



# TURNING THE CORNER

March 2008

## Canada's Offset System *for* Greenhouse Gases



Government  
of Canada

Gouvernement  
du Canada

Canada

For more information:

**[www.ecoaction.gc.ca](http://www.ecoaction.gc.ca)**

**1 800 O-Canada**

(1-800-622-6232, or TTY 1-800-926-9105)

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# TABLE OF CONTENTS

|  |            |
|--|------------|
| <b>HIGHLIGHTS</b>  | <b>iii</b> |
| <b>I. INTRODUCTION</b>   | <b>1</b>   |
| Principles Underlying the Design of the Offset System            | 2          |
| Creation of Offset Credits                                       | 2          |
| Key Participants in the Offset System                            | 2          |
| <i>Government of Canada</i>                                      | 2          |
| <i>Project Proponent</i>   | 4          |
| <i>Private-Sector Service Providers</i>                          | 4          |
| Staged Implementation of the Offset System                       | 4          |
| <b>II. DEVELOPMENT OF OFFSET SYSTEM QUANTIFICATION PROTOCOLS</b> | <b>6</b>   |
| Purpose  | 6          |
| Process  | 6          |
| Considerations   | 8          |
| <b>III. REGISTRATION OF OFFSET PROJECTS</b>                      | <b>9</b>   |
| Purpose  | 9          |
| Process  | 9          |
| Requirements   | 11         |
| Considerations   | 16         |
| <b>IV. REPORTING AND VERIFICATION OF REDUCTIONS</b>              | <b>17</b>  |
| Purpose  | 17         |
| Process  | 17         |
| Requirements   | 18         |
| Considerations   | 18         |
| <b>V. ISSUANCE OF OFFSET CREDITS</b>                             | <b>19</b>  |
| Purpose  | 19         |
| Process  | 19         |
| Considerations   | 19         |
| <b>VI. USE OF OFFSET CREDITS</b>                                 | <b>20</b>  |
| Purpose  | 20         |
| Process  | 20         |
| Considerations   | 20         |
| <b>VII. TREATMENT OF BIOLOGICAL SINK PROJECTS</b>                | <b>21</b>  |
| Purpose  | 21         |
| Background   | 21         |
| Addressing Non-Permanence of Greenhouse Gas Removals             | 22         |
| <i>Offset Credits</i>  | 22         |
| <i>Temporary Credits</i>   | 22         |
| <b>ANNEX A: GLOSSARY OF TERMS</b>                                | <b>24</b>  |
| <b>ANNEX B: ILLUSTRATIVE LIST OF POTENTIAL PROJECT TYPES</b>     | <b>28</b>  |



## PURPOSE OF THIS DOCUMENT

This paper provides an overview of the Offset System. The detailed eligibility requirements and application processes will be set out in a series of guidance documents that will be published later this year. Comments on this paper are welcome, and will be considered as additional guidance materials are finalized.

- The Offset System is designed to encourage cost-effective domestic greenhouse gas reductions or removals in activities that are not expected to be covered by proposed industrial air emissions regulations.
- Opportunities for Offset Projects exist across the economy, and could include, for example, landfill gas capture and destruction, biodigesters, afforestation/reforestation, soil management, and non-emitting renewable electricity generation.
- The Government will administer the Offset System under the *Canadian Environmental Protection Act, 1999*.
- To be eligible to generate offset credits, projects must be within the scope of the Offset System, and must achieve real, incremental, quantified, verified and unique reductions of greenhouse gases.
- The credit creation process is as follows:
  - A Protocol Developer creates a quantification protocol for the project type and Environment Canada approves the protocol
  - A Project Proponent applies to have their project registered
  - Environment Canada registers the project
  - A Project Proponent reports the greenhouse gas reductions achieved from a registered project and ensures that a verifier has provided a reasonable level of assurance on the reductions claim
  - Environment Canada certifies the reductions and issues offset credits.
- Each offset credit will represent one tonne of carbon dioxide equivalent. Offset credits will be tradable and bankable within the unit tracking system. The proposed industrial air emissions regulations will set out the conditions under which regulated entities will be able to use offset credits for compliance.
- Guidance documents for Protocol Developers, Project Proponents and Verification Bodies will be published during the spring and summer of 2008. Environment Canada will begin reviewing quantification protocols this summer and project applications in the fall.



# I. INTRODUCTION

[1]

The Government has committed to achieving an economy-wide greenhouse gas reduction target of 20 percent below 2006 levels by 2020. As outlined in *Turning the Corner: An Action Plan to Reduce Greenhouse Gases and Air Pollution*,<sup>1</sup> the Offset System is designed to encourage cost-effective domestic reductions or removals<sup>2</sup> in activities that are not expected to be covered by proposed industrial air emissions regulations. Projects that meet the eligibility criteria can generate offset credits that can be sold in the market.

[2]

Opportunities for Offset Projects exist across the economy. They include, for example, landfill gas capture and destruction, biodigesters, afforestation/reforestation, soil management, and renewable electricity generation (non-emitting). No minimum project size will be required. In order to accommodate very small projects, bundled and aggregated projects will be accepted.

[3]

Work on the Offset System design has been under way for a number of years. This work has included extensive consultations with provinces and territories, and with industry and other stakeholders, and builds on the experience from three Canadian emission-reduction pilot programs<sup>3</sup> and from existing international project-based crediting schemes. Most recently, the Government held consultations on the design of the Offset System based on the elements of the System set out in *Turning the Corner*.

[4]

This paper provides an overview of the Offset System. The detailed eligibility requirements and application processes will be set out in a series of Offset System guidance documents that will be published later this year. Comments on this paper are welcome, and will be considered as additional guidance materials are finalized. Input should be sent to:

Judith Hull  
Director, Trading Regimes Division  
Environment Canada  
155 Queen Street, Suite 200  
Ottawa, Ontario K1A 0H3  
Email: [os-scc@ec.gc.ca](mailto:os-scc@ec.gc.ca)

<sup>1</sup> Available online at [www.ecoaction.gc.ca/news-nouvelles/pdf/20070426-1-eng.pdf](http://www.ecoaction.gc.ca/news-nouvelles/pdf/20070426-1-eng.pdf)

<sup>2</sup> Throughout the remainder of this document, the term greenhouse gas “reductions” will refer to both reductions and removals (carbon storage) of greenhouse gases unless otherwise specified.

<sup>3</sup> These three pilots are PERT – Pilot Emission Reductions Trading, GERT – Greenhouse Gas Emission Reductions Trading pilot, and PERRL – Pilot Emission Removals, Reductions and Learnings Initiative. The third pilot is still available online at [www.ec.gc.ca/PERRL](http://www.ec.gc.ca/PERRL).

## Principles Underlying the Design of the Offset System

[5]

The Offset System is built on the following principles:

1. Environmental benefits – Offset Projects achieve greenhouse gas reductions and a net environmental benefit.
2. Reductions occur in Canada – greenhouse gas reductions are domestic.
3. Maximum scope – the system promotes projects in as many sectors and for as many project types as practical.
4. Administratively simple – the system is as simple and cost-effective to administer as possible, and the burden for participants is minimized.
5. Build on experience – the system builds on the experience gained from the Canadian pilot projects and project-based crediting systems in other jurisdictions.

## Creation of Offset Credits

[6]

To be eligible to generate offset credits, projects must be within the scope of the Offsets System, and must achieve real, incremental, quantified, verified and unique reductions of greenhouse gases (see Section III).

[7]

There are four steps required to generate offset credits from a project that achieves incremental reductions in greenhouse gases:

Step 1. Creation of a quantification protocol for the project type (see Section II)

Step 2. Registration of a project (Section III)

Step 3. Reporting and verification of reductions from a registered project (Section IV)

Step 4. Certification of reductions and issuance of offset credits (Section V)

## Key Participants in the Offset System

### *Government of Canada*

[8]

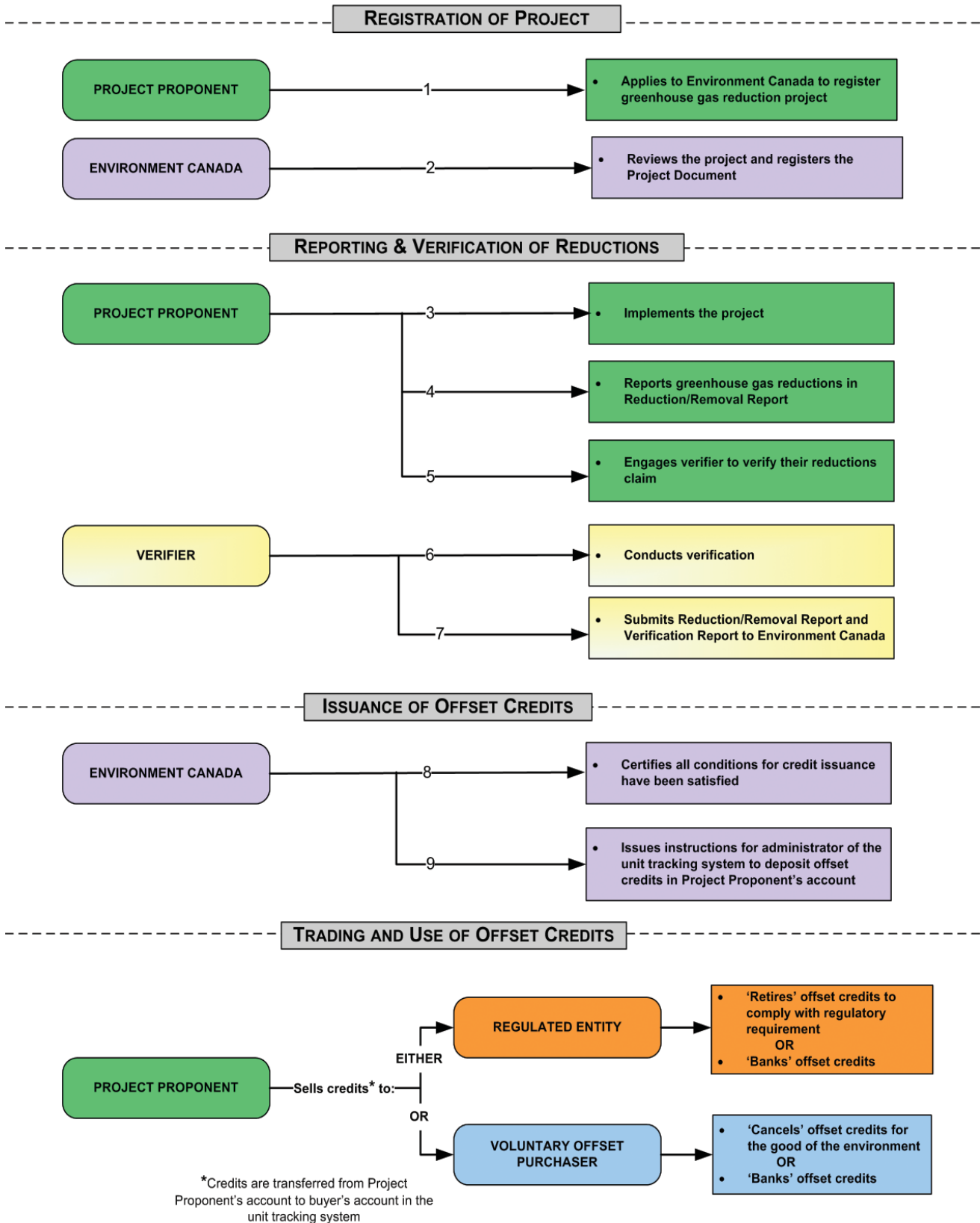
The Offset System will be administered as a voluntary program under the *Canadian Environmental Protection Act, 1999*, section 322.<sup>4</sup> Environment Canada will have overall responsibility for the design and operation of the system and will therefore be responsible for

- finalizing the Offset System rules
- approving the quantification protocols used to quantify greenhouse gas reductions achieved from each project type

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<sup>4</sup> Available online at [www.ec.gc.ca/CEPARRegistry/the\\_act/](http://www.ec.gc.ca/CEPARRegistry/the_act/).

## PROCESS FOR CREDIT CREATION



- registering projects that meet the project eligibility requirements
- issuing offset credits for eligible verified reductions from registered projects

[9]

The Government will also establish a system for tracking all credits from issuance to retirement or cancellation (the “unit tracking system”).

[10]

The Government will establish an advisory group to provide guidance on broad technical and operational issues. The membership and operating procedures of this advisory group are still to be determined.

### ***Project Proponent***

[11]

Project Proponent(s) will be responsible for moving a project through the Offset System. They will register and implement their projects and will need to satisfy requirements related to monitoring/estimation, quantification, data management, and reporting. They must also arrange for a recognized third-party verifier to confirm the reductions achieved by the project.

[12]

A Project Proponent may join with other Project Proponents or technical experts to draft quantification protocols for their project type.

### ***Private-Sector Service Providers***

[13]

Technical experts may assist with the drafting of quantification protocols and the preparation of project applications. Input from third-party technical experts will also be used by Environment Canada to complete its review of the draft quantification protocols and of applications for project registration, where needed.

[14]

There will be a role for aggregators to pool similar projects in order to manage the credit creation process on behalf of many small-project developers.

[15]

In order to be issued offset credits, a Project Proponent will be required to ensure that a third-party verifier with recognized expertise in the verification of greenhouse gas reductions has provided a reasonable level of assurance regarding the reductions achieved by the project.

[16]

Private-sector individuals and organizations will provide the infrastructure and services required for the trading of credits. That is, brokerage services, carbon exchanges, and so forth, will be provided by parties outside of government.

### **Staged Implementation of the Offset System**

[17]

Three guidance documents will set out the detailed requirements and processes of the Offset System.

| Guidance Document  | Expected release date |
|--|-----------------------|
| <p><b>Offset System: Guide for Protocol Developers</b><br/>           – Sets out the requirements and provides detailed instructions on how to develop and submit a draft protocol for the Offset System for the consideration of the Program Authority.</p>   | Spring 2008           |
| <p><b>Offset System: Guide for Project Proponents</b><br/>           – Sets out the steps a Project Proponent must follow to generate offset credits. It describes the project registration and greenhouse gas reduction reporting, verification and certification processes, as well as the documentation that must be supplied at each step.</p> | Summer 2008           |
| <p><b>Offset System: Guide for Verification Bodies</b><br/>           – Provides direction to verifiers on the requirements and processes for verification of reductions claimed from registered projects.</p>   | Summer 2008           |

[18]

The Offset System will be phased in. The Guide for Protocol Developers will be published this spring. In the summer, the Government plans to begin its review of draft quantification protocols for offset project types. Environment Canada will endeavour to publish and update a schedule for these reviews.

[19]

The Guide for Project Proponents and the Guide for Verification Bodies will be released this summer. In the fall, the Government will begin its review of project applications.

## II. DEVELOPMENT OF OFFSET SYSTEM QUANTIFICATION PROTOCOLS

### Purpose

[20]

The Offset System Quantification Protocols will ensure that there is a consistent approach to quantifying the greenhouse gas reductions achieved by a given project type. Each protocol will set out the detailed approach that must be used to quantify greenhouse gas reductions from a particular offset project type.

[21]

The Guide for Protocol Developers will set out the requirements for Offset System Quantification Protocols. In particular, each protocol must include the following:

- a detailed description of the project type covered by the protocol
- the identification of all greenhouse gas sources, sinks and reservoirs (upstream and downstream) that could be impacted by the project and the identification of those that are relevant and must be quantified
- a detailed assessment of each possible baseline scenario and selection of the appropriate baseline(s)
- all calculations that must be performed to quantify the greenhouse gas reductions
- the monitoring/estimation, data management and reporting requirements
- any departures from the standard quantification approach that will be accepted
- a detailed justification of decisions made in selecting the quantification approach, including identification of good practice guidance and/or supporting science that has been considered

[22]

Initially, only project types for which Environment Canada has pre-approved an Offset System Quantification Protocol will be eligible to generate offset credits. The intent of this requirement is:

- to ensure the environmental integrity of the Offset System by supplying Project Proponents with a rigorous and consistent approach for quantifying greenhouse gas reductions from a project type; and
- to facilitate participation in the Offset System by making the review of project applications by Environment Canada as efficient and fair as possible, and by providing all the groundwork to justify the selection of the baseline and the sources, sinks and reservoirs that must be quantified, thereby reducing development costs and risks for Project Proponents.

[23]

Allowing innovative projects into the system will be a priority for the Program Authority. As the system matures and resources become available, Environment Canada will begin reviewing one-of-a-kind projects and quantification methodologies to ensure that they meet the eligibility requirements of the Offset System.

### Process

[24]

In order to develop a protocol, private-sector Protocol Developers will:

1. Provide Environment Canada with a Notice of development of a Protocol. This will include a brief description of the project type to be covered.
2. Develop a Base Protocol consistent with the guidance provided in the Guide for Protocol Developers, and submit it to Environment Canada for consideration in the preparation of an Offset System Quantification Protocol.

[25]

Environment Canada will have five basic roles in the development and approval of quantification protocols:

[26]

1. Provide guidance on developing Base Protocols.
  - Publish the Guide for Protocol Developers.
  - Provide references to good practice guidance and emissions factors, where appropriate.
  - Provide guidance on specific project types, where appropriate.

[27]

2. Manage the protocol review process.
  - Review the Notice of Development of a Protocol to determine if the project type to be covered by the proposed protocol meets the eligibility criteria.
  - Post the Notice of Development of a Protocol on the Offset System website to inform stakeholders of the types of protocols under development. This should help avoid duplication of effort and facilitate opportunities for collaboration among interested parties.
  - Prioritize and provide information on the sequence and timing of its planned reviews of Base Protocols.

[28]

3. Assess Base Protocols and combine them where efficient.
  - Review each Base Protocol (with the assistance of external technical experts where needed). Note that Environment Canada will assess all Base Protocols for a given project type at the same time. Where appropriate, Environment Canada may combine a number of Base Protocols in order to increase the scope and flexibility of the protocol and thus allow its use for an increased number of projects. In these situations, Environment Canada may work with the Protocol Developers to make any necessary adjustments.

[29]

4. Provide stakeholders with an opportunity to provide feedback on draft Offset System Quantification Protocols.

[30]

5. Approve protocols and revise them as needed.
  - Create approved Offset System Quantification Protocols from acceptable Base Protocols.
  - Post approved Offset System Quantification Protocols on the Offset System website so that they are available for use by any interested party.
  - Revise Offset System Quantification Protocols from time to time, as needed.

## Considerations

[31]

1. Key criteria to be used by Environment Canada in setting priorities for completing protocols are the volume of reductions expected from the project type and the availability of information on the technical/scientific aspects of the project type.

[32]

2. The quantification approach is based on ISO 14064 Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements. This international consensus-based standard is supported by established systems to refine and improve it over time. It is policy-neutral; policy considerations needed to supplement this framework will be set out by Environment Canada in the appropriate guidance material.

[33]

3. The review process will be consistent across project types through the application of the following *ISO-14064 Part 2* principles:

1. *Completeness* – Include all relevant GHG emissions and removals. Include all relevant information to support criteria and procedures
2. *Consistency* – Enable meaningful comparisons in GHG-related information
3. *Accuracy* – Reduce bias and uncertainties as far as is practical
4. *Transparency* – Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence
5. *Relevance* – Select the GHG sources, GHG sinks, GHG reservoirs, data and methodologies appropriate to the needs of the intended user
6. *Conservativeness* – Use conservative assumptions, values and procedures to ensure that GHG emission reductions or removal enhancements are not over-estimated.

*Permission to use extracts from ISO 14064-2:2006 was provided by Standards Council of Canada, in cooperation with IHS Canada. No further reproduction is permitted without prior written approval from Standards Council of Canada.*

The principle of conservativeness will be applied when there is a significant level of uncertainty about the quantity of greenhouse gas reductions achieved.

[34]

4. Where possible, quantification approaches should build on best practices. Existing peer-reviewed protocols (for example, Clean Development Mechanism methodologies) may provide a good basis on which to build a Base Protocol.

[35]

5. Offset System Quantification Protocols may include additional flexibility in the requirements for projects that were commissioned prior to the publication of the protocol.

[36]

6. Projects and quantification approaches must meet the requirements of the federal Offset System in order to generate offset credits. Work to harmonize federal-provincial systems or to transition multiple systems to a single national system will be a priority for the Government.

## III. REGISTRATION OF OFFSET PROJECTS

[37]

- Project Proponent identifies the Offset System Quantification Protocol that is applicable to its project
- Project Proponent prepares and submits the Project Document
- Program Authority ensures that the project meets the System requirements
- Program Authority registers the project as an Offset Project and completes the Registered Project Document

### Purpose

[38]

Registration confirms that the project is within the scope of the Offset System, the project eligibility criteria are satisfied, and the methods for monitoring/estimation, data management, quantification and reporting of reductions from the Offset Project are appropriate and understood by the Project Proponent.

### Process

[39]

The Guide for Project Proponents will describe the registration process. That process starts when a Project Proponent submits an application for project registration (the Project Document) to Environment Canada following the instructions provided in the Guide for Project Proponents.

[40]

An Offset System Quantification Protocol suitable for the project type must be used in the Project Document. If there is no Offset System Quantification Protocol that fits the project, the Project Proponent can submit a proposed amendment or extension to an existing Offset System Quantification Protocol. If a new Base Protocol is required, the Project Proponent will be required to follow the process of proposing a new Base Protocol (Section II).

[41]

Note that the principle opportunity for proposing extensions and amendments to a protocol is during the public posting of the draft Offset System Quantification Protocol. Extensions and amendments proposed at a later date may face significant delays before Environment Canada reviews the proposal.

[42]

Environment Canada will review the Project Document to determine if the project meets all the eligibility criteria. Environment Canada will review Project Documents on a first-come, first-served basis. It is expected that the time required to assess projects will be considerably shorter once there is experience with the protocol.

[43]

Environment Canada will post the following information on project applications on the Offset System website during the review period, and prior to registering the project:

- project description
- identification of legal entities that claim entitlement to offset credits generated by the project
- information to support the incremental criterion and the unique criterion (such as project start date, project location)

[44]

If all requirements have been met, Environment Canada and Project Proponent will sign the Registered Project Document and Environment Canada will register the project as an Offset Project.

[45]

Environment Canada must register a project before accepting an application for the issuance of offset credits. This will

- reduce the risk that a Project Proponent will devote significant resources to implementing a project that will not be eligible to generate offset credits;
- create an opportunity for Environment Canada to provide early assistance and advice to Project Proponents; and
- facilitate learning in the early years of the Offset System.

[46]

An Offset Project will be eligible to generate offset credits only for the greenhouse gas reductions achieved after the project is registered. For this reason, it is in the best interest of the applicant to register as early as possible.

[47]

Note, however, that Environment Canada may issue credits for reductions achieved before project registration (if all requirements outlined in the Offset System Quantification Protocol are satisfied) when

- a. the project started before the Offset System was operational; or
- b. the project started before an Offset System Quantification Protocol was developed for their project type, and the Project Document is submitted within six months of the publication of the Offset System Quantification Protocol.

[48]

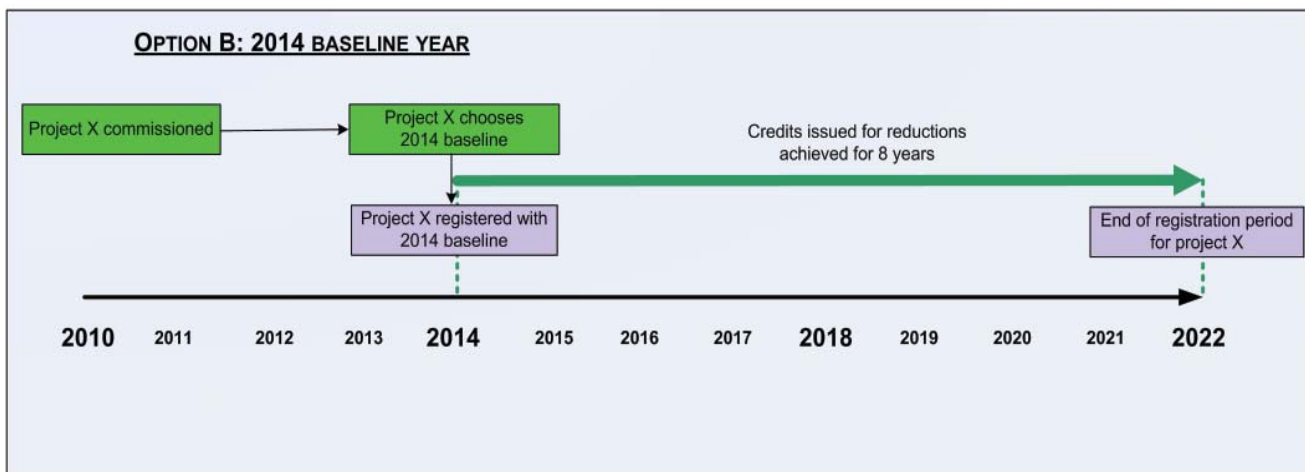
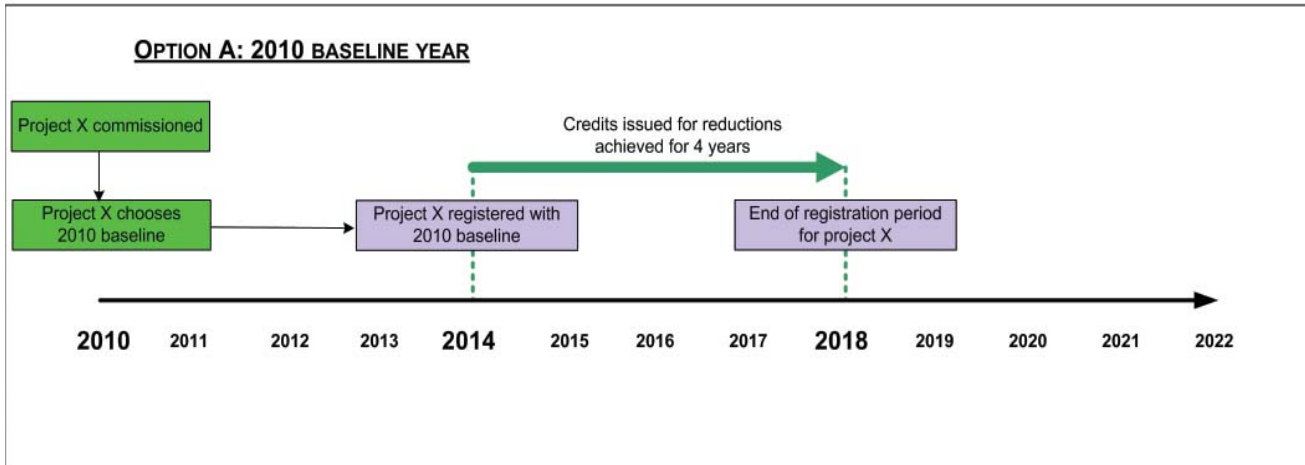
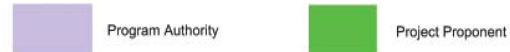
In cases where the project differs from what is described in the Registered Project Document, the project registration must be updated. If the changes are significant – that is, it is essentially a new project – the registration process must be repeated.

[49]

Registration is effective for eight years. The registration period starts in the project's baseline year. The Project Proponent can choose between two baseline years – either the year of project commissioning or the year of project registration. When these two years are not the same, the earlier option could allow for a less demanding baseline but a shorter crediting period, while the later option may have a more stringent baseline combined with a longer crediting period.

[50]

At the end of the first registration period, Project Proponents may re-register their project for a further eight years. The Project Proponent will be required to submit a revised Project Document with a baseline defined for

**Example: Choosing a baseline year**

the re-registration year.<sup>5</sup> The revised Project Document will undergo a complete assessment by the Program Authority. Note that there is no guarantee that the project will be eligible to generate offset credits once the updated baseline is applied to the project.

[51]

Registration periods must be contiguous. The objective is to ensure that Project Proponents do not increase emissions between registration periods or release sequestered greenhouse gases and sequester them again during the second registration period.

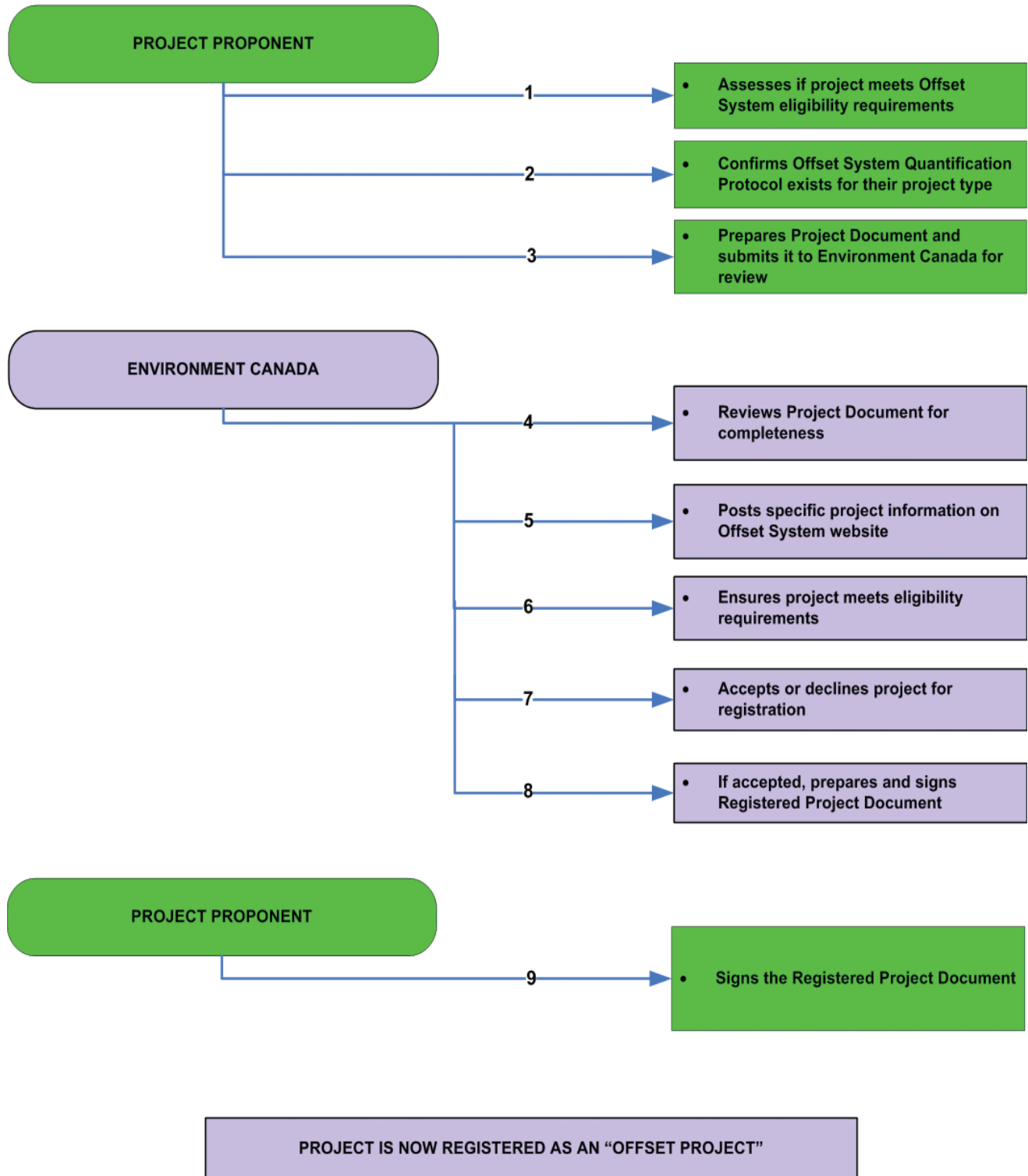
## Requirements

[52]

Each Project Document must include contact information for the Project Proponent, a description of the project, an estimate of the expected greenhouse gas reductions, and technical information demonstrating that the project and the anticipated greenhouse gas reductions to be achieved from the project meet all the Offset System eligibility requirements.

<sup>5</sup> Sinks projects will receive special treatment with respect to re-registration. See Section VII.

## REGISTRATION OF A PROJECT IN THE OFFSET SYSTEM



[53]

There are six eligibility requirements:

### 1. Scope

[54]

In order to be eligible to participate in the Offset System

- the project to reduce greenhouse gases must take place in Canada;
- the activity must achieve reductions in one or more of the following greenhouse gases: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>); and
- the activity must be included in Canada's inventory of greenhouse gases. Note: Forest management projects will be considered, even though not all forest management activities are part of the inventory.

[55]

In most cases, there will be no minimum project size. As the costs associated with providing documentation, satisfying all project implementation requirements, verifying reductions and paying system fees (when applicable) may be onerous for small projects, proponents may aggregate similar projects and bundle projects with similar effects (for example, projects that together impact total fuel consumption).

### 2. Reductions in greenhouse gas must be real

[56]

A project must be a specific and identifiable action that results in a net reduction of greenhouse gases after accounting for all relevant greenhouse gas sources, sinks and reservoirs. This accounting must address leakage, such as outsourcing. Each Offset System Quantification Protocol will describe how to address this criterion, as each protocol will require an assessment of all sources, sinks and reservoirs associated with the project type and will identify the sources that must be quantified.

[57]

*Turning the Corner* outlines an integrated approach to dealing with greenhouse gas and air pollutant emissions. Some types of greenhouse gas reduction projects may increase emissions of the air pollutants that will be regulated. Projects may be required to identify and address these negative impacts.<sup>6</sup>

[58]

Example: Landfill gas capture and flare projects destroy methane and reduce emissions of volatile organic compounds, but result in increases in nitrogen oxides and particulate matter – such a situation would have to be mitigated to be eligible for offset credits.

### 3. Incremental

[59]

There are five components of the incremental criterion:

[60]

- a. Projects must have started on or after January 1, 2000.

The project start date will be the date on which initial reductions are achieved from the project (commissioning date). Evidence of the project start date must be provided – for example, via a stakeholder report. A reasonable piloting period will be identified during the development of the project type Offset System Quantification Protocol.

<sup>6</sup> Any measures required to address negative impacts will be included in the *Registered Project Document*.

[61]

- b. Credits may be issued for reductions achieved after January 1, 2008.

Reductions achieved after January 1, 2008, from a registered project will be eligible for offset credits if all the necessary data management, monitoring/estimation, quantification, reporting and verification requirements are met. Until the project is registered, the Project Proponent cannot be certain that the project implementation procedures will be adequate to generate offset credits.

[62]

- c. Reductions achieved must go beyond the baseline defined for the project type.

The baseline is the hypothetical reference case against which the performance of a project will be measured. In quantifying a project's greenhouse gas reductions, only reductions that go beyond this baseline will be eligible to generate offset credits.

[63]

More than one baseline scenario could be identified in an Offset System Quantification Protocol. Where more than one baseline approach is provided, the Project Proponent must justify the use of the baseline selected.

[64]

The baseline could, for example, be defined as the norm for the project type when the project is implemented (a type of performance standard) or in terms of a "control plot". An historical baseline – a benchmark of past emission performance – could also be accepted if there is evidence that it continues to best reflect the "business-as-usual" situation at the time the project is constructed. Baseline definitions can be static (unchanging over the registration period) or dynamic (changing in pace with economic growth, for example). To ensure consistency in quantification, there should (with some specific exceptions) be functional equivalency. That is, the quantity and quality of service or product in the project case must be equivalent to the quantity and quality of service or product in the baseline scenario.

[65]

- d. Reductions are surplus to all legal requirements (federal, provincial/territorial and regional).<sup>7</sup>

Project Proponents must identify any relevant legal requirements in their Project Document and periodic Reduction/Removal Reports.

[66]

Legal requirements may include, for example, regulations, operating permits, and so forth. To be interpreted as a legal requirement for the purposes of the Offset System, there must be a clear target (for example, an emissions cap, performance standard or rate of annual improvement from a baseline) and a date when the requirement must be satisfied.

[67]

Where relevant legal requirements vary significantly across the country, Environment Canada may require the use of a normalized baseline to ensure that the Offset System does not significantly disadvantage Project Proponents in jurisdictions that have been more proactive in regulating greenhouse gas reductions and does not create a disincentive to further regulation. Environment Canada will make decisions about the development of a normalized baseline on a case-by-case basis.

---

<sup>7</sup> Regional regulations refer to where provincial governments have delegated authority to regional governments to deal with air emissions.

[68]

The surplus requirement will ensure that activities covered by any future federal greenhouse gas regulations will not be eligible to generate offset credits.

[69]

- e. Reductions are beyond what is expected from receipt of other climate change incentives (federal, provincial/territorial).

Greenhouse gas reductions from projects that receive or have received other climate change mitigation incentives may not be eligible to generate offset credits.

[70]

If the incentive has established a performance requirement (for example, a 20 percent reduction in greenhouse gas emissions), only greenhouse gas reductions that go beyond this requirement will be eligible to generate offset credits.

[71]

Government incentive programs that explicitly state that the greenhouse gas attributes stay with the recipient of the incentive will not affect the eligibility of reductions to generate offset credits. Similarly, incentives that are determined to have a sufficient claw-back mechanism in place will not affect eligibility.

[72]

Project Proponents must identify any government incentives they have received.

#### **4. Quantifiable**

[73]

Greenhouse gas reductions achieved from an Offset Project must be quantified as specified in an Offset System Quantification Protocol for the project type.

#### **5. Verifiable**

[74]

The Project Proponent must ensure that a recognized verifier is able to provide a reasonable level of assurance that the reductions claimed from the project have been monitored/estimated, quantified and reported as set out in the Registered Project Document.

#### **6. Unique**

[75]

A greenhouse gas reduction can only be used once to create an offset credit. A reduction that has already received a greenhouse gas reduction credit through another mandatory program or in a voluntary system cannot also be credited in the Offset System. An exception may be made in the case of parallel (stacked) requirements.<sup>8</sup>

[76]

A unique serial number will be assigned to each offset credit to facilitate the assessment of this criterion.

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<sup>8</sup> That is, in some scenarios the same greenhouse gas reduction may be used to comply with both federal and provincial greenhouse gas requirements where these requirements clearly overlap.

## Considerations

[77]

1. Project Proponents are responsible for resolving any disputes over entitlement to the greenhouse gas reductions. When it is aware of an unresolved dispute, Environment Canada may delay the issuance of offset credits to those parties.

[78]

2. The Government intends to operate the Offset System on a cost-recovery basis. It is anticipated that fees will be required for registration and certification, and to cover the cost of operating the unit tracking system. However, to provide a quick start to the Offset System, fees will not be charged at the outset of the program.

[79]

3. It is anticipated that the private sector will have a role in the registration process once sufficient private-sector expertise is available and the Offset System has been refined based on experience with it. The Government will remain accountable for ensuring the environmental integrity of the offset credits.

## IV. REPORTING AND VERIFICATION OF REDUCTIONS

[80]

- ✓ Project Proponent prepares Reduction/Removal Report, which contains the Greenhouse Gas Assertion
- ✓ Project Proponent engages recognized verifier
- ✓ Verifier determines that the Greenhouse Gas Assertion is supported by evidence sufficient to give a reasonable level of assurance that there are no material discrepancies. The opinion of the verifier is provided in the Verification Report.

### Purpose

[81]

Verification of reductions achieved from an Offset Project will be important to ensure the integrity of the offset credits. The Project Proponent must demonstrate that a recognized third-party verifier has provided a reasonable level of assurance that the reductions claimed from the Project have been monitored/estimated and quantified as set out in the Registered Project Document and that the quantity of greenhouse gas reductions claimed in the Reduction/Removal Report (measured in carbon dioxide equivalent) is fair and accurate.

### Process

[82]

The Project Proponent must first prepare the Reduction/Removal Report, which contains the Greenhouse Gas Assertion. Only the Greenhouse Gas Assertion is subject to verification. The Greenhouse Gas Assertion identifies the project, specifies the reporting period covered and sets out the greenhouse gas reductions or removals in tonnes of carbon dioxide equivalent that are claimed. It contains a statement attesting to conformance with all requirements specified in the Registered Project Document and is signed by the Project Proponent. Additional supporting information will also be contained in the Reduction/Removal Report.

[83]

The Project Proponent must ensure that a recognized verifier provides a Verification Report to Environment Canada and that the verification has been conducted in accordance with the Guide for Verification Bodies. The verifier must have reached one of the following outcomes: a positive opinion providing reasonable assurance (free from material discrepancies), a qualified opinion (sufficient evidence to support the Greenhouse Gas Assertion cannot be found), or an adverse opinion (material discrepancy exists). The verifier will then prepare a Verification Report using the template provided by the Program Authority.

[84]

The Project Proponent must submit its first Reduction/Removal Report at the end of the first full calendar year after project registration or when 100,000 tonnes of greenhouse gas reductions has been achieved, whichever comes first.

[85]

The frequency of subsequent reports and their verifications will be specified in the Registered Project Document. The maximum duration between claims is five years. Where evidence could be destroyed by time, the verification must be conducted before the evidence is lost.

## Requirements

[86]

The Project Proponent must provide whatever records and other information the verifier needs to conduct the verification.

[87]

The Guide for Verification Bodies will provide guidance on the necessary qualifications of verifiers.

## Considerations

[88]

1. The requirements for verification are based on *ISO 14064 Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions*.

[89]

2. Each Project Proponent will engage a recognized verifier directly and will be responsible for paying the cost of the verification.

[90]

3. As Environment Canada is responsible for ensuring the integrity of the offset credits created by the Offset System, the Department may at any time in the credit creation process perform checks of information received in support of an application.

[91]

4. Where verification determines that a project differs materially from the description in the Registered Project Document, Environment Canada may require that the project be re-registered.

## V. ISSUANCE OF OFFSET CREDITS

[92]

- Program Authority reviews the Reduction/Removal Report and the Verification Report, certifies that all requirements for the issuance of credits have been met, and authorizes deposit of Offset Credits into Project Proponents' accounts in the tracking system
- Program Authority sends Certification Notice to Project Proponent(s)

### Purpose

[93]

To ensure the integrity of the offset credits, Environment Canada must confirm that all the requirements for the issuance of credits have been met.

### Process

[94]

Environment Canada will review the Reduction/Removal Report and accompanying Verification Report. If the verifier has confirmed the Greenhouse Gas Assertion, Environment Canada will then do a final check to confirm that all program requirements have been met. If they have all been met, Environment Canada will instruct the administrator of the unit tracking system to deposit the appropriate number of credits into the account of the Project Proponent. Where there are multiple Project Proponents, the credits will be deposited in the relevant accounts in the ratio set out in the Registered Project Document.

[95]

Environment Canada will send a Certification Notice to the Project Proponent.

### Considerations

[96]

1. Once an offset credit has been issued – assigned a unique serial number and deposited into the account of a Project Proponent – it has been determined to be equivalent to one tonne of carbon dioxide equivalent and may be traded, banked and used for compliance purposes with any regulations that allow for it. If it is subsequently determined that the credit was obtained through incorrect information or fraudulent means, the Government may take appropriate action against the Project Proponent, but the credit itself will remain valid.

[97]

2. Project Proponents will be required to re-affirm that greenhouse gas reductions are unique and surplus to legal requirements and incentives each time they apply for credit issuance.

## VI. USE OF OFFSET CREDITS

### Purpose

[98]

The proposed industrial air emissions regulations will set out the conditions under which regulated entities will be able to use offset credits for compliance purposes, which may be cost-effective for regulatees.

[99]

Individuals and organizations may also purchase offset credits and cancel them (withdraw them from circulation) for the benefit of the environment. The Offset System will not establish requirements related to the use of these credits for voluntarily offsetting the carbon footprint of an individual or an organization.

[100]

The financial value of offset credits will be determined by supply and demand in the marketplace. Thus, there can be no guarantee of the financial value, if any, of offset credits.

### Process

[101]

Offset credits are electronic units that reside only in the unit tracking system. The unit tracking system will track offset credits from issuance to retirement or cancellation. These credits will be tradable and bankable in the unit tracking system.

[102]

The unit tracking system will hold accounts for all entities participating in domestic greenhouse gas trading. Individual account holders will be responsible for informing the system administrator when credits should be transferred between accounts. The requirements for establishing an account in the tracking system, as well as the transaction fees, are currently being developed.

### Considerations

[103]

1. Each offset credit will represent one tonne of greenhouse gases (carbon dioxide equivalent) reduced/removed.

[104]

2. If formal linkages are established with other regulatory-based systems in North America or abroad, arrangements will seriously be considered for the transfer of credits among systems. Especially, if a greenhouse gas regulatory regime and offsets system is developed in the United States, cross-border trading in emissions credits and offsets will be pursued.

## VII. TREATMENT OF BIOLOGICAL SINK PROJECTS

### Purpose

[105]

All project types have special characteristics that will be addressed during the development of the Offset System Quantification Protocol. This section sets out some unique design elements that are being considered for biological sink projects.

### Background

[106]

Sink projects either remove greenhouse gases from the atmosphere and store them in reservoirs (for example, in soil or trees) or avoid emitting greenhouse gases to the atmosphere from a reservoir (for example, avoided deforestation).

[107]

There are three possible types of forest sink projects:

- afforestation/reforestation – creating a forest where none has existed since at least 1990
- avoided/reduced deforestation – avoiding or reducing the permanent loss of a forest
- forest management – managing activity (or changing the level of an existing activity) within a forest area that increases carbon sequestration, reduces emissions, or avoids emissions (for example, pest management, fertilization)

[108]

Agriculture sink projects could include the following types of land management practices:

- reducing the intensity of tillage operations
- adopting crop rotations and grazing management practices that sequester more carbon in the soil
- increasing the use of permanent cover

[109]

The unique feature of biological sinks is that the carbon sequestered in forests or agricultural soil is vulnerable to non-permanence or reversal events. These can be caused by natural disturbances, such as pest and disease outbreaks and wildfires, or by human practices, such as forest harvesting and increased intensity of soil tillage. These disturbances can cause a partial or total loss of the greenhouse gases that had been stored – that is, they can cause previously stored carbon to be released to the atmosphere.

[110]

Given the relatively slow accumulation of carbon in biological sinks, these projects will be allowed to seek re-registration more than once.

## Addressing Non-Permanence of Greenhouse Gas Removals

[111]

The following two types of credits for sink projects are being proposed in order to address the issue of the non-permanence of the greenhouse gas removals:

- offset credits, which come with an obligation on the Project Proponent to maintain carbon storage for a certain period (liability period); or
- temporary credits.

### **Offset Credits**

[112]

An offset credit from a biological sink project would be interchangeable with any other offset credit. However, the Project Proponent that is issued offset credits for a biological sink project would have an obligation or liability that would require that any reversals of carbon be addressed.

[113]

The possible features of a sink project with a liability requirement are outlined below.

- The removal of greenhouse gases associated with offset credits issued for biological sink projects would have to be maintained by the Project Proponent for a fixed period of time – the “liability period.”
- The liability period would extend for a fixed number of years after the last credit is issued to the Project.
- If the greenhouse gas removal were reversed during this liability period, the Project Proponent would be required to address the reversal to ensure that the environmental integrity of the Offset System is maintained.
- The reversal could be addressed, for example, by replacing the offset credits affected by a reversal with another offset credit.
- When the liability period ends, the Project Proponent would be free of any obligation to maintain the storage of the carbon for the purposes of the Offset System.
- Project Proponents may be required to provide the Government with some type of security to ensure that the obligations associated with a potential reversal will be met.

Note that the management of the risk of reversals would be a role for the private sector – that is, the Government does not plan to establish or subsidize an insurance or risk-sharing scheme.

### **Temporary Credits**

[114]

A temporary credit would represent one tonne of carbon dioxide equivalent that has been removed from the atmosphere or sequestered and stored for one year. Similar to offset credits, temporary credits would be electronic units that reside only in the unit tracking system, would be tradable and bankable in that system and would be tracked from creation to use. However, as temporary credits would represent only temporary storage of carbon, they would not be fully interchangeable with offset credits.

[115]

Temporary credits would facilitate participation in the Offset System by Project Proponents unwilling to accept the restrictions associated with the liability obligations outlined in the previous section.

[116]

Possible features of temporary credits are set out below.

- The number of temporary credits issued each year to a project would equal the number of incremental tonnes of carbon dioxide equivalent stored by the project.
- A temporary credit could be issued each year the incremental tonne is maintained in the reservoir during the crediting period.
- Temporary credits would be issued *ex post* – that is, after the storage has taken place.
- The crediting period would extend for a fixed number of years beyond the date the last new incremental tonne from the project was sequestered.
- The Project Proponent of a sink project that was issued temporary credits would have no liability in the event of a reversal.

## ANNEX A: GLOSSARY OF TERMS

### *Aggregated project*

A collection of projects that use the same quantification approach that are combined and submitted for registration as a single project. The aggregator will be considered the Project Proponent.

### *Base Protocol*

A draft protocol for the quantification of emission reductions for a specific project type that has been developed by a Protocol Developer and submitted to Environment Canada for consideration.

### *Baseline*

The hypothetical reference case against which the performance of a project will be measured.

### *Bundled project*

A project that incorporates several linked project types into one project.

### *Cancellation of an offset credit*

The use of an offset credit for purposes other than complying with the proposed industrial air emissions regulations.

### *Carbon dioxide equivalent*

A unit that expresses any greenhouse gas in terms of carbon dioxide, calculated using the mass of a given greenhouse gas multiplied by its global warming potential. In more technical terms it is a unit that expresses the radiative forcing of a mass of a given greenhouse gas in terms of a mass of carbon dioxide with equivalent radiative forcing.

### *Carbon sequestration*

The process of increasing the carbon stored in a reservoir other than the atmosphere.

### *Carbon stock*

The quantity of carbon held within a reservoir at a specified time, expressed in units of mass.

### *Certification Notice*

A notice that confirms the number of offset credits that will be deposited into the Project Proponent's account in the unit tracking system.

### *Claw-back Mechanism*

Arrangement whereby some or all of an incentive payment is revoked if the recipient project exceeds a pre-defined return – level or profit or price per unit.

### *Functional equivalency*

The quantity and quality of the services or products in the project case must be equivalent to the quantity and quality of the services or products in the baseline scenario.

### *Greenhouse gas*

A gas emitted to the atmosphere from natural sources and as the result of human activity. Greenhouse gases both absorb and reflect the sun's radiation. Greenhouse gas emissions covered by the Offset

System are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.

*Greenhouse Gas Assertion*

The document contained in the Reduction/Removal Report that identifies the project, the reporting period covered, and the greenhouse gas reductions or removals claimed, as well as other relevant information. It is signed by the Project Proponent.

*Incremental*

An eligibility criterion defining the conditions that must be met before an Offset Project can create reductions. Conditions include the project start date, baseline, legislative requirements, and the treatment of incentives.

*Leakage*

A rise in emissions outside the project's boundary that is a result of the greenhouse gas reduction project.

*Notice of Development of a Protocol*

A notice that advises Environment Canada of a Protocol Developer's intention to develop a Base Protocol. It provides a high-level overview of the project type to be addressed.

*Offset credit*

A credit issued by Environment Canada to a Project Proponent for eligible greenhouse gas reductions/removals achieved from an Offset Project. One credit represents one tonne of carbon dioxide equivalent emissions reduced or removed. An offset credit is tradable, bankable and its use for compliance purposes is intended not to be restricted.

*Offset Project*

A greenhouse gas reduction project that has been registered in the Offset System.

*Offset System Quantification Protocol*

A method for quantifying the greenhouse gas reductions or removals from a specific project type that has been approved by Environment Canada.

*Project Document*

The application for registration of a project by the Project Proponent that addresses the project eligibility criteria.

*Project Proponent*

The person(s) or entity(ies) identified in the Project Document with the authority to deal with Environment Canada in matters related to the creation of offset credits.

*Protocol Developer*

A legal entity that engages in the development of a Base Protocol.

*Quantifiable*

An eligibility criterion requiring that the emissions and removals in both the baseline and project scenarios can be measured or estimated.

*Real*

An eligibility criterion requiring that the Offset Project be a specific and identifiable action that results in net greenhouse gas emission reductions or removals after leakage (emissions being shifted to another site or source) is taken into account.

*Reasonable level of assurance*

The degree of certainty required from the verification. A "reasonable level of assurance" would provide confirmation that the Greenhouse Gas Assertion is free from material discrepancies in accordance with the Offset System requirements.

*Reduction (greenhouse gas reduction)*

A decrease in greenhouse gas emissions released into the atmosphere by a source.

*Reductions/Removals Report*

The report on the greenhouse gas reductions, removals or reversals achieved from an Offset Project during a defined period. It summarizes project activities and operation in the reporting period and contains the Greenhouse Gas Assertion.

*Registered Project Document*

The document prepared by the Project Proponent and Environment Canada (based on the Project Document) that is registered by Environment Canada.

*Relevant greenhouse gas sources, sinks and reservoirs*

The set of controlled, related and affected sources, sinks and reservoirs for the baseline and project scenarios, that must be measured or estimated to quantify the greenhouse gas reduction or removal achieved by the project.

*Removal (emission removal)*

The process of increasing the carbon stock in a reservoir other than the atmosphere.

*Reservoir*

A physical unit or component of the biosphere, geosphere or hydrosphere with the capability to store or accumulate a greenhouse gas removed from the atmosphere by a greenhouse gas sink or a greenhouse gas captured from a greenhouse gas source. Examples of reservoirs include trees, soil, oil and gas reservoirs, and oceans.

*Retirement*

The transfer of an offset credit into a retirement account in the unit tracking system in order to comply with a regulatory requirement.

*Sink*

Any process, activity or mechanism that removes a greenhouse gas from the atmosphere.

*Source*

Any process or activity that releases a greenhouse gas into the atmosphere.

*Temporary credit*

A credit that represents the storage of one tonne of carbon dioxide equivalent in a reservoir for one year.

*Unique*

An eligibility criterion requiring that a greenhouse gas reduction or removal be used only once to create an offset credit.

*Verifiable*

An eligibility criterion requiring that government-recognized, third-party Verification Bodies be able to confirm that the reductions or removals have been achieved as claimed.

*Verification Report*

The report prepared by a recognized verifier that describes the outcome of the verification of reductions achieved by an Offset Project.

*Verifier*

An independent entity, similar to an auditor that has been recognized as having the qualifications and experience to verify the greenhouse gas reduction/removal claims related to specified project types.

## ANNEX B : ILLUSTRATIVE LIST OF POTENTIAL PROJECT TYPES

- Carbon capture and storage
- Energy efficiency and demand-side management projects
- Electricity and/or heat projects
  - Renewable electricity
  - Capture and flare or use of landfill gas
  - Biodigesters (capture and flare or use of methane generated from livestock waste)
- Transportation projects
  - Modal shifts
  - Fleet conversion to hybrid
  - Reduced idling technologies
  - Hydrogen fuel injection
- Biofuels
- Agriculture
  - Tillage practices
  - Nutrient management
  - Innovative feeding of livestock
  - Manure storage/spreading
- Forestry
  - Afforestation / Reforestation (planting trees on land that has not been a forest or that requires restocking)
  - Forest management
  - Avoided deforestation