it represents a net reduction that is not otherwise required, for example through legal requirements at any level of government, affecting GHG emissions) and incremental (the result of a project whose Start Date falls after the federal government signs the purchase agreement).[19] Projects were also assessed on their potential to create a continuous stream of emission reductions beyond the end of the pilot (December 31, 2007) and throughout the Kyoto commitment period (2008-12). The potential here was based on the physical, rather than the economic characteristics of the activity.

Reverse Auction

The project proposal description was accompanied with a "bid" and an offer to sell emission reductions.[20] The lowest cost proposals which met the mandatory requirements were selected (although PERRL did not commit to necessarily accepting the lowest or any of the proposals submitted). All project submissions which passed the initial administrative review were ranked from the lowest price to the highest price according to the price per tonne offered in the project bid. Project proponents were then notified by the PERRL Office if their submission had been tentatively selected for purchase, based on price. The project documentation package prepared by proponents was then subjected to an in-depth technical review to determine if it met the criteria of the PERRL Initiative as was described in the PERRL application documentation.

Purchase Agreement

The purchase agreement indicates two key pieces of information: 1) the price per tonne to be paid for emission reductions delivered to PERRL, and 2) the anticipated total quantity of reductions to be delivered between the commencement of the project and December 31, 2007, when PERRL ends. Once a purchase agreement has been established between the federal government and the project proponent, project construction and commissioning could take place. The Purchase Agreement provides a legally binding framework for the obligation of the federal government to provide payment for emission reductions delivered to PERRL, and the obligation of the proponent to deliver emission reductions. The Purchase Agreement outlines rules for non-payment in the event of default by the project proponent. However, no penalty was established in the event that the project proponent decides, for whatever reason, to not proceed with PERRL.

Emission Reduction Claim

Following each calendar year of operation, proponents must submit an "Emission Reduction Claim", which describes the actual project results which were achieved over the period (usually a year). On the latter requirement, emission reductions had to be verified, following

[19] Depending on the type of project, "Start Date" could be defined as: 1) the beginning of construction of the project; 2) the beginning of construction of new infrastructure if the project involved new or expanded physical infrastructure (e.g., LFG collection system, construction of a wind farm); 3) the first time at which a new process or practice is implemented if a project involved the adoption of a new process or management practice.

[20] For most emission reduction areas, the submission period was approximately 10 weeks from the date of issue of the Request of Submissions.

construction of the project and at the time of an emission reduction claim, by means of a third party audit, conducted by a professional engineer, certified accountant or certified environmental auditor. Following successful review, payment would be issued to the proponent based on this claim.

2.4 PERRL Management Structure

Environment Canada is responsible for the delivery of the PERRL Initiative with support provided by Natural Resources Canada along with other federal departments and agencies. The latter shared their relevant technical expertise as members of the PERRL Review Teams. The review teams (a team was built for each strategic area) along with the PERRL Office staff reviewed the project's emission reduction strategy, baseline quantification, project boundaries, and conformity with the general PERRL criteria and reporting requirements.

Initially, responsibility for the delivery of PERRL within EC was jointly shared between the Environmental Protection Service (EPS)'s Strategies and Coordination Branch and the Policy and Communications' Economic and Regulatory Affairs Directorate (EC's old organizational structure). In the spring of 2005, responsibility shifted to EPS as the technical and operational support, including validation, verification, and monitoring, lies within this part of EC. The PERRL Office is now housed within Canada's Offset System Directorate (EC's new organizational structure).

The federal government allocated $15 million to fund and administer PERRL between 2001/02 and 2007/08.

3.0 EVALUATION DESIGN

3.1 Purpose and Scope

The summative evaluation of the PERRL Initiative assessed the learnings from the use of a market-based purchasing mechanism as a means to encourage project-based GHG emission reduction activity. The evaluation also assessed how the Initiative led to improvements in Canadian expertise in identifying, achieving, quantifying and verifying removals and reductions in strategic areas. Finally, the impact that the Initiative has had on policy development was also examined.

The following four evaluation issues were examined:

- ***Relevance*** asked whether PERRL addressed actual needs.
- ***Success*** focussed on whether PERRL has met its outcomes. These outcomes are in the PERRL logic model that may be found in **Annex 1.** The PERRL Initiative was evaluated against this logic model.
- ***Design and delivery*** assessed whether the Initiative was designed and delivered in the best possible way.
- ***Cost-effectiveness*** asked whether the most appropriate and efficient means were or are being used to achieve PERRL outcomes.

The evidence for this evaluation was gathered between July 2005 and February 1, 2006.

The specific questions pertaining to each evaluation issue are presented in the PERRL Evaluation Plan. The details of these are found in **Annex 3**.

3.2 Evaluation Approach and Methodology

In accordance with best practices, the evaluation involved the use of multiple lines of enquiry, including:

Document and File Review

Policy and planning documents were reviewed. A literature review was also conducted regarding design and implementation aspects of auctions. A full list of these documents and files can be found in **Annex 4.**

Key Informant Interviews

Key informant interviews were conducted with EC officials working on PERRL at the Economic and Regulatory Affairs Directorate within Policy and Communications and the Policy and Integration Directorate within the Environmental Protection Service (EPS). All interviews were conducted between October 11, 2005 and February 1, 2006. **Annex 5** provides a list of EC officials interviewed. **Annex 6** presents the interview questions and themes that were employed to facilitate interviewee input.

Key informant interviews with PERRL bidders were also conducted. These interviews were conducted by Environics Research Group and aimed to obtain bidders' assessment of the degree to which the PERRL Initiative effectively achieved its stated outcomes and the extent to which they are satisfied overall with the Initiative. **Annex 7** presents the interview questions that were employed to facilitate interviewees' input.[21]

In total, 20 bidders out of the population of 36 were interviewed. The methodology consisted of in-depth qualitative "executive" interviews, conducted by telephone with key representatives responsible for stakeholder bids and/or contracts. The stakeholders interviewed included representation of those with successful (15) and unsuccessful (5) bids and from the four main strategic areas.[22] These interviews were conducted between November 8 and December 14, 2005.

In terms of recruitment, EC's Evaluation Division contacted all potential interviewees in advance to notify them, by e-mail, of the interview and request their participation. The interview questions for the EC officials were included in this notification to provide an overview of what would be covered in the interview.[23]

[21] Note that Environics developed this guide, in consultation with EC's Evaluation project team. The latter also shared the draft interview guide with PERRL evaluation committee members for comments such that the research instrument fully reflected program realities and objectives.

[22] The interviews were conducted by experienced Environics researchers. The interviewees were assured of the confidentiality of their comments, that is, all information collected through the interviews would be treated as strictly confidential, and would not be identified by client or location. All stakeholders were contacted multiple times to schedule an interview.

[23] Environics contacted PERRL bidders by telephone to schedule an interview session after these were notified by email by EC's Evaluation Division. Once an interview had been scheduled, Environics sent PERRL bidders an abbreviated version of the interview protocol (intended for PERRL bidders) to provide an overview of what would be covered.

4.0 EVALUATION ISSUES AND ASSOCIATED FINDINGS

The following are the findings from the questions developed to assess respective evaluation issues.[24]

4.1 Relevance

PERRL was relevant as it addressed the need to help Canada gain experience in the area of GHG mitigation in general and prepare itself for meeting its Kyoto commitment in particular.

In the discussions leading to Canada's ratification of the Kyoto Protocol as well as after ratification, a number of programs and initiatives were developed to help Canada gain a better understanding of the issue of climate change and how to address it. Most of these programs and initiatives were included in much broader packages. The most notable of these included the *Climate Change Action Fund* in 1998, *Action Plan 2000*, *Canada's 2002 Climate Change Plan*, and *Project Green* 2005. These programs and initiatives covered a wide range of areas, including GHG mitigation, advancement of knowledge and foundation-building in climate science, technological innovation and public and education outreach.

The specific needs to be addressed in the area of GHG mitigation are identified and covered in the aforementioned climate change documents as well as in the discussion bodies mentioned in the introduction (e.g., NCCP, the multi-stakeholder Issue Tables, and NAICC-CC). Much of these efforts led to the release, in October 2000, of *Canada's National Implementation Strategy on Climate Change (NIS)*. The NIS focused on five key themes of which encouraging action was one.[25] The NIS also acknowledged that while climate change poses significant environmental, economic, health and social risks for Canadians, much uncertainty remained. In recognising this, the NIS used a risk-management approach to balance uncertainty with action. The approach in particular involved, among other things, identifying and analyzing policy options to prepare for future decision-making. In this respect, the adoption of a pilot project like PERRL was relevant as it was explicitly designed to gather evidence tested on the field to inform the development of future policy. Furthermore, PERRL is also consistent with the core objectives identified in Canada's First National Climate Change Business Plan.[26] More specifically, PERRL was able to directly address two of the latter Plan's five core objectives.

One of these objectives concerned the taking of actions to reduce GHG emissions by beginning with "least-cost" actions or those actions which deliver ancillary benefits, and proceed in a fiscally responsible, step-by-step manner towards the objective of sustained emission reductions. In this regard, PERRL was to test the use of a market mechanism and learn how to best take advantage of the possibilities that it offered. As indicated in the PERRL documentation, this included the gathering of information on the opportunities for GHG emission reductions and the cost of these, and the discovery of the key interested Canadian players (e.g., municipalities, private entities, not-for-profit organisations and individuals). The review of documentation and the responses to the key informant interviews indicate clearly

[24] See **Annexes 3**, **6**, and **7**.

[25] The other themes included enhancing awareness and understanding; promoting technology development and innovation; governments leading by example; and investing in knowledge and building the foundation.

[26] Recall here that *Canada's First National Climate Change Business Plan*, released in October 2000, listed its objectives (which evolved under the key themes identified in the NIS) and the actions underway or under consideration by federal, provincial, and territorial governments.

that PERRL was unique with respect to the use of competitive bidding as a mechanism to encourage GHG emission reduction activities. Indeed, as mentioned in section 2.1 under the discussion of the CEA Table, there was a need to have the government provide a financial incentive for taking action to reduce GHG emissions.[27] The PERRL Initiative was intended to address this by providing Canadian entities with an incentive by purchasing verified GHG emission reductions and removals from qualified projects pursuant to a competitive bidding process.

A second objective concerned the need to invest in knowledge building, which included the analysis of domestic and international policy options, and lay the foundation for future action. The area of project-based GHG emission reductions which served as the basis of the emission reductions achieved by PERRL was viewed by departmental officials, and corroborated by the evaluation's review of key climate change documents, as a sensible way to gain and develop the technical knowledge and build capacity needed in both the private and public sectors. More specifically, project-based emission reductions are generated through the implementation of projects which reduce an entity's emissions from those that would have otherwise occurred without the project. The estimated emissions profile without the project is known as an entity's baseline. The assessment of emission reductions under this approach hence depends on the correct measurement of baselines and reductions. This in turn implies that project-based reductions rely on good reporting, reliable and credible verification processes and procedures, and the smooth transfer of ownership of any reductions. The need to gain experience in this unique measurement area merited attention as it was central to Canada's capacity to demonstrate progress under the Kyoto Protocol.[28] Moreover, the capacity and expertise in this area was at a low level in both Canada and internationally.[29]

4.2 Success

Under the circumstances, PERRL performed reasonably well in encouraging early action to reduce GHG emission in most strategic areas. In addition, a number of learnings about GHG emission reductions in strategic areas were gained from both the public and private sector perspectives. Finally, PERRL has informed the development of future policy and has the potential to inform it further.

Overall PERRL Uptake

Considerable effort was deployed to reach out to the GHG emission reduction 'community'. The private sector and municipalities as well as other partners have demonstrated the most interest in the PERRL Initiative. The evaluation's review of PERRL documentation indicates

[27] It is also important to recall that the CEA Table along with the other 15 Issue Tables/Working Groups were established in the context of the National Climate Change Process (NCCP) and that the NIS built on the work of these tables as well as on other activities initiated under the Process.

[28] In accordance with Article 3, paragraph 2 of the Kyoto Protocol, Annex 1 countries are required to provide updated information on a country's mitigation and adaptation responses to climate change. The information may include current status of domestic initiatives as well as other related information such as GHG inventories and trends in, and projections of GHG emissions.

[29] At the time, no concerted effort, at both the private and public levels, existed in this area in Canada. At the international level, the Clean Development Mechanism, one of the three Kyoto Protocol mechanisms designed, among other reasons, to help promote emission reduction and sink projects in developing countries was also at the inception level.

that the effort deployed to reach out to the community was conducted using a variety of media and outreach mechanisms, including high-level announcements, attendance at various conferences, organization of conference calls, news releases, presentations to various associations and the creation of a PERRL website. In addition, the responses to key informant interviews also indicate that the Initiative was successful in reaching out to potential stakeholders through these sources. The information appears to have been shared in a fairly consistent and comprehensive fashion.

In total, 45 bids were received and these were fairly well distributed across strategic areas. Of the 45 bids received, 26 passed the administrative review. Of these, 19 were assessed as being successful.[30] Here, bids in the landfill gas capture and combustion strategic area performed relatively well in relation to those from the other strategic areas. In particular, of the 19 successful projects, 10 were from the landfill gas capture and combustion area. The renewable energy and biological carbon sequestration areas were respectively represented by 5 and 4 projects. The range of price per tonne $C0_2e$ for all accepted projects was \$1.70 - \$18.71.[31] The total amount of emission reductions expected (at the time of proposal acceptance) to be purchased by PERRL from these projects during the 2004-07 period is about 1.9 Mt. This estimate has since decreased to about 1.7 MT as one of the successful project proponents has since pulled out of PERRL.[32] While the average PERRL project size is 101,390 tonnes (for the full PERRL period), there was a wide range of sizes. The GHG emission reduction deliveries over the full PERRL period range from 11,880 to 263,557 tonnes of $C0_2e$.[33]

Finally, while the PERRL pilot ends on December 31, 2007, fewer than half of the successful project proponents have signed a purchase agreement to date.[34] As will be discussed in more detail below (under the present evaluation issue and the evaluation issue of design and delivery), there are concerns regarding the implementation of PERRL in terms of both the number of signed purchase agreements as well as overall participation in the Initiative.

PERRL Auction Rounds

The first auction round was announced in October 2002. It accepted submissions for GHG reductions in the areas of landfill gas capture and combustion, and CO2 capture and geological storage. Four of the seven project proposals submitted in this round were successful and all originated from the landfill gas capture and combustion strategic area. Commitments to achieve about 750,000 tonnes of GHG emission reductions by the end of 2007 were secured.[35] The average price per tonne for the projects was just over \$3.30.

PERRL, however, did not appear to represent an incentive for the strategic area of carbon capture and geological storage. Of the 7 project proposals submitted under the first round,

[30] As indicated previously, successful projects were those that passed the in-depth technical review.

[31] The majority of accepted bids were in the \$3.00 - \$8.00 per tonne of $C0_2e$.

[32] The project proponent that pulled out (from the second round) did so because of emission reduction ownership issues that it encountered between itself and another third-party involved in the implementation of the proposed project. The total amount of emission reductions to be achieved from this project was 138,100 tonnes.

[33] Yearly emission reductions per project were in the 1,429 – 130,000 tonne of $C0_2e$ range. It is worth noting that many of the reductions secured in the last auction round are expected to be delivered in the 2006 and 2007 PERRL years.

[34] As of February 8, 2006 there were only 8 signed purchasing agreements.

[35] The total emission reductions per project in this round range from 91,667 to 263,557 tonnes of $C0_2e$.

only one was from this area.[36] Departmental officials have identified two key reasons for the lack of participation in this strategic area in PERRL. First, the financial incentive provided by PERRL was too low in relation to the investments required to undertake a typical C02 capture and geological storage project. Second, the requirement that PERRL projects reduce their GHG emissions by the year 2007/08 did not provide this particular area with the needed project development time, which is generally much longer than in other areas. PERRL projects had to have sufficiently short lead times as to be able to generate and deliver emissions reductions within the contracting time period of PERRL which ends on December 31, 2007.

Two additional auction rounds (one announced in September 2003 and the other in February 2004) focused on purchases in the area of renewable energy and biological carbon sequestration (agriculture and forest sinks).[37] In total, 22 submissions were received. Of the submissions that moved on to the in-depth technical review, four project proposals were accepted.[38] More than half of the submissions were from the renewable energy strategic area. Only a single agricultural project proposal (unsuccessful) was submitted.[39] The successful projects were equally split between renewable energy (2 projects at an average price per tonne of $5.79) and forestry (2 projects at an average price per tonne of $2.75) strategic areas. Commitments to achieve an additional 440,000 tonnes of GHG emission reductions by the end of 2007 are expected from the successful projects in this round.[40]

A final round of bids was called later in the winter of 2004, inviting proposals for projects in all areas covered under previous rounds. Unlike the previous rounds, most of the project proposals in this round were successful. In particular, 12 proposals (half of which were in the area of landfill gas capture and combustion) out of a total of 16 proposals were accepted. Moreover, 4 of the 12 successful projects were in the biological carbon sequestration area (equally divided between the forestry and agricultural areas). Commitments to achieve about 735,000 tonnes of GHG emission reductions by the end of 2007 are expected from the successful projects in this round.[41] The average price per tonne for these projects was just over $8.00.

Motivation and Concerns Regarding Participation in PERRL

To assess how instrumental PERRL was in encouraging immediate GHG emission reduction activities, the evaluation has also examined the key motivations of PERRL project proponents for getting involved in the Initiative. According to the PERRL bidders who participated in the key informant interviews, the PERRL Initiative does not appear to have been the key catalyst to the GHG reduction and removal activities as most interviewees indicated that projects would have gone ahead without the Initiative. Indeed, most bidders indicated that they were already in the GHG emission reduction business. The results of these interviews indicate, however,

[36] While a carbon capture and storage project was approved, the project pulled out of PERRL during the contract negotiation stage for reasons related to technical and informational requirements.

[37] The auction round announced in September 2003 focused on purchases for reductions from renewable energy projects only.

[38] Several projects submitted here were automatically disqualified for not meeting the minimum size criteria. The project that has recently pulled out of PERRL is included as part of the successful projects for the purpose of comparison results of successful projects across auction rounds.

[39] This project was unsuccessful because it did not meet the basis criteria, not because it failed the in-depth technical review.

[40] The total emission reductions per project in this round range from 62,697 to 138,100 tonnes of $C0_2e$.

[41] The total emission reductions per project in this round range from 11,880 to 164,497 tonnes of $C0_2e$.

that PERRL was more of a catalyst for agriculture and forestry sinks given a relatively steeper learning curve. GHG emission removals represent a newer area of activity for this particular strategic area.

Most of the PERRL interviewees, however, indicated that their projects would have proceeded at a slower pace without PERRL, indicating that PERRL did induce more timely activity or early action in the GHG emission reductions and removals areas. Furthermore, PERRL bidders generally indicated that they were strongly motivated by the potential learnings and that these would not have been gained had they not participated in the Initiative. Key learning areas that were mentioned included the quantification and verification of emission reductions (including the monitoring of them), participation in a market mechanism (i.e., competitive bidding), and familiarisation with, and exposure to, governmental requirements. Most respondents reported that their organizations placed a high or fairly high priority on emissions reductions and removals to reduce energy and to become more sustainable. Some indicated that they were even a member of an association or collective around emissions reductions.[42] Most proponents, successful and unsuccessful, indicated that they saw a market for these kinds of activities in the future and wanted to take part in the shaping of it. In this sense, and as mentioned by a number of departmental interviewees, PERRL bidders were the innovators or the "early actors".

A number of concerns, however, were shared among PERRL bidders as well as departmental officials on the capacity of the PERRL Initiative to achieve its intended outcomes. The parallel development of Canada's proposed domestic Offset System, a key component of *Project Green*, was commonly cited by evaluation interviewees to illustrate this issue.[43] The latter's development has been explicitly identified by many interviewees to explain the total number of PERRL project proposals, which despite the community's awareness of, and interest in, the PERRL Initiative, could have been greater.[44] The ongoing development of the Offset System is also identified as a key reason for why fewer than half of the successful project proponents have signed a purchase agreement to date.

[42] Examples include the International Emissions Trading Association (IETA), Canadian Association of Petroleum Producers (CAPP), the Canadian Wind Energy Association (CanWEA), the American Wind Energy Association (AWEA).

[43] The scope and purpose of the domestic Offset System has evolved over time. The Government of Canada's 2002 *Climate Change Plan for Canada*, first proposed a domestic offset system as a complement to the LFE regulatory system. At the time, it was proposed that the Offset System would have only covered emission reductions and removals in forestry, agriculture, and possibly landfill gas. In early 2003, an interdepartmental Working Group on Offsets (WGO) was established to work on the design of a domestic Offset System, and to produce an *Offset System Discussion Paper*, as the basis for consultations. These consultations took place with provinces, territories and other stakeholders in 6 cities across Canada in June 2003. In 2005, the Government of Canada released its latest proposal on the role of the domestic Offset System in the 2005 *Project Green*. *Project Green* expands considerably both the scope (in terms of number of eligible activities and sectors) and the scale (expanded significantly) of the System from that envisaged in 2003. In the summer of 2005, a series of papers were circulated to provide a basis for further consultations on the design of the Offset System as proposed in *Project Green*. Written submissions under this consultation were accepted until September 30, 2005.

[44] According to the responses of key informant interviews, the project-based GHG emission reduction community encompassing all strategic areas could be numbered in the thousands. Putting aside the parallel development of Canada's domestic Offset System as well as other considerations discussed under the evaluation issue of design and delivery, the uptake of PERRL, in terms of number of submissions received, is considered fairly good in light of its overall intent (e.g., no "carbon credits" created, learnings).

More precisely, like the PERRL Initiative, Canada's domestic Offset System is designed to encourage domestic reductions or removals.[45] However, in contrast to PERRL, proponents conducting projects under the Offset System will be able to earn credits. Furthermore, once created, verified offset credits can be sold to a number of purchasing mechanisms which are part of *Project Green*, namely the Climate Fund, the Large Final Emitter (LFE) System, and potentially to other domestic buyers.[46] Furthermore, in order to qualify for offset credits, it is proposed that emission reductions generated under an Offset System project must not have occurred as the result of a specified federal GHG regulation, program, or incentive.[47]

As the nature of potential offset projects are similar to those undertaken in the PERRL Initiative, particularly in terms of scope (i.e., eligible activities and sectors) and scale, and as the PERRL Initiative is a federally-based incentive program, PERRL proponents have been compelled to evaluate their project's future eligibility under the Offset System. All departmental key informant interviewees have alluded to the concerns of PERRL proponents who shared these with departmental officials through letters addressed to the PERRL Initiative and Offset System offices and through other means (i.e., phone calls, emails). One concern that has been presented by PERRL proponents to departmental officials is in regard to the perceived inappropriateness of the eligibility criterion. The latter criterion, in particular, would counter the PERRL criterion of sustainability, whereby reductions were also assessed on their potential to create a continuous stream of emission reductions beyond the end of the pilot (Dec. 31, 2007) and throughout the Kyoto commitment period (2008-2012).[48] Other concerns that have been shared include the restriction of options for future realisation of emission reductions and the detrimental effect on future economic returns. On the latter point, for example, Offset projects proponents may potentially have access to many buyers or a larger market, which may lead them to expect to receive a higher price. PERRL project proponents, in contrast, have only one buyer.

In addition to the delays in the process of completing contracts, the evaluation found, through the review of PERRL documentation and departmental activities and the interviews, that the uncertainty around the rules governing the eligibility for the Offset System may also serve to explain the actual uptake of PERRL (i.e., number of bids submitted). In particular, no official decision had been made on this at the time of issuing the PERRL Proponents Manual as well

[45] As per the wording convention used in this evaluation, the term reductions will hereafter continue to refer to both reductions and removals.

[46] The purpose of the Climate Fund is to create an institution for the purchase of emission reductions credits on behalf of the federal government. The Climate Fund, currently under development, intends to purchase credits that have been issued for qualifying projects under the Offset System. Purchases by the Fund will be pursuant to a competitive process and retired on behalf of Canada's commitment to Kyoto. The purpose of the LFE system is to secure emission reductions from Canada's largest emitters through an overall emission reduction target (to be distributed across key sectors). LFEs include companies that are in sectors that contribute significantly to the GHG emissions, such as oil and gas, mining and manufacturing and thermal electricity. In addition to the purchases of domestic offset credits, LFE companies will have a number of other options for compliance, including investments in in-house reductions, the purchase of emission reductions from other LFE companies, and purchases of international verified credits.

[47] The reader may recall here that PERRL also used a similar 'surplus' criterion. In particular, an emission reduction must be surplus, that is, represents a net reduction that is not otherwise required, for example through legal requirements at any level of government, affecting GHG emissions. While the Offset System 'surplus' criteria concerns federal government level regulations only, it also comprises federal level programs and incentives which is not the case for PERRL. Other project eligibility criteria being proposed in the Offset System are also similar in nature to the ones used under the PERRL Initiative (e.g., emission reductions or removals need to be quantifiable, real, and verifiable).

[48] The potential for continued net emission reductions/removals assessed by PERRL was based on the physical, rather than economic characteristics of the activity.

as when conducting the auctions. PERRL proponents were simply advised that the government was reviewing the feedback it received during the offset consultations held in June and July 2003, and conducting further analysis. An official decision regarding this issue has still not been made.[49]

Learnings

There is an overall consensus among PERRL bidders as well as among the EC departmental officials on the importance for the learnings gained from PERRL. The learnings generally concerned the capacity and expertise in developing quantification and verification methods as well as increased understanding in operating a market mechanism to encourage "least-cost" actions. These learning areas have also informed the development of other related programs, policies and initiatives.

Learnings in the Area of GHG Emission Reduction Measurement

Capacity and expertise in the area of quantification and to a lesser extent in verification methods has increased as a result of PERRL.[50] In particular, the evaluation's review of program documents and ongoing communications with PERRL program officials - indeed learnings from the PERRL Initiative continue to be generated - has revealed that some of the PERRL protocols were used in other programs, including the Offset System. For example, the PERRL Landfill Gas Quantification Protocol was used to inform the development of the Offset System Landfill Gas Quantification Protocol. The learnings from the use of the PERRL Agricultural Protocol are also informing the development of the Offset System's Soil Carbon Quantification Protocol. In addition, most departmental official key informant interviewees referred to the fact that the development of the eligibility criteria used in the Offset System evolved from PERRL's experience.

There is also evidence demonstrating there were learnings through PERRL regarding the emission reduction claims and the verification process to confirm such claims. The current draft Verification Specification under the Offset System includes a number of template materials and approaches very similar to the ones developed for PERRL (e.g., the PERRL Verification Statement and the PERRL Conflict of Interest).[51] Moreover, the draft Offset System Guide to Verification also includes an Emission Reduction Claim that is very similar to the one developed for PERRL in the area of landfill gas.

In addition to the Offset System, a number of other initiatives have also benefited from the PERRL experience in the area of quantification and verification of GHG emission reductions. The PERRL Application Manual, for instance, was used to develop the Federation of Canadian Municipalities' (FCM) reporting system. In particular, the FCM developed a pilot program whereby it would purchase GHG emission reductions from their respective Green Municipal

[49] A departmental official confirmed that early signals indicated that PERRL participants would not be eligible. This official explained that the value of a short stream of reductions sold to PERRL vs. a longer stream available under the Offset System meant that proponents may be inclined to hold back or only offer some reductions to PERRL.

[50] Capacity and expertise in the area of verification methods are not as important as in the area of quantification methods given that few project proponents have submitted their emission reduction claims.

[51] A verification statement, prepared by the project proponent, is intended to give confidence to program officials that it has engaged to conduct verification procedures associated with the submission of an emission reduction claim report. This statement is conditional upon the completion of a Conflict of Interest Statement, which ensures third-party verification impartiality, namely that verifier decisions are based on objective evidence obtained through the verification process and not influenced by other interests or parties.

Funds projects.[52] The Green Municipal Funds reporting system manual closely follows the PERRL Application Manual.[53]

Learnings from the Operation of a Market-based Mechanism

The PERRL Initiative also provided learnings on the operation, and potential role, of a market mechanism to achieve GHG emission reductions. From the government's perspective, the market-based approach made sense in terms of achieving low cost emission reductions. However, a few PERRL stakeholders, while agreeing that the approach was attractive in terms of its fairness in the selection process, indicated that they would have preferred that it was not all based on the lowest cost and that other qualitative factors involved in the assessment of each of the proposals submitted to PERRL be considered. They felt that if the assessment was mostly based on price, some projects that can reduce emissions and make sense from a learning perspective may have been excluded.

Nevertheless, the PERRL Initiative's experimentation with the auction rounds did indicate PERRL officials' interest in inducing a competitive environment. Initially, the first two PERRL auction rounds were organised by strategic area. Departmental interviewees explained that the motivation for doing this was to ensure experience was gained in the quantification, validation and verification of projects in each strategic area. Specifically, the cost per tonne across strategic sectors varied and therefore it was necessary to limit the auction participants to those with similar costs to ensure participation.[54]

For the final auction round, however, PERRL officials decided to accept bids from all strategic areas. The justification that was provided in this instance was that price competition between the different economic sectors would be promoted.[55] As per the results of the final round, this approach did not seem to have affected the type of projects participating, as was assumed under the first two auction rounds. In particular, out of the total of 12 successful proposals (out of 16 submitted), 6 projects were in the area of landfill gas capture and combustion, 3 projects were in the agricultural sink area and 3 projects were in the renewable energy area. It should be noted, however, that in order to ensure that the pilot generated experience in quantifying emission removals from all eligible project areas, it was announced that an amount of $1 million of the last auction budget was to be allocated first to agricultural soil sinks, an area that was not yet represented under PERRL.

It is also worth noting that the average price per tonne was the highest in the final auction. The evaluation's review of the prices submitted throughout the auction rounds indicates that the acknowledged cost differences across strategic areas are not the main reason for this. There are a few instances, for example, where the bids submitted in a relatively higher cost area were in the same range as the bids submitted in the relatively low cost area indicating, to some extent, that bidding was competitive. However, it appears, from the evaluation's investigation of other sources of evidence, including key informant interviewees and PERRL documentation,

[52] The Green Municipal Enabling and Investment Funds were announced in the 2000 federal Budget.

[53] In addition to invitations by the GMF to PERRL staff to share the PERRL experience, the GMF reporting system document includes acknowledgements to PERRL staff.

[54] Participation in the first auction round of the strategic areas of carbon capture and geological storage (the high cost area) along with the landfill gas capture and combustion (the low cost area) was facilitated by dedicating separate pools of money for each strategic area.

[55] In addition to having been mentioned by departmental interviewees, this justification also appears in the December 17, 2004 News Release for the final auction round.

that the bid prices submitted throughout the auction rounds were driven by other considerations than the strict notion of competitive bidding.

As mentioned previously, PERRL offered the opportunity to offset the costs of a planned emissions reductions activity. The bid submitted would hence represent the additional source of funding facilitating early implementation. In other cases, while a few of the PERRL bidders interviewed indicated that the market price for carbon at the time was the natural or focal bid to submit, the bids also seem to have represented the funding needed to meet private return objectives, which may have been influenced by a number of factors, including the differences in the emission reduction delivery profiles and scales of PERRL projects. Recall that yearly emission reductions per project were in the 1,429 – 130,000 tonne of $C0_2e$ range and that those originating from the last auction round will, in the majority occur within a two-year period timeframe. Indeed, the relatively short time line of PERRL contributed to pushing prices up. In fact, as mentioned by departmental interviewees, bidders were forced to extract the total funding required over a two- or three-year period, rather than a full five years originally intended due to the delays in the contracting mechanism and various legal issues. Finally, departmental interviewees have indicated that potential PERRL stakeholders were in fact communicating among each other which, among other things, enhanced the chances of collusion among bidders. This information could explain the finding that a few of the successful bidders indicated that they were not surprised at being successful.

The PERRL experience also contributed to a key design feature of the Offset System and Climate Fund, namely that the credit-issuing body (the Offset System) be separated from the purchasing body (the Climate Fund). For the case of PERRL, both bodies operated under a single umbrella. Indeed, this made sense in light of the pilot objectives as well as the level of governmental capacity and expertise in the area. The actual operation of such an umbrella design was nevertheless instrumental in illustrating a few challenges of having a single body both validate and purchase credits from qualifying projects. Key considerations mentioned in the context of the departmental interviews, which contributed to the decision to have Canada's Offset System separate from the Climate Fund included the needed transparency and independence between the bodies validating and purchasing the credits and the need to address the rigidities in government procurement/purchasing policies. Many of the latter rigidities were encountered by PERRL.

More specifically, the federal government contracting rules governing the PERRL Initiative did not allow for additional information to be provided by any PERRL proponent after the submission period closed. Any clarification questions had to be addressed in writing to an officer within EC's Procurement and Contracting Services. In this regard, some PERRL stakeholders contacting Environment Canada in preparing their bid, primarily to clarify some requirements (discussed below), felt that there was too large a time lag in getting responses to their questions, as questions went to one central source and then were fielded by someone else. In other respects, federal government contracting rules cannot provide the flexibility needed to address the specific financing needs that characterize a number of GHG emission reduction projects (e.g., advance purchase of emission reductions from projects that have high emission reduction potential as well as high upfront costs).[56] The low participation of the strategic area of $C0_2$ capture and geological storage in the PERRL Initiative is an indication that more flexible purchasing arrangements would be welcome.

[56] The development of the legislation to establish the Climate Fund is motivated by such considerations.

4.3 Design and Delivery

The design and delivery of PERRL allowed it to achieve its learning objectives. Indeed, the 'learning-by-doing' approach contributed to building the knowledge and capacity required to maximise the understanding of project-based GHG emission reductions in strategic areas. However, there was overall concern that PERRL requirements were too stringent given that the Initiative was a learning one and that the exactitude of, and/or capacity to provide, the required information was limited. Concerns were also shared regarding the dissemination of the learnings.

Requirements

Proponents interested in submitting a bid and project proposal had to use the Reverse Auction Guidelines in conjunction with the PERRL Reporting System and the Quantification Protocol document relevant to their project area. There were however mixed impressions regarding the requirements in terms of both the reasonableness and clarity of the information and instructions supplied by PERRL. This mixed pattern was found across strategic areas and bidding rounds and among both successful and unsuccessful bidders.

In investigating this finding, the evaluation has kept in mind the fact that GHG emission reduction measurement is a new area of activity within Canada as well as internationally. As pointed out by a number of departmental officials, PERRL was able to illustrate the challenges of putting into practice such technical notions as real, surplus, and incremental emission reductions.[57] Both the private sector and the public sector do not have much experience in this area. This is especially true when the selling/purchasing of reductions is involved. To date, GHG emissions, if monitored at all, are monitored only on a voluntary basis for, say, the potential learnings involved. There is nevertheless consensus among departmental officials that the activity of GHG estimation among the different entities is driven by different issues. While the motivation for the government may be for internal policy purposes, those driving the private sector may be specific to the nature of their projects and/or more strategically related such as in terms of securing future funding and/or investment opportunities. In the context of PERRL, however, public funds were being used to purchase the emission reductions. A high level of assurance and confidence in these reductions was accordingly made a key focus of the PERRL Initiative. In this light, the specific findings presented below, especially in regard to the gap in the understanding of PERRL requirements, is in some ways a lesson in itself.

The evaluation found that most stakeholders (whether successful or unsuccessful in their bids and across all strategic areas) offered both positive and negative views about their overall experience with the application process. Most of the comments focused on the application documents. Some were positive about clarity and ease of understanding of the documents; these stakeholders seemed to know what they had to do. Indeed, these stakeholders appeared to have been already well-informed in this area as they had already looked at ways

[57] On the notion of incrementality, for example, one departmental official indicated that the assessment of whether a project is ever going to get built or not remains a qualitative one. The finding that PERRL was not a catalyst in the generation of GHG emission reduction projects also illustrates the challenges in implementing such a concept.

of measuring emissions reductions in the past.[58] Other stakeholders were mostly negative, focusing on what they saw as the complexity, ambiguity and the difficulty in understanding these documents, and the need for them to be more tailored to specific strategic areas.[59] In terms of the reasonableness of information requirements, there was also a sense that the application process required far too much information, and that bidders did not understand why this level of detail and stringency was needed, especially since it was a pilot project and given the timeframe.[60]

Unsuccessful bidders were more inclined than successful bidders to be critical of all aspects of the application process, including information requirements, the application materials and instructions, the ease of preparing the application, the timing of the application process and the actual bidding process used to evaluate the bids. It should be noted though that unsuccessful bidders were not as likely to have made contact with Environment Canada in putting their bid together, and this may have been a factor in the outcome of their bid.

In terms of the reporting process, only four project proponents have finished preparing their verification reports. All four of these are in the landfill gas and combustion strategic area.[61] Three of these four project proponents were interviewed for the evaluation. Two of these were critical of the overall process, saying that the requirements were not clearly articulated and that they found it quite onerous and time-consuming, involving a lot of follow-up with the PERRL staff. Moreover, they were critical of the information requirements and somewhat critical of the materials and instructions supplied by PERRL. One example was that the method suggested for data verification didn't match the technology that was being used by the company and/or industry. Some suggested improvements on the reporting requirements included: providing an example of a verification report; reducing the size of the report (and hence the cost); and a clearer explanation of the kind of technical data expected.

Of the remaining project proponents who have yet to prepare their verification report, opinion was mixed as to the clarity and reasonableness of the reporting requirements articulated by PERRL. This mixed pattern was found across strategic area. Most stakeholders in the area of renewable energy were positive about the reasonableness of the reporting requirements, while those in the areas of landfill gas capture and biological carbon sequestration offered mixed opinions. However, when it came to the materials and instructions from PERRL, most felt that the manual was not clear or straightforward or "was written for someone with a lot of experience in this activity rather than for someone who is a novice in this field."

One of the implications of these concerns is that both the level and type of participation were likely affected. The PERRL Proponent's Application Manual was quite clear in indicating that detailed and comprehensive proposals were more likely to be accepted by PERRL. On one hand, this situation may have discouraged a few participants. On the other hand, smaller companies or even governments may have been disadvantaged in that many may not have

[58] The positive views in regard to the usefulness of the application materials and instructions were most pronounced among those involved in the area of biological carbon sequestration projects.

[59] In this respect, a few stakeholders also felt that although the materials (i.e., the application manual and other materials) were helpful, they were not specific to their area or that the manual was too precisely written.

[60] Most stakeholders involved in the area of landfill gas capture and combustion felt that the information requirements were not reasonable. Those involved in biological carbon sequestration projects offered mixed reviews.

[61] The PERRL Office is expecting to receive verification reports from its agriculture and forestry projects this Spring.

the budget to hire consultants or specialists in these fields or who have more experience in the area of emissions reductions and removals. Indeed, in addition to having emission reductions verified by means of a third party, PERRL established criteria for selecting verification firms and also outlined the steps that a verification firm had to perform when completing their verification of the emission reduction claim.[62]

Dissemination of Learnings

The transfer of the knowledge and expertise generated by PERRL happened through ongoing exchanges between PERRL Office staff, PERRL review team members and the Offset System Directorate. These exchanges appear to have incorporated issues of importance to both project proponents (i.e., compatibility of requirements with industry standards and practices, capacities) and governmental needs (i.e., technical learnings, role of verifications, and requirements for the conduct of verifications). Interaction between the PERRL staff and those of other aforementioned initiatives were also key in influencing various design and implementation aspects.

PERRL, however, did not provide a systematic approach in regard to the sharing of the learnings generated during the implementation of PERRL. PERRL was a pilot project that many could learn from. A more formalised approach could have benefited all stakeholders in a number of respects. From the private sector perspective, the ongoing sharing in the area of verification could identify issues raised by previous participants. For example, those who completed the verification report in round one would have actually gone through the process and have a better basis for assessing the documentation and the process itself. Another advantage of sharing results on an ongoing basis from the private sector's perspective was to avoid having PERRL proponents pay consultants to verify reductions in cases where there are already existing reliable mechanisms to do this.

From the perspective of the government, the ongoing sharing of, for example, post-round analysis per strategic area and PERRL proponent questions and feedback on PERRL material and/or instructions would have been beneficial. More specifically, views expressed on PERRL documents are an indication of the need for material to be more catered to specific areas and/or reflect the fact that each strategic area is at a different part of the learning curve. Indeed, a number of broader lessons learned from the PERRL experiences could also have been instrumental in informing climate change policy developments of the time, for example, in providing evidence-based recommendations regarding the inception of fairly new institutions (i.e., the Offset System and Climate Fund) which, according to *Project Green*, are intended to become permanent ones. A formal paper is currently being prepared by PERRL to share its learnings.[63]

4.4 Cost-effectiveness

Despite the various trade-offs in trying to achieve the needed learnings in the area of GHG emission quantification and verification on one hand and the

[62] According to a PERRL official, the verification process costs project proponents "a fair amount of money".

[63] One reason that the PERRL learning document has not been written is that the PERRL Office would like to gather further verification data to increase the understanding of this process.

effective use of a competitive bidding process on the other, PERRL was fairly cost-effective. PERRL has nevertheless the potential to be more cost-effective.

The use of a competitive bidding process, despite the challenges in implementing such a process in the context of PERRL's technical learning objectives in the area of GHG emission reduction measurement, helps to explain why PERRL was comparatively more cost-effective than other alternatives undertaken at that time.[64] Specifically, the cost per tonne range resulting from the PERRL Initiative is $1.70 - $18.71. Indeed, the assessment of this range must consider, as discussed previously, the various factors that came into play and which diminished PERRL's capacity to create a more competitive environment (i.e., parallel development of the Canadian Offset System, auction rounds designed to ensure representation from all strategic areas for the technical learnings, rigidities in the federal government contracting rules, motivations for participating in PERRL, PERRL requirements).

Despite these challenges in structuring the market-based delivery mechanism to induce more competitive behaviour, the cost per tonne range resulting from the most comparable alternative of the time, namely the OE, was much wider despite the latter's emphasis on low cost per tonne GHG emission reduction projects or programs. Under this scheme, costs per tonne ranged from $0.08 - $130.00 (for total funding).[65] The OE involved a series of "rounds" whereby the provinces and territories submitted proposals by certain dates. The proposals which best met the eligibility criteria in each round were selected for funding. In contrast to PERRL, which had stricter rules in terms of selecting projects on a low cost-per-tonne basis (i.e., through competitive bidding), the evaluation of the OE experience has found that meeting its low cost-per-tonne criterion was challenged by the existence of other selection criteria such as regional balance.

The comparison of the PERRL Initiative with the OE program should however recognise that unlike PERRL, the OE was fairly successful in leveraging third-party funding. The examination of PERRL planning documents in the year preceding its launch clearly indicates that PERRL was intended to be a joint federal-provincial-territorial exercise. The federal government would have preferred to proceed with PERRL on a joint basis, and several invitations were made to the provinces and territories, in particular to partner in the final development and funding of the Initiative. In the end however, no other jurisdiction had come forward with a formal offer to partner in PERRL, despite the federal government offering the ongoing opportunity to them to participate as it proceeded with the design and implementation of PERRL.[66]

[64] The amount spent by the PERRL Initiative, namely about $12 million to achieve an expected total of about 2 Mt by 2007, is comparable to other initiatives of the time. The following comparison between the OE and PERRL focuses on the resulting cost per tonne of projects. As PERRL did not have an emission reduction target per say, it would not be fair to compare the latter with the OE, which was accountable for an emission reduction target. Moreover, many of the projects resulting from the two programs were similar in scope (in terms of individual project emission reduction potential).

[65] The federal government is expected to spend about $49 million on OE projects and programs for annual emission reductions through the 2008-2012 of about 2 Mt. The OE's cost per tonne range representing the federal funding was $0.04 - $34.40 for the federal funding portion. Total OE funding (including third party participation) is estimated at about $241 million.

[66] While the first PERRL news release of October 17, 2002 gave a clear signal that PERRL was a federal program, it was not until its news release of February 27, 2004 launching its call for proposals for carbon sink enhancement projects that the federal government reiterated the ongoing opportunity for provincial and territorial governments as well as other partners to participate in the program. The original GHG emission reduction estimate of 17 Mt to be achieved from PERRL was based on the expectation that provincial and territorial governments would also share in PERRL's cost by offering an extra $15 million.

There is overall consensus among departmental interviewees as to why provincial and territorial governments did not provide any funding. As the selection of successful projects was based on the lower cost per tonne basis, through the auction mechanism, there was very little incentive for them to provide funding as there was no guarantee that the funds would be spent on projects in their own jurisdiction. The only exception was the funding from Alberta's Climate Change Central, having contributed $50,000 to sponsor the emission reductions from Alberta-based projects.[67]

Finally, another consideration in determining the cost-effectiveness of the PERRL Initiative concerns the fact that the mechanism was designed to address a number of learning objectives. In this regard, it should be acknowledged that while most projects would have gone ahead without PERRL, most PERRL bidders have indicated that they would have preceded at a slower pace and without the learnings. In this light, the cost-effectiveness of PERRL depends on its efforts to pursue the dissemination of learnings to both the private and governmental communities. Indeed, the effectiveness of PERRL could have been enhanced had the learnings been shared in a more timely and open fashion. For example, as indicated by a number of PERRL bidders, more open communication with PERRL proponents would have made PERRL officials more aware of the stringency of PERRL requirements, and accordingly, may have enhanced participation in the Initiative had PERRL officials addressed these.[68]

5.0 CONCLUSION

The evaluation found that the PERRL Initiative was relevant as it helped Canada gain experience in the area of GHG mitigation. Both the National Implementation Strategy (NIS) and Canada's First National Climate Change Business Plan set the stage for the establishment of a program like PERRL. PERRL was designed to fulfil the need to undertake immediate action in the area of GHG mitigation and provide ongoing analysis and decision-making on opportunities and challenges under the Kyoto Protocol. On one hand, PERRL was designed to encourage Canadian entities to undertake immediate and "least-cost" actions by providing an incentive which would be allocated pursuant to a competitive process. Moreover, the pilot approach used by PERRL was an appropriate means to develop the technical knowledge and capacity required to tackle the new activity of measurement of GHG emissions in addition to better grasping the value of competitive bidding to encourage action. As the Canadian experience in this area was limited, the many real-life experiences provided by PERRL's project-based GHG emission reduction projects represented an important basis upon which other related programs, policies and programs could be developed.

Under the circumstances, PERRL performed well in encouraging early action to reduce GHG emission in most strategic areas. In assessing this, the evaluation came across a number of considerations which may help to explain both the number of project proposals submitted as well as the number of purchasing agreements signed to date. First, while the PERRL Initiative does not appear to have been the key catalyst to the GHG reduction and removal activities undertaken, the evaluation found that PERRL project proponents represented the "early actors". They indicated that without PERRL their projects would have proceeded at a slower pace and that they were strongly motivated by the potential learnings (e.g., quantification and

[67] This was additional to the federal funding of $15 million.

[68] In this regard, the rigidity associated with governmental contracting rules did to a certain degree prevent the PERRL Office from encouraging such learning spillovers.

verification, participation in a market mechanism, and familiarisation with, and exposure to, governmental requirements). Second, the ongoing uncertainty around the rules governing the eligibility of PERRL projects under Canada's domestic Offset System also explains PERRL's overall participation. The capacity to sustain future emission reductions by accessing future financial opportunities (i.e., purchases of emission reduction credits by the Climate Fund as well as by other potential buyers such as the LFEs) is at the centre of PERRL proponents' concerns. Finally, the evidence also indicated that participation in PERRL was somewhat diminished by the PERRL requirements, which were considered too stringent given that the Initiative was a learning one and that the exactitude of, and/or capacity to provide, the required information was limited. This finding, however, does represent an important PERRL learning in itself.

The evaluation has stressed the overall consensus on the importance of the learnings gained from PERRL. The learnings generally concerned the capacity and expertise in the project-based GHG emission reduction measurement area as well as the increased understanding in operating a market mechanism to encourage "least-cost" actions. Numerous lines of evidence have indicated that the capacity and expertise in the area of quantification and to a lesser extent in verification methods has increased as a result of PERRL and has benefited a number of other initiatives (e.g., Offset System, those undertaken by the FCM). A number of learnings on the operation, and potential role, of a market mechanism to achieve GHG emission reductions were also gained. Indeed, the evaluation found that there were real challenges in inducing a competitive environment (e.g., parallel development of other related programs, strategic area representation, PERRL requirements, different bidding behaviour, timing of the auction in light of the PERRL period, communication among bidders, and rigidities in government procurement/purchasing rules). The PERRL experience also contributed to a key design feature of the Offset System and Climate Fund, namely that the credit issuing body (the Offset System) be separated from the purchasing body (the Climate Fund). Key considerations here included the needed transparency and independence between the bodies validating and purchasing emission reduction credits and the need to address the rigidities in government procurement/purchasing rules.

The transfer of the knowledge and expertise generated by PERRL happened through ongoing exchanges between PERRL Office staff, PERRL review team members and officials from other related programs. These exchanges appear to have incorporated issues of importance to both project proponents (i.e., compatibility of requirements with industry standards and practices, capacities) and governmental needs (i.e., technical learnings, role of verifications, and requirements for the conduct of verifications) and have influenced various design and implementation aspects of other related programs. PERRL, however, did not provide a systematic approach in regard to the sharing of the learnings generated during the implementation of PERRL. A formal paper is, however, currently being prepared by the PERRL Office to share its learnings.

The use of a competitive bidding process, despite the aforementioned challenges in implementing such a process, helps to explain why PERRL was comparatively more cost-effective than other alternatives undertaken at that time. Indeed, meeting a low cost-per-tonne criterion is more directly achieved through competitive bidding than through an approach that needs to balance a low cost-per-tonne criterion with other selection criteria such as regional balance (e.g., the call for proposal approach adopted by the OE). This, however, prevented PERRL from leveraging third-party funding, including provincial and territorial governments. Under competitive bidding, there is no guarantee that the funds would be spent on projects in

their own jurisdiction. Finally, PERRL could have been more cost-effective had the learnings been shared in a more formal and timely fashion. Indeed, the PERRL Office's efforts to pursue the dissemination of its learnings through the development of a PERRL Learning paper will enhance the cost-effectiveness of the Initiative.

6.0 LESSONS LEARNED

As mentioned in the introduction of this report, the Minister of NRCan confirmed in a public news release entitled "First Steps Taken Towards Made-in-Canada Approach" (April 13, 2006) the Government of Canada decision to include the PERRL Initiative among the programs that have completed their work.[69] In light of this, no recommendations are made with respect to the PERRL Initiative other than to note the lessons learned that would apply to the design of any relevant future program.

Main Lesson - Well-designed experiments conducted within the right conditions should be more widely considered in order to base new policy ideas and approaches on stronger foundations. As the PERRL experience indicates, the need to share learnings in a more formal and timely fashion, to maintain simplicity and to provide certainty to pilot participants are key ingredients to success. These considerations are particularly important in a policy environment that is committed to "learn" from its investments (Project Green 2005, Climate Change Plan for Canada 2002, National Implementation Strategy 2000). Hence, in moving forward on Canada's effort to combat climate change, closer scrutiny should be given to the learnings generated by the PERRL Initiative.

The pilot approach used by the PERRL Initiative represented a promising and innovative way to base a specific GHG emission mitigation approach on evidence gathered through actual experience. It offered the possibility to test actual behaviours in real-life settings to help shape the design of future policies. The evaluation of the Initiative, however, came across a number of aspects that merit scrutiny when designing such pilots.

First, having such an initiative's *learnings shared on an ongoing basis and in a formalized manner (lesson 1)* could provide for more informed and timely policy responses. This is particularly relevant for climate change policy, which has been fairly dynamic over the past years.

Second, having the *learnings shared with the key communities of interest (lesson 2)* will enhance the effectiveness of pilots. In this regard, the ongoing development of the PERRL learnings paper should ensure that the appropriate audience (i.e., from both private and public sectors) as well as its needs/expectations are identified to ensure that lessons learned are useful and contemporary. In this light, it is worth noting that a key lesson learned from the evaluation of the PERRL Initiative is that the area of project-based GHG emission reduction measurement is young and complex. Nevertheless, other programs in this area, including proposed ones, have since been developed and/or continue to exist (e.g., Canada's domestic Offset System, voluntary-based initiatives). In this context, the PERRL learnings paper should

[69] Once again, the news release indicated that the Initiative is to be wound down in 2008-2009 in order to fulfill existing obligations.

ensure, for example, that its content be applicable to the challenges or circumstances of these programs.

Third, to the extent possible, *adopting simple program guidelines and requirements (lesson 3)* is likely to increase participation and hence enrich information sets. In the case of PERRL, less stringent application and reporting requirements would have been welcomed by stakeholders especially in light of the fact that PERRL was a learning initiative. Indeed, the PERRL evaluation finding that some sectors have already engaged into developing their own methodologies and that different entities are at different stages of their learning curve is an indication of the need for a more tailored and/or flexible approach.

Finally, policy experiments should be conducted within the right conditions. PERRL's success was highly influenced by the parallel development of a key climate change policy, namely Canada's domestic Offset System. In particular, the potential exclusion of PERRL project proponents from the financial opportunities that this proposed System may bring about (i.e., purchases of emission reduction credits by the proposed Climate Fund as well as by other potential buyers such as the LFEs) has impinged on PERRL's ability to achieve a number of its outcomes. This finding does shed light of the *need for increased coordination among programs/groups within the climate change policy area (lesson 4)*. Such coordination would clearly provide more certainty to the Canadian entities that are playing a key role in reducing GHG emissions in Canada.

7.0 MANAGEMENT RESPONSE

The learnings of this evaluation will be taken into account in the development of any future and relevant programs.

In addition, the following specific responses have been made.

Lesson 1
Learnings gained should be shared on an ongoing basis and in a formalized manner.

Response
Agree. Throughout the program's development and operation, PERRL learning has been shared through validation and claim review meeting discussions on an informal basis and within a fairly small group. The sharing will be improved further through the following action: A formal learning report is being developed and will be made available by September 2006. This document will help to organize the learning in a more systematic fashion, bringing together all the issues and new learnings (such as verification issues arising in first half of 2006) of the program. It will be able to provide valuable, handy information to other, similar government programs as well as other interested stakeholders.

Lesson 2
Learnings should be shared with the key communities of interest.

Response
Agree. The learning has been shared in the public sector. As mentioned earlier, PERRL has been passing on its learning to other colleagues in the Canada GHG Offset System

(CGHGOS). In addition, PERRL has been a member of the inter-departmental Accepted Practice Working Group (APWG) whose mission is to share acceptable practices related to GHG emission reduction/removal projects and emission trading. In addition, PERRL's review team members are from several departments and are bringing the experience back and applying it in their own departments. Still, the sharing with the key communities can be improved through the following:

- PERRL will help and work more closely with the National Offset Quantification Team (NOQT) whose mission is to design and review quantification protocols for the CGHGOS and whose members are composed of colleagues from Alberta's Climate Change Central, Canadian Standard Association, several federal departments and most provincial and territorial governments.
- PERRL will collaborate more closely with the GHG verification Services (GVS) to provide them with PERRL project data and to exchange information related to verification processes.
- The private sector is very interested in learning more about GHG emission reduction project application, validation, quantification and the verification process. PERRL will use its project examples and experiences to help potential private sector proponents participate in the Offset System. This can be done by participating in meetings with organized sector associations, non-profitable organizations or other federal or provincial departments.

Lesson 3
Simpler program guidelines and requirements should be adopted.

Response
Agree. Simplicity has always been the PERRL's guiding principle. Consequently, throughout the operation of the program, application procedures, quantification protocols and verification guidelines have been revised a number of times in order to be more concise and clear to the proponents.

Also, the PERRL Office is updating the Emission Reduction (ER) Claim Reports and Verification Guidelines to provide the project proponents a more clear illustration of the requirements of the program. Version 2.0 of the ER Claim Reports and Verification Guidelines will be completed and made available to the proponents by the end of September 2006, in order to prepare for the following ER Claim period.

Because the Initiative terminates at the end of 2007, the adoption can be improved further through the following actions:

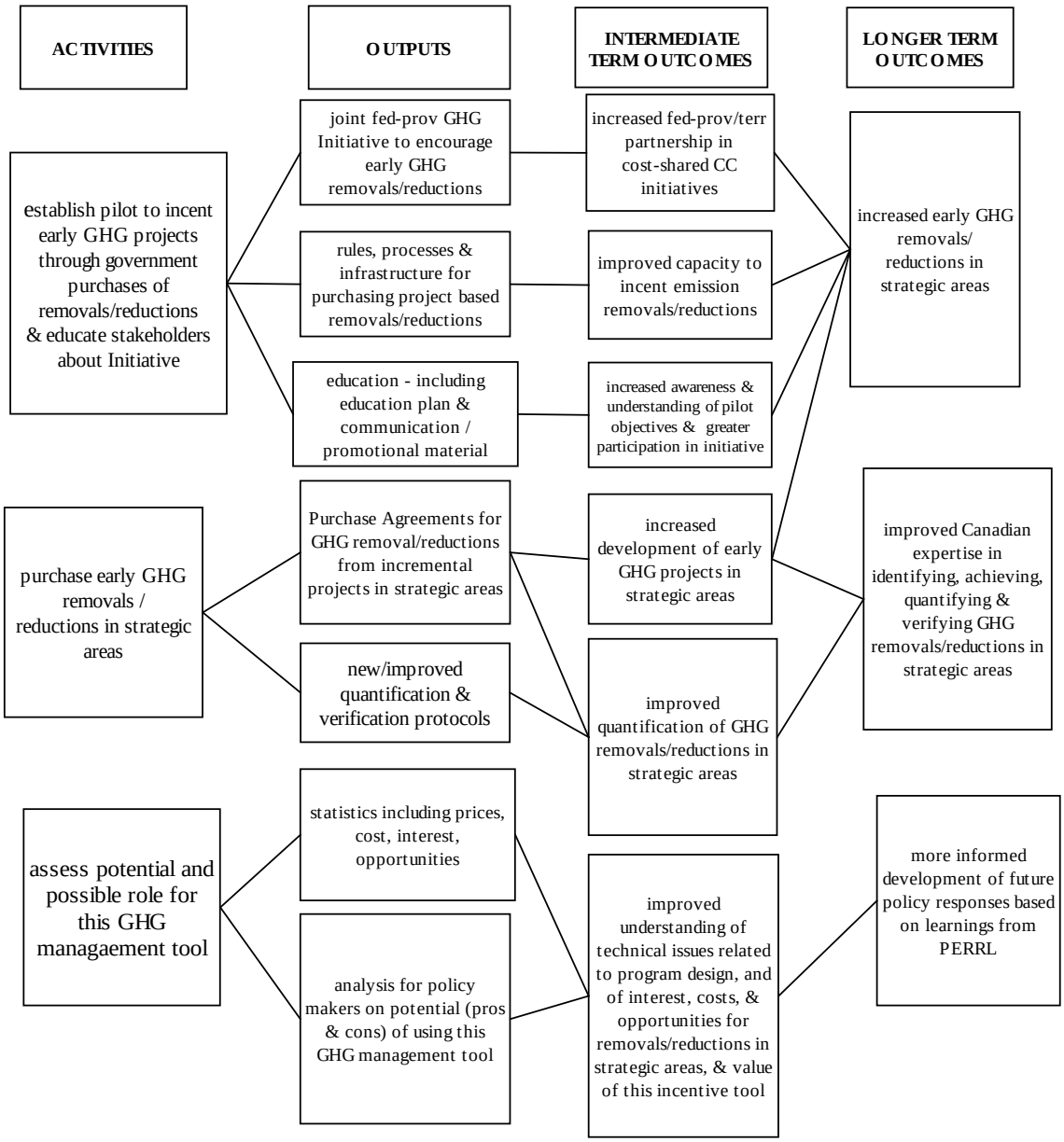
- PERRL continues to provide inputs and transfers the above learning experience to make CGHGOS documents such as the Project Document easy to read and the requirements simple to follow.
- PERRL will design checklists and templates to help save time and effort for the Validation Officers when they review project applications.
- PERRL will help fine-tune the Quantification Template to make it straightforward to implement for the protocol developers.
- PERRL continues to help GVS in updating its training course and making it more relevant and concise by providing these colleagues with the latest PERRL verification data and results.

Lesson 4
Increase coordination among programs/groups within the climate change policy area.

Response
Agree. PERRL has been participating in the Offset Working Group (WGO) whose members are from Agriculture and Agro Foods Canada, Natural Resources Canada, PCO, Foreign Affairs Canada, Industry Canada and Environment Canada and whose objective was to set policy for the Offset System as well as to work with PERRL validation and claim review team members who provide GHG emission related policy recommendations to their own departments. However, the coordination can be improved further by implementing the following:

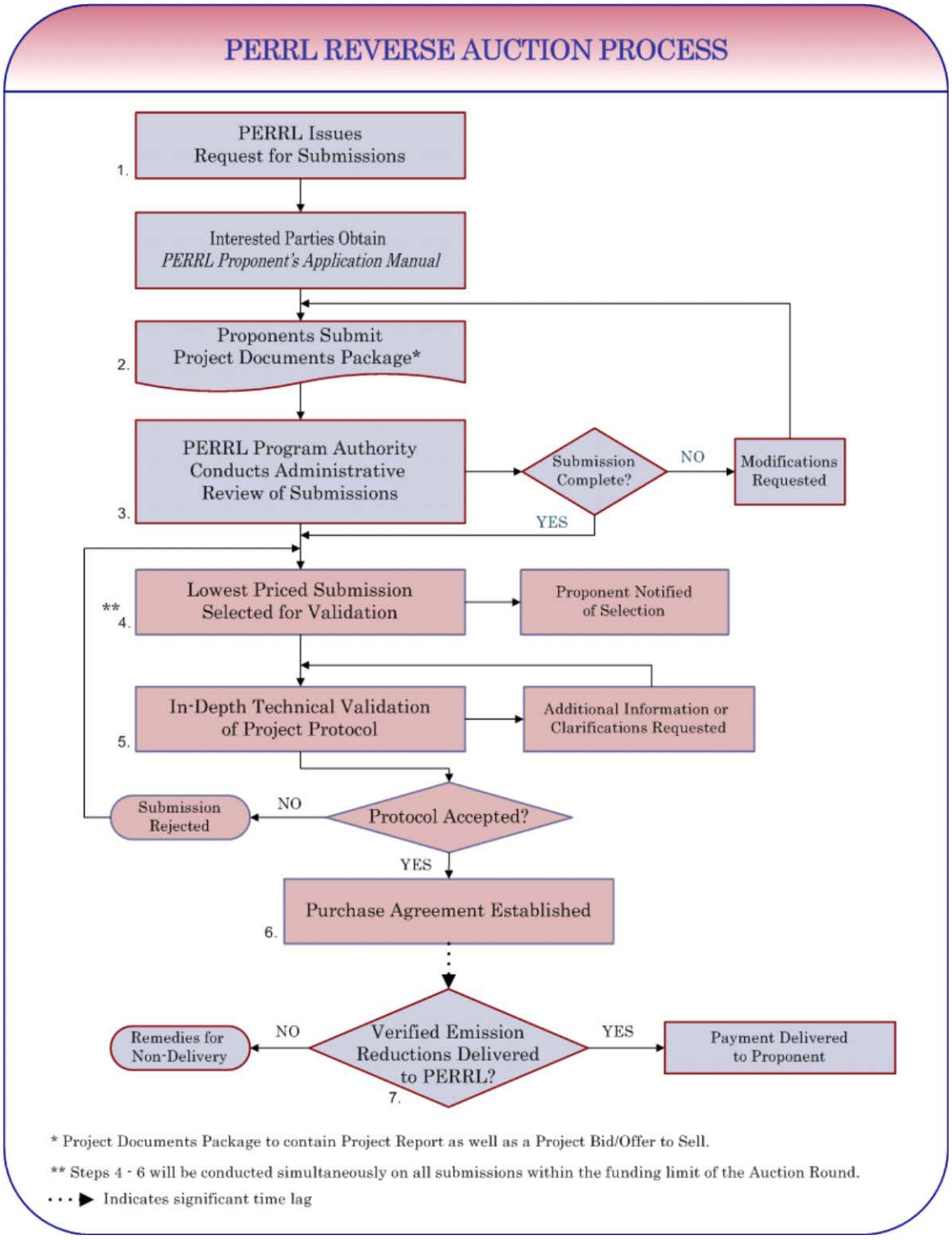
- PERRL will work with other departments that manage climate change related programs (such as the CDM/JI program at the Department of Foreign Affairs and International Trade and the Office of Energy Efficiency at Natural Resources Canada) so that these colleagues can use PERRL results in designing their program policies.
- PERRL will provide Large Final Emitters and Clean Air groups with information such as renewable energy and geological CO2 capture and storage sector quantification methodologies to help them design policies.

Annex 1 - PERRL Logic Model[70]



[70] This logic model was taken from the document titled *PERRL Program Description* which was part of the umbrella Results-based management and accountability framework (RMAF) developed for *Action Plan 2000*.

Annex 2 - PERRL Auction and Review Process[71]



[71] This chart was taken from the document titled Auction Guidelines, June 2002 which was prepared by the PERRL Program Office.

Annex 3 - Evaluation Issues and Questions[72]

Evaluation Question	Indicator(s)	Data Source(s)
Evaluation Issue: Relevance How has PERRL influenced organizational priorities and/or addressed actual needs?		
1. Does PERRL continue to be aligned with the overall climate change agenda?	▪ PERRL objectives; objectives of key climate change policy pieces	- Reviews of PERRL RMAF & TBSub, key climate change policy pieces - Interviews with Climate Change Board members
Evaluation Issue: Success Has PERRL met its outcomes?		
2. Is/was performance data collected against PERRL activities/outcomes?	▪ Data system collected ▪ Presence and/or implementation of performance monitoring strategy	- Review of PERRL planning documents - Interviews with PERRL management: PERRL managers and directors
3. Is the analysis of the performance data used to inform management decisions?	▪ Management decisions that are based on performance information	
4. Did PERRL achieve its intermediate outcomes?		
a) Increased fed/prov/terr partnerships in cost-shared climate change initiatives	▪ Number of prov/terr and/or third parties that partners in PERRL (through signing of MOUs or other documents)	- Review of signed/unsigned MOUs, letters of agreement - Interview with PERRL management
b) Improved capacity to incent emission removals/reductions	▪ Approaches used to reach potential project proponents ▪ Number of contacts with potential proponents/stakeholders requested ▪ List of targeted audiences ▪ Number of bid proposals received in response to call for bids/proposals (by auction rounds, by strategic area) ▪ Level of awareness (understanding of pilot objectives) among targeted audience	- Review of approaches, contacts, list of targeted audiences, bid proposals - Comparison of list to bid proposals
c) Increased awareness of pilot objectives & of increased interest in participating in the Initiative		
d) Increased development of early GHG emission removal/reduction projects (new projects) in strategic areas	▪ Number of new projects (projects that did not exist before) initiated as a result of PERRL ▪ Number of expected tonnes purchased under PERRL and/or other programs	- Review of signed/unsigned purchase agreements

[72] The evaluation issues and questions were taken from Table 1 in the PERRL Evaluation Plan, September 2005. Required modifications to this table that were included over the course of the evaluation (e.g., to better reflect appropriate information sources, availabilities, Initiative's realities) are identified as follows:

- *Italic font style* indicates that the evaluation question and/or indicator and/or data source was added.
- Underline font style indicates that the evaluation question and/or indicator and/or data source was not be posed and/or used.

e) Improved (community-wide) understanding of quantification & verification methods/issues & of opportunities for removals/reductions	▪ Protocols modified, developed, reviewed and assessed ▪ Increase in participation in subsequent purchase pools (in each strategic area)	- Review of different versions of protocols per strategic area, Verification summary reports, Validation reports accompanying bid proposals (hence one per proposals) - Interviews with: PERRL Management; consultants/ review team members - Interviews with PERRL project proponents
f) Improved (EC) understanding of technical issues related to program design, costs and opportunities for removals/reductions in strategic areas, and value of this incentive tool	▪ Conclusions from completed assessments	- Review of: Verification Summary Reports done on a yearly basis to verify GHG reduction claims, by auction rounds and strategic area; Draft Learning document - Interview with PERRL Program Management
5. Has PERRL begun to achieve its long-term outcomes?		
a) Has PERRL increased early GHG removals/reductions in strategic areas	▪ Number of new projects initiated as a result of PERRL ▪ Number of tonnes (actual & expected) purchased and expected to be purchased under PERRL and/or other programs	- Review of signed and unsigned purchase agreements and of 2004 & 2005 delivery data and documents
b) Improved Canadian expertise in identifying, achieving, quantifying and verifying GHG removals/reductions in strategic areas	▪ % increase in number of governmental and non-governmental (project proponents, consultants, other stakeholders) participants involved in the field as a result of PERRL ▪ Number of new/improved quantification/verification protocols developed; new training material/courses of relevance.	- Review of draft learning document; correspondence; references to PERRL in key policy documents (e.g. Offset papers); GHG Verification Center's training course curriculum; emission reduction acceptance notices
c) More informed development of future policy responses based on learnings from PERRL	▪ Policy decisions ▪ Transfer/use of expertise developed to/in other program/policy/initiatives ▪ New information on cost/tonne, length of removal/reduction streams from PERRL projects	- Review policy documents (climate change plans, Offsets Consultation paper, Budgets) - Interviews: Other Program Management including Offsets, Partnership Fund, CDM/JI office, FCM) and PERRL Program management
6. Were there any unintended outcomes? o If so, how were they addressed?	▪ Presence of unintended outcomes ▪ Management actions	- Interview with PERRL Program Management - Review of planning meeting minutes, correspondence
Evaluation Issue: Cost-Effectiveness Are the most appropriate and efficient means being used to achieve outcomes?		
7. Did the limitation of the auction rounds in terms of strategic areas affect cost-effectiveness?	▪ Number of bids received per round ▪ cost/ tonne for each round and by strategic area.	- Review of signed/unsigned bid proposals purchasing agreements

8. Was the auction designed in line with budgeted funds?	▪ Expected GHG reductions/removals against budget allocation per round ▪ Budget resources allocated against actual use	- Expected GHG reductions/removals purchases per round and per strategic area - Budget allocation - Dollars spent to date
Evaluation Issue: Design and Delivery Was the initiative designed and delivered in the best possible way?		
9. To what extent is the initiative implemented as designed?	▪ Actions implemented against planned initiative design	- Review of: RMAFs; Action Plan 2000 Mid-Program Self-assessment Report for PERRL; status of purchasing agreements
10. Are there links between PERRL and other climate change programs/policy?	▪ Number of references to PERRL in other CC program documentation (quantification/verification).	- File review of other CC program documentation - Interviews with PERRL Management and other Program
11. Was the auction mechanism used to its best possible use (selection of strategic areas, number and timing of rounds, resource allocation of rounds, purchase agreements based on fixed price)?	▪ Performance of auctions used for other purposes ▪ Carbon price changes	- Literature review - Analysis of trends in carbon price markets
12. Did PERRL reach its intended audience?	▪ Reach of target audience per strategic area	- Review of list of targeted audience - Analysis of reach approaches;
13. To what extent are stakeholders satisfied with the initiative? - Target audience - PERRL bidders - Prov/terr and third parties (B.C.; Alberta, Quebec, Ontario, Atlantic, 3 third parties) - Consultants	▪ Level of satisfaction	- Interview with PERRL bidders (successful and unsuccessful) – conducted by Environics Research Group

Annex 4 - Documentation Reviewed

Document Title	Date (if known)	Classification (e.g. secret)	Format (e.g. hard copy, electronic)
Climate Change: The Federal Investment 1997-2002 Comprehensive Report	June 2003	Public	Electronic Copy also available at www.climatechange.ca
Action Plan 2000	October 2000	Public	http://climatechange.gc.ca/english/whats_new/action_plan.shtml.
Canada's National Implementation Strategy and Canada's First National Climate Change Business Plan	October 2000	Public	Both documents can be viewed at http://www.nccp.ca
Offset System for Greenhouse Gases – Papers for Consultation	2005	Public	Electronic Copy also available at www.climatechange.ca
Draft-Discussion Paper-A Competitiveness and Environmental Sustainability Framework-DECK	February 2005	Internal	Available on Infolane at http://infolane.ec.gc.ca/english/excellence_CESFDeck_Feb05_e.ppt
Individual CESF Pillars DECKS	For July 29, 2005 (policy brief)	Internal	Electronic Copies
Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment	April 13, 2005	Public	http://climatechange.gc.ca/kyoto_commitments/
Climate Change Plan for Canada	November 21, 2002	Public	http://www.climatechange.gc.ca/english/publications/plan_for_canada/plan/index.html
Offset System for Greenhouse Gases – Overview Paper and Technical Background Document – For Consultation	2005	Public	http://www.climatechange.gc.ca/english/offsets/
Offset System for Greenhouse Gases – Letter from PERRL proponent sent to Offset System Manager	August 24, 2005	Internal	Electronic Copy
A Guide to Verification under the Canadian Domestic Offset System - DRAFT	January 2006	Internal	Electronic Copy
Climate Fund	2005	Public	http://www.climatechange.gc.ca/english/newsroom/2005/project_green/fund
Budget 2005	February 23, 2005	Public	http://www.fin.gc.ca/budtoce/2005/budliste.htm
Budget 2003 & Economic and Fiscal Update	February 2003 November 2003	Public	http://www.fin.gc.ca/budtoce/2003/budliste.htm http://www.fin.gc.ca/budtoce/2003/ec03_e.html

Document Title	**Date** (if known)	**Classification** (e.g. secret)	**Format** (e.g. hard copy, electronic)
Treasury Board Submission		Secret	Hard Copy
AP2000 Mid Program Review – Self-Assessment Report	2003	Internal	Electronic Copies
PERRL Presentations (e.g., CCMC, GERT)	2002/03	Internal	Electronic Copies
PERRL Database		Internal	
PERRL Database User Guide			
PERRL Proposals		Internal	Electronic Copies
Offers to Sell		Internal	Electronic Copies
PERRL Purchasing Agreements (signed/unsigned)	2005	Internal	Electronic Copy
Validation reports		Internal	Electronic Copies
Rejection Letters		Internal	Electronic Copies
PERRL Proponent's Application Manual	2002	Public	Electronic Copies
PERRL Reverse Auction Guidelines	June 2002	Public	Electronic Copy
PERRL News Releases	2002/04	Public	Electronic Copies
FCM Announcement	2002	Public	Electronic Copy
PERRL Presentations	2002/03	Public	Electronic Copy
PERRL Contact Lists	2004		Electronic Copy
PERRL Correspondence, agendas, and meeting notes	2002-2005	Public	Electronic Copies
PERRL Tracking System Description		Internal	Electronic Copy
PERRL Review Teams membership and documents		Internal	Electronic Copy
PERRL Templates (e.g., quantification and verification protocols, emission reduction claims, reporting)		Internal	Electronic Copy
PERRL Outreach Activities – Summary document	August 2005	Internal	Electronic Copy
PERRL Website		Public	http://www.ec.gc.ca/perrl/home_e.html
PERRL Initiative – Stakeholder Research – Final Report (Environics)	January 2006	Public	Electronic Copy and Hard Copy
PERRL financial information	2002-06	Internal	Electronic Copies

Annex 5 - List of Interviewees

Interviewee	Position
EC's EPS PERRL Program Staff	
1. Rob James	Previous PERRL Office Manager at Strategies and Coordination Branch, EPS
2. Keith Quach	PERRL Office Manager
3. Alissa Boardly	PERRL Office Coordinator
4. Vincenza Galatone	Director, Strategies and Coordination Branch, EPS
EC's ERAD Program Staff	
5. Steve Blight	Previous PERRL Program Manager at ERAD's Policy and Communications Branch
EC's Offset System	
6. Judith Hull	Manager of Offsets Office
EC's Climate Change Bureau	
7. Mike Beale	Director General, GHG Emission Reductions, EPS, EC
PERRL Bidders (20 key informant interviews were conducted by Environics)	

Annex 6 - Interview Questions and Themes for Federal Government Officials

Interview Questions for EC's PERRL Office Officials

Overview Questions

1. What is your experience with PERRL? Which areas of PERRL are you most familiar or concerned with?
2. What is your understanding of the intent of PERRL (i.e., what is it trying to accomplish)?

Specific Questions

We have a few questions that we would like to ask with regards to different evaluation issues covered in this evaluation.

Evaluation Issue: Success

1. Is/was performance data collected against PERRL activities/outcomes?
2. Is the analysis of the performance data used to inform management decisions?
3. Is there evidence of the achievement of intermediate outcomes?
    a. Has fed/prov/terr partnerships in cost-shared climate change initiatives increased as a result of PERRL?
    b. Was the capacity to incent emission removals/reductions improved? How?
    c. Has the development of early GHG emission removal/reduction projects (new projects) in the PERRL strategic areas increased?
    d. Could you explain/provide examples of how the (community-wide) understanding of quantification and verification methods/issues and of opportunities for removals/reductions was improved as a result of PERRL?
    e. Could you explain/provide examples of how the (EC) understanding of technical issues related to program design, costs and opportunities for removals/reductions in strategic areas, and value of this incentive tool was improved as a result of PERRL?
4. Is there evidence of the achievement of long-term outcomes?
    a. Has PERRL increased early GHG removals/reductions in strategic areas?
    b. Has PERRL improved Canadian expertise in identifying, achieving, quantifying and verifying GHG removals/reductions in strategic areas? Explain.
    c. Can you provide us with examples where PERRL learnings influenced/informed the development of future policy responses?
5. Were there any unintended outcomes? If so, how were they addressed?

Evaluation Issue: Cost-effectiveness

6. Do you think that PERRL was being implemented in a cost-effective manner?

Evaluation Issue: Design and delivery

7. Are there links between PERRL and other climate change programs/policy?
8. In your view, do you think that stakeholders are satisfied with the initiative?
9. Overall, how successful do you think Environment Canada has been in delivering PERRL?

Themes for Senior Management Strategic Interview

- General lessons learned from the PERRL Initiative;
- The potential role of the PERRL Initiative in supporting/guiding the development of the Offset System and/or the Climate Fund; and
- Best practices/lessons learned in the use of market mechanisms to tap GHG emissions reduction potential.

Annex 7 - Interview Questions for PERRL Bidders

Conducted by Environics

A. General Orientation on Emissions Reductions/PERRL

1. Provide a brief overview of your organization's history/background on emissions reduction (ER) projects: (previous activity if any, impetus for activity, current priority currently placed on ER)
2. Briefly describe your current project (one involved in PERRL bid)
3. What was the impetus to apply for PERRL?
4. How did you/your organization hear about PERRL?

B. Application Process

1. Confirm timing and round of PERRL bids submitted
2. What was your organization's overall experience with the PERRL application process (positive-negative and reasons why). What worked? What didn't work?
3. How reasonable were the information requirements for submitting a bid? What issues, if any did you have with these requirements?
4. How useful/helpful was the bid information/instructions supplied by PERRL (Manual, other materials)
5. Did you contact Environment Canada in preparing your bid (e.g. to get further information, clarify requirements)? If so, how helpful was the response you received?
6. How easy or difficult was it for your organization to prepare your bid under PERRL? What in particular made this difficult?
7. How did you find the timing of the application/bid process? Was it too tight or too extended?
8. What is your view on the reverse auction process used to evaluate PERRL bids? Is it the most appropriate method for this type of ER program? If not, why not and what would be better?
9. Other general comments on the application process. Any suggested improvements?

IF BID ACCEPTED – SKIP TO SECTION E

IF BID NOT ACCEPTED

C. Bid Outcome

1. Confirm outcome of bid(s)
2. General reaction to bid outcome: Surprised or not?
3. Fairness of bid decision?
4. How adequate was the feedback provided by PERRL? Was it sufficiently clear, detailed, accurate, timely?
5. Did you follow up with PERRL staff for further information/explanation? If so, how satisfactory was this contact?

D. Related Outcomes

1. What happened with this project – did it proceed without a PERRL contract? Was this project contingent on PERRL contract?
2. Was/is there other programs/funding available or used to support this particular project? Is there potential future support that is anticipated or planned on?
3. What, if anything, has your organization learned from your experience in applying for a PERRL contract?

SKIP TO SECTION H

IF BID ACCEPTED

E. Bid Outcome

1. Confirm successful bid(s) and agreement(s) signed
2. General reaction to bid outcome: Surprised or not?
3. Fairness of bid price accepted?
4. (If agreement not yet signed) – Anticipated timing of signed agreement? Anything in particular holding up the process?

F. Reporting Process

(IF ROUND 1)

1. Confirm have submitted one full round of verification report
2. What was your overall experience in preparing the required verification report on your project emission reductions?
3. Were the reporting requirements clearly articulated by PERRL? If not, in what way?
4. How reasonable were the information requirements for submitting reports? What issues, if any did you have with these requirements?
5. How useful/helpful was the reporting information/instructions supplied by PERRL (Manual, other materials)
6. Did you have any contact with PERRL staff in preparing your report? If so, how helpful were PERRL staff you had contact with?
7. How easy or difficult was it for your organization to prepare your report? What in particular made this difficult?
8. Were you satisfied with the way in which your report was received by PERRL? If not, why not?
9. Other general comments on the reporting requirements. Any suggested improvements?

SKIP TO SECTION H

(IF ROUNDS 2-3)

1. Confirm status/timing or upcoming verification reports *[have they begun to address the reporting – if not then some of the following questions may not be relevant]*
2. Are the reporting requirements clearly articulated by PERRL? If not, in what way?
3. How reasonable are the information requirements for verification reports? What issues, if any do you have with these requirements?
4. How useful/helpful are the reporting information/instructions supplied by PERRL (Manual, other materials)
5. Have you had any contact with PERRL staff in preparing your report? If so, how helpful were the PERRL staff you had contact with?

6. How easy or difficult is your organization finding it to prepare your report? What in particular made this difficult?
7. Other general comments on the reporting requirements. Any suggested improvements?

G. Related Outcomes [questions may not be relevant for stakeholders in Rounds 2-3]

1. What impact has your PERRL contract had on this project? Did it prove to be key to this project moving ahead/being successful? Would the project have moved ahead without this contract?
2. Was/is there other programs/funding available or used to support this particular project? Is there potential future support that is anticipated or planned on?
3. What, if anything, has your organization learned from your experience in applying for a PERRL contract?
4. What about the future of this project once the PERRL contract/program ends in 2007? Is the project likely to continue? Are you looking at other programs/supports for this project (e.g. offsets)

H. Conclusion

1. Does your organization belong to an association or organized collective around emissions reductions? If yes, what is it called, and approximately how many members are there?
2. How much interest or demand do you think there is among organizations like yours and others, for this type of emissions reductions programs? If not a lot of interest, what if anything do you think it would take to generate stronger interest?
3. This concludes the interview. Before we end do you have any final comments about the PERRL
   program?