## Appendix B

# Ontario's Offset Program: Technical Aspects, Program Design and Context

This Appendix summarizes various technical aspects of offsetting not covered in Chapter 4 of the ECO's 2017 Annual Greenhouse Gas Progress Report. It gives an overview of the use of offset credits within different compliance and voluntary carbon markets around the world before explaining the process by which Ontario proposes to create and issue offset credits for use in its cap and trade system. It also details key aspects of Ontario's proposed offset program design, including regulatory criteria, enforcement mechanisms and offset credit invalidation. Lastly, the Appendix explores the national and international context for Ontario's offset program, including a high level overview of how Ontario's market is likely to operate once linked with those of California and Quebec.

Most of the analysis in this Appendix is limited to the content of the Offset Credits Regulatory Proposal and the *Ontario Offset Credits Regulation* (with some materials from the Western Climate Initiative (WCI) and other provincial and federal sources).

For more information on offsets, including key concerns and Ontario's proposed offset protocols, see Chapter 4 of the ECO's 2017 Greenhouse Gas Progress Report.

## Contents

## B1 How Are Offsets Bought and Sold Around the World?

Offsets have been in use for many years in different jurisdictions and by different players (nations, businesses, and individuals). Broadly speaking, there are two types of markets on which offsets are traded: compliance markets (like the Western Climate Initiative and European Union Emissions Trading System (EU ETS) markets), and the voluntary market.
All markets have their own unique offset program design (i.e., protocols or tools, enforcement and invalidation rules, etc.), but in most cases, each offset credit represents the reduction, avoidance or removal of one tonne of $CO_2e$.

### B1.1 Compliance Markets

The first cap and trade compliance market emerged in the early 2000s in the wake of the Kyoto Protocol. To help participating countries meet their emissions reduction requirements, the Kyoto Protocol established two types of offsetting mechanisms available to Annex I Parties (i.e., industrialized countries with binding emissions reduction targets). These mechanisms are Joint Implementation (JI) and the Clean Development Mechanism (CDM).[1]

JI is the mechanism for offset projects located in countries with binding emissions reduction commitments under Kyoto. It allows Annex I countries to meet part of their emissions reduction obligations under Kyoto by investing in GHG reduction projects in other Annex I countries. The CDM, on the other hand, was designed to let Annex I countries invest in offset projects located in developing countries that don't have binding commitments under Kyoto.

In 2005, the use of CDM credits expanded beyond the Kyoto compliance market when the EU ETS decided to incorporate CDM and JI offset credits as compliance tools for its capped emitters (i.e., those facilities and businesses emitting GHGs captured under the EU ETS). Through the *Linking Directive*, the EU authorized emitters to begin using CDM and JI credits to satisfy part of their compliance obligations under the ETS. Other countries have also allowed CDM credits to be used by emitters in domestic compliance markets,[2] but the EU ETS remains the largest consumer of CDM credits by far.

Thus, while the CDM began as a mechanism for developed countries to meet their targets under the Kyoto Protocol, CDM offset credits (known formally as certified emissions reductions or CERs), can now be purchased by organizations and businesses for use in the EU ETS, and other compliance markets.

The CDM may cease to operate as a mechanism under Kyoto once it is superseded by a new international market mechanism under the Paris Agreement. However, it will likely form a basis for the development of standards, procedures, and institutional arrangements in the design of future international market mechanisms under the Paris Agreement.

### *CDM Outside the Compliance Context: CDM Credits on the Voluntary Market*

Outside of the compliance context, organizations and businesses are also invited to purchase CDM offset credits to meet *voluntary* emissions reduction pledges or targets (see below for more discussion of voluntary markets). Thus, CDM credits can be used for *compliance* by (1) countries under the Kyoto Protocol or (2) facilities covered by the EU ETS (and some other compliance markets). They can also be used by businesses and organizations seeking to *voluntarily* reduce their emissions.

Many other compliance markets have developed around the world over the past decade. These include country-level as well as subnational schemes for emissions trading between businesses and individuals (see Figure B1 below). In North America, two of the largest compliance markets are the Regional Greenhouse Gas Initiative (RGGI) in the Northeastern United States, and the WCI, of which Ontario is a member. Each initiative has developed its own offset program to allow participating jurisdictions to trade offset credits to meet compliance obligations.[3]

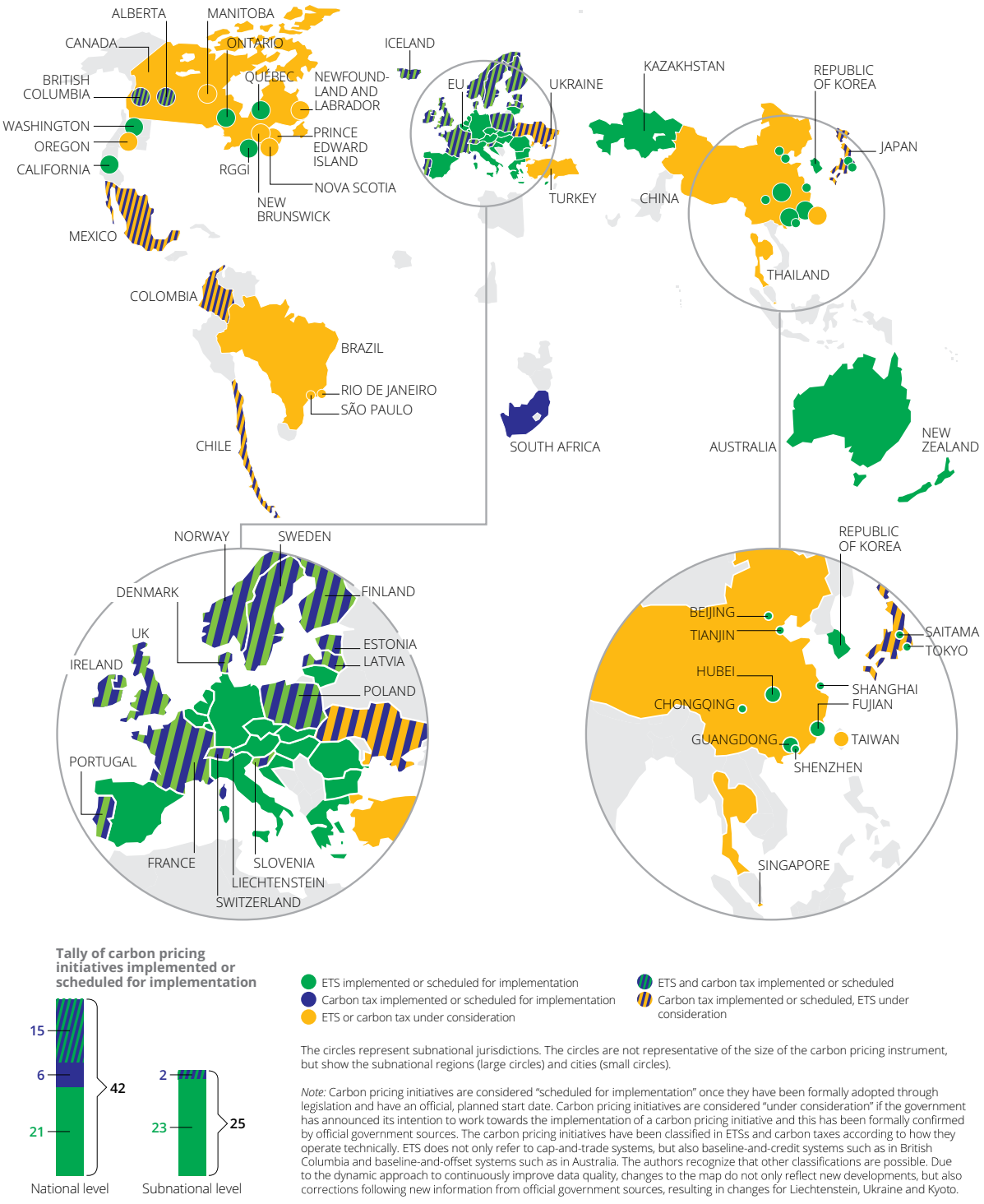


**Figure B1.** Regional, national and subnational compliance carbon pricing initiatives implemented, scheduled for implementation and under consideration.

Source: World Bank; Ecofys. 2017. Carbon Pricing Watch 2017. Washington, DC: World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/26565 License: CC BY 3.0 IGO.

### B1.2. The Voluntary Market

The other type of market on which offsets are bought and sold is the voluntary (or retail) market, where individuals, organizations and companies can voluntarily purchase offsets to account for their climate impact. The voluntary market emerged shortly after the CDM was created, allowing private companies and individuals to offset their own GHG emissions, mostly as a result of corporate social responsibility concerns.

In 2016, more than 46.5 Mt $CO_2$e were transacted globally on the voluntary market.[4] 10.1 Mt $CO_2$e of this was transacted in North America, mostly from methane projects.[5] The voluntary market is much smaller than the international compliance market: in 2016, the voluntary market accounted for $191.3 million US dollars in transactions[6] (whereas the international compliance market covers tens of billions of dollars' worth of transactions each year).

Unlike offsets sold on compliance markets, which must meet certain regulatory standards to ensure quality of offsets, there is a great deal of variability in the quality of offsets offered on the voluntary market.

## B2 Essential Regulatory Criteria

To acquire offset credits under Ontario's offset program, an offset project must achieve emissions reductions that the Ministry of the Environment and Climate Change (MOECC) is satisfied are:

- real;
- additional;
- verifiable; and
- quantifiable.

#### *Offsets Must Be Real*

To meet the *real* criterion, an offset project proponent[7] must show that the sources of GHG emissions exist, and that the activities resulting in the reduction of GHG emissions took place.[8] Each offset credit under Ontario's offset program represents the reduction of one real metric tonne of $CO_2$e.

#### *Offsets Must Be Additional*

To be considered *additional*, an offset project must achieve GHG emissions reductions that would not have happened under a baseline scenario. A baseline scenario generally describes the level of emissions that would continue to be produced under business as usual operations.

#### *Offsets Must Be Verifiable*

For an offset project to be *verifiable*, emissions reductions must be well documented and transparent enough to be objectively reviewed by a qualified verifier. The process of verification is meant to ensure that applications for offset credits are based on correct information, and that the reductions claimed are the same as the reductions that have been achieved on the ground.

#### *Offsets Must Be Quantifiable*

To be *quantifiable*, an offset project must ensure that reductions are measured and modelled in a reliable and repeatable way, including all relevant sources and sinks. To achieve this, Ontario's protocols are expected to set out specific measurement techniques, standards, and thresholds for acceptable uncertainty based on the best available science and the principle of conservativeness.[9]

### *What Criteria Are Missing?*

In addition to the regulatory criteria listed by the MOECC, the WCI *Offset System Essential Elements Final Recommendations Paper* also recommends that offset projects be assessed for enforceability, permanence, and leakage.[10]

### *Offsets Must Be Enforceable*

To be eligible to apply for offset credits, an offset project proponent must identify the legal ownership of the offset project. Establishing clear ownership rights would allow the Ontario government to pursue enforcement measures where an offset project proponent falls out of compliance with the laws and regulations governing the province's offset program. It would also avoid potential legal challenges over who is entitled to claim the credits flowing from any offset project registered under the program.

### *Offsets Must Be Permanent*

A permanent reduction is one that is not *reversible*. Reversal in the offset context is generally understood to describe situations where emissions removed from the atmosphere through sequestration are subsequently released (see section 4.4.1 of Chapter 4 of the ECO's 2017 Greenhouse Gas Progress Report).[11] For example, if a stand of trees is planted to sequester carbon and those trees are killed by a forest fire, the carbon that was removed from the atmosphere and stored by the trees would be released back into the atmosphere. This would negate any climate change mitigation achieved by the project.

The permanence criterion addresses the risk of reversal by setting a minimum amount of time that an offset project must store or sequester GHG emissions, and by establishing predetermined risk factors and other measures that minimize the impact of reversals on the overall mitigation achieved by offsetting.

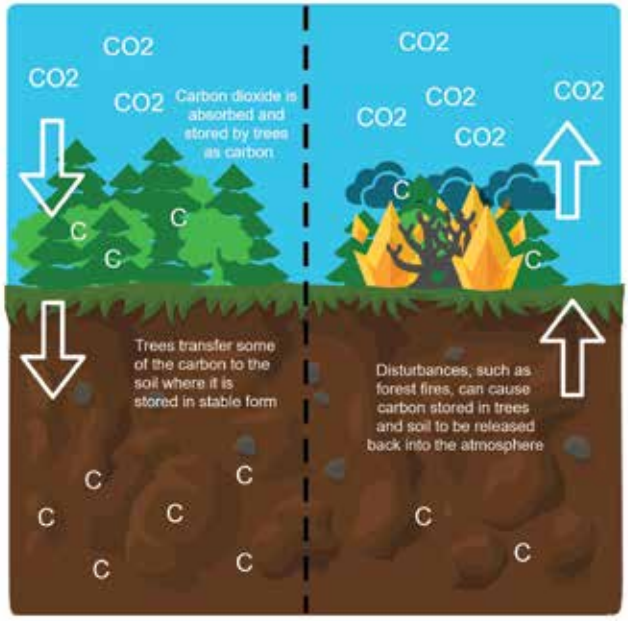


**Figure B2.** Risk of reversal in carbon sequestration by trees.

Source: Environmental Commissioner of Ontario.

### *Offsets Must Account for Leakage*

Leakage occurs when an offset project in one location results in increased emissions in another location (e.g., where the harvesting of trees is shifted outside the boundary of a protected forest area). To reduce the risk posed by leakage, offset project proponents must conduct an assessment of potential leakage for each offset project. If an assessment shows that leakage is above the acceptable threshold, the project proponent must apply a *leakage factor* to discount the number of tonnes of offset credits that may be claimed. For example, British Columbia applies a default leakage factor when calculating forest offset credits, which assumes that 50% of offset credits generated are invalid as a result of leakage. On the other hand, California estimates leakage using a default 20% leakage factor applied to the difference in harvest volume for sequestration projects relative to the baseline (for further discussion of leakage in the forestry context, see section 4.6.7 of Chapter 4 in the ECO's Annual Greenhouse Gas Progress Report).

## B3 Offset Credit Creation in Ontario

The main steps involved in creating offset credits for use in Ontario's cap and trade system are:

1. Account creation;
2. Project registration;
3. Project implementation (monitoring, reporting and verification); and
4. Applying for offset credits.

As noted in section 4.5 of Chapter 4 of the ECO's 2017 Greenhouse Gas Progress Report, when we talk about *Ontario offset credits*, we are describing an offset credit that is approved and issued by the Ontario government for use in Ontario's cap and trade system. In order to be approved, the offset credit must comply with an approved Ontario offset protocol, and must result from an offset project located in a qualifying geographic area (i.e., somewhere in Canada, other than in Quebec).

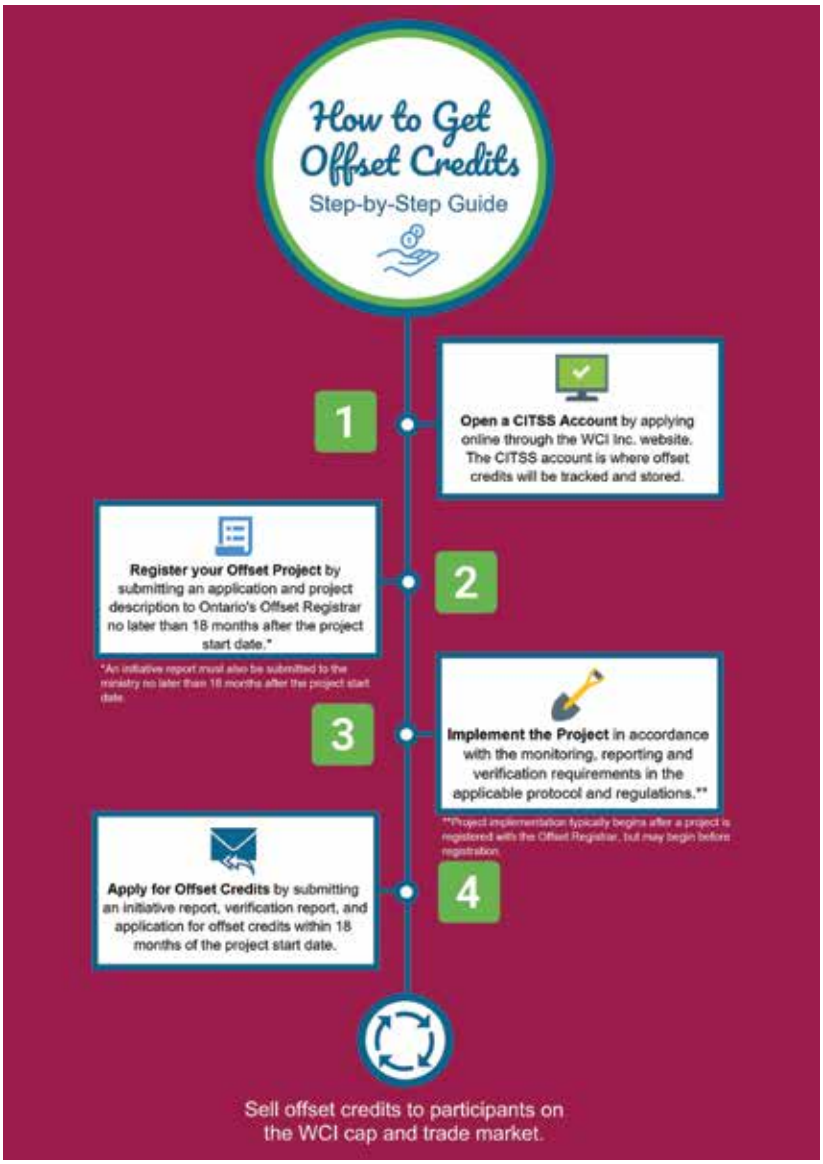


**Figure B3.** Process for obtaining offset credits under Ontario's offset program.

Source: Environmental Commissioner of Ontario.

## B3.1 Step 1: Creating an Account in the Compliance Instrument Tracking System Service

An offset project proponent seeking to be issued offset credits for use in Ontario's cap and trade system must create an account in the Compliance Instrument Tracking System Service (CITSS) hosted by the Western Climate Initiative, Inc. (WCI, Inc.).[13]

CITSS assigns a unique serial number to each tonne of GHG emissions in the system, and tracks emissions allowances and offset credits from the point of issuance to retirement (including all transfers between and among registered participants, as well as the cancellation of invalid offset credits).

Offset credits that are issued for an offset project will go into the project proponent's CITSS account. Having a CITSS account is a prerequisite for registering an offset project in the Ontario Offset Registry.

### *The Ontario Offset Registry*

The Ministry of the Environment and Climate Change plans to establish an Offset Registry as an online website which will be the public registry of compliance offset projects eligible to apply for Ontario offset credits.

The Offset Registry will contain things like:

- the name and contact information of offset project proponents;
- the name(s) and location(s) of the facility (or facilities) where offsetting will take place;
- applications for offset initiative registration;
- initiative reports and verification reports (see section B3.3 below);
- notice of decisions to issue Ontario offset credits;
- requests from the ministry for additional information in response to offset credit applications, and any responses thereto; and
- links to all government forms and documents associated with developing and running offset projects (including application forms, offset protocols, and other guidance documents).

## B3.2 Step 2: Registering an Offset Project

Registration with the Ontario government is another mandatory step in order for an offset project to be eligible to generate offset credits. An application for registration is made to the Offset Registrar by submitting an application and offset project description. Application materials have to be submitted within 18 months after the offset project start date or the day the applicable protocol is published (whichever comes later). Registration must be completed prior to submitting the first annual *initiative report* for the project (see section B3.3 below for discussion of initiative reporting).

Generally, all applications for registration will contain:

- the name and contact information of the proponent;
- the title and description of the offset project, including project location within Canada;
- the Ontario offset protocol applicable to the offset project;
- an estimate of the annual and total GHG emissions (over the crediting period) in metric tonnes of $CO_2e$;
- the duration of the offset project and the estimated start date;
- the signature of the proponent and the date of the application; and,
- a declaration attesting that the offset project will be undertaken as required by regulation and the applicable Ontario offset protocol, and that the information provided is accurate.

Upon receipt of application materials, the Offset Registrar will decide whether to register the offset project on the Offset Registry or not. Even if an offset project is approved for registration, there is no guarantee that the project will succeed in creating valid offset credits. In other words, registration is necessary but not sufficient to achieve credits; a number of other requirements need to be met before a project starts generating credits.

### *What About Stakeholder Input?*

In the current program design, proponents are not required to consult with or engage stakeholders before applying to register an offset project. This means that local community members may not get a say in the project's design, and proponents may be missing out on valuable local and traditional knowledge about the project location. It also means that the project may have unintended socio-economic or environmental impacts that could be avoided through community involvement.

Other programs, such as the Gold Standard and the Climate, Community and Biodiversity Alliance's Project Design Standards, have specific requirements and procedures for stakeholder consultation. Stakeholder consultation can be carried out through public meetings, information sessions, or mail-in questionnaires, among other means.

**To increase the likelihood of stakeholder buy-in and to ensure that projects respect the interests of those that stand to be affected, the ECO believes a stakeholder consultation requirement should be built into the program design, to take place before offset projects are registered.**

Photo credit: Shutterstock, 2018.

### *Lessons from Quebec: Why Aggregation is Key*

Offset project proponents have the option of *aggregating* projects that belong to the same class of offsets (i.e., the same Ontario offset protocol must apply to each offset project in the aggregation). Aggregation is the bundling of smaller offset projects which, due to financial and other constraints, on their own would not be able to participate in Ontario's offset program. Aggregating allows small companies, organizations, and/or individual landholders to work together to generate sufficient emissions reductions to meet the minimum requirements of the offset program and to earn a profit from the award of offset credits. The aggregation of projects is also meant to reduce duplication and inefficiencies in the registration process and increase participation in the offset program.

The average offset project in Quebec achieves only 5 to 10 kilotonnes of GHG reductions per year[14] (for comparison, most projects registered in Alberta's offset program reported emissions reductions of between 50 to 200 kilotonnes per year, with some exceptions based on project type).[15] The costs of developing an offset project are high regardless of the size of the project, and expertise in offset development is generally limited. By banding together smaller projects under the umbrella of a collective, groups such as Coop Carbone have been able to reduce transaction costs and help develop and finance aggregated offset projects in Quebec. This option is particularly important for individual landowners and small farming operations wishing to develop offsets on their land. Aggregating could allow more money to flow to individuals and smaller enterprises to provide a meaningful source of revenue to rural Ontarians.

## B3.3 Step 3: Implementing an Offset Project

Normally an offset project proponent will proceed with project implementation after successfully registering with the Offset Registrar.[16] Once a project is registered, the proponent must begin monitoring and collecting data to satisfy annual reporting obligations.

### Initiative Reporting

Each offset project proponent will be required to follow the monitoring and quantification requirements specified in the applicable protocol. Protocols are expected to specify what data proponents must collect for their initiative report. The initiative report details annual reductions achieved by the project from the start date and must be submitted to the Offset Registrar no later than 18 months after the project begins.

For the duration of the project, each full year from the start date constitutes a reporting period requiring an initiative report.[17] If an initiative report is not submitted within the required time, the GHG emissions reductions reported in the initiative report will not be eligible for the issuance of offset credits for that period.

### Verification Process and Reporting

After completing the initiative report and submitting it to the MOECC, the offset project proponent must pass the report on to a third party verifier. Only those organizations that meet the qualifications set out in the *GHG Reporting Regulation*[18] will be eligible to provide verification services under the Ontario offset program.[19]

Generally, the verifier's job is to review the initiative report in accordance with ISO 14064-3 and to visit, at least once in respect of each initiative report, the site where the offset project in question is being undertaken.[20] After conducting its review of the initiative report and any necessary site visits, the verifier must produce a verification report. The verifier may issue a positive verification report of a submitted initiative report if the verifier is satisfied that:

- there is a reasonable level of assurance that the report contains no material discrepancy;
- the percentage of error committed in applying quantification, surveillance or measurement conditions is not above 5%; and
- the other conditions of the applicable Ontario offset protocol and all applicable regulatory requirements are met.

If a verifier finds that the percentage of error in an initiative report is above 5%, the offset project proponent must correct the initiative report and submit it again for verification before sending it to the Offset Registrar. If the percentage of error is below 5% and the Verification Report is positive, the project proponent is free to submit their initiative report, verification report, and a completed application form for the issuance of offset credits, so long as these documents are submitted no later than six months after the end of the reporting period.

## B3.4 Step 4: Applying for Offset Credits

To apply for offset credits, an offset project proponent with a project registered in the Ontario Offset Registry must submit their (1) initiative report, (2) positive verification report, and (3) application for offset credits to the MOECC for review and approval no later than six months after the end of the annual initiative reporting period. Once these materials are received, the ministry will make a decision on whether to issue offset credits for the period covered by the initiative report. During the review, the ministry may request additional information and clarifications from the offset project proponent, and where necessary, may ask the proponent to revise the materials.

Credits will only be issued where the ministry is satisfied that all regulatory requirements of the Ontario offset program have been met and the project conforms with the applicable offset protocol. If an application for credits is successful, the credits will be issued by the ministry and entered into the CITSS account of the project proponent.[21]

### *Sequestration vs. Non-Sequestration Offset Projects*

The number of credits awarded for a particular offset project will depend on whether the project can be categorized as a *non-sequestration* or *sequestration* offset project. A sequestration offset project involves the *capture and storage* of atmospheric GHG emissions through natural or artificial processes. In the planning thus far, Ontario's sequestration offset protocols focus on bio-sequestration in the forestry and agriculture sectors. A *non-sequestration* offset project is any project that results in a reduction of GHG emissions from the atmosphere other than through the capture and storage of atmospheric GHG emissions (i.e., *capture and destruction* or *avoidance*). Examples of non-sequestration offset protocols Ontario has proposed to date include the capture and destruction of methane from coal mines and landfills. Non-sequestration offsets do not suffer from the same permanence concerns that sequestration projects do (see section B2 above for discussion of the permanence criterion).

An offset project proponent who successfully applies for offset credits from a *non-sequestration offset project* will be given offset credits for 97% of the total emissions reductions reported and verified for the period covered by the initiative report. These credits will be placed in the proponent's CITSS account. The offset credits corresponding to the remaining 3% of the GHG emissions reductions for the period covered by the initiative report are to be placed in the buffer account (see section B4.1 below for more information on the buffer account). The credits placed in the buffer account will be used to replace offset credits that are found to be intentionally reversed, fraudulent, or not created in accordance with the regulations, and that are not replaced by the offset project proponent upon request.

Offset project proponents who apply for offset credits from *sequestration offset projects* will be issued offset credits for each metric tonne of $CO_2e$ removed from the atmosphere as a result of the project, minus a certain number of the offset credits representing the percentage risk of reversal identified in the applicable protocol. The offset credits removed in keeping with the specified percentage risk of reversal will be transferred into the buffer account. All other credits are placed in the CITSS account of the offset project proponent.

## B3.5 Expiry

Offset credits never expire. CITSS account holders can continue to store offset credits in their accounts until they are surrendered for retirement or invalidated as a result of reversal, error, or fraud.

### B3.6 Crediting Periods

A crediting period is the number of years for which an offset proponent may apply for offset credits for an eligible offset project. The Ontario offset protocols are expected to set out crediting periods for different classes of projects, and crediting periods will vary based on whether the offset project is a sequestration or a non-sequestration offset.

**Crediting Periods for Sequestration vs. Non-Sequestration Offsets**

A non-sequestration offset project will have a continuous crediting period of 10 years (i.e., offset credits cannot be created after 10 consecutive years unless a new crediting period is approved). On the other hand, a sequestration offset project will have a continuous crediting period of 30 years.[22] This difference is likely due to the view that non-sequestration offsets will attract sufficient investment over shorter periods, whereas sequestration projects require longer term investment and achieve GHG reductions over longer periods of time.

**Start Dates for Crediting Periods**

An offset project's crediting period begins on the date of the first reductions in GHG emissions from the project.[23] As a general rule, emissions reductions must be reported and verified annually for the duration of the crediting period in accordance with the applicable offset protocol.[24]

**Crediting Period Renewals**

An offset project proponent may request the renewal of a crediting period if the offset project continues to meet the requirements of the regulations and the applicable offset protocol after the initial crediting period has expired. At a minimum, to renew the registration of a project, the project must be re-evaluated for additionality, baselines, quantification and monitoring methods based on the most recent version of the protocol. Where an application for renewal of registration is submitted for an offset project that continues to meet all of the necessary criteria, the project may be registered for an additional crediting period.[25]

The rationale behind crediting periods is to ensure that projects registered in the Ontario offset program are actually achieving the reductions they are designed to achieve, and that the projects are responsive to the most current science and policies respecting baselines and additionality. The longer the crediting period, the greater the risk that a baseline may become outdated or out-of-step with current understandings.

## B4 Mechanisms of Enforcement

### B4.1 The Buffer Account

The buffer account is a holding account for a share of all offset credits issued to offset project proponents by the Ontario government. It serves as an insurance mechanism in cases of intentional and unintentional reversals (i.e., where the offset credit no longer represents a reduction in carbon emissions). For sequestration projects, it ensures against unintentional reversals (e.g., in the case of a forest fire for a forestry project). It also insures against situations where offset credits generated by non-sequestration offset projects are found to be created in error or fraudulently and are not replaced by the project proponent as required.

In effect, the buffer account functions to shift liability for intentional reversals and fraudulent behaviour back to offset project proponents, while also preserving the legitimacy of the offset program by building in contingencies for the risk of unintentional reversals.

## B4.2 Enforcement Mechanisms in the *Climate Act*

The *Climate Change Mitigation and Law Carbon Economy Act* (the *Climate Act*) includes a number of general provisions which could be used to ensure compliance in the offset program.

### Conviction of Offences

Section 50 of the *Climate Act* makes it an offence to contravene or fail to comply with the act or the regulations or any order made under the act, or to fail to pay a fee required by the act (except if it relates to an initial shortfall in a market participant's account, in which case other administrative penalties apply; see subsections 14(7) and 14(8) of the act).[26] Those convicted of an offence will be subject to penalties outlined in the *Climate Act*.[27] Depending on the offence, penalties for individuals can range from fines of $50,000 to $6 million, imprisonment for up to five years, or imprisonment combined with a fine. Similarly, corporations can be subject to penalties ranging from fines of $250,000 to $10 million. A court also has the discretion to impose penalties equal to the amount by which the convicted person benefitted from the wrongdoing.[28]

### Administrative Penalties

The *Climate Act* also establishes administrative penalties to ensure compliance, and to prevent cap and trade participants (including participants in the offset program) from deriving any economic benefit from contravening a provision of the *Act* or the regulations.[29] Those who commit administrative contraventions will be subject to what is referred to as "absolute liability." This means that a person has to pay the penalty even if they took all reasonable steps to prevent the contravention, or made an honest and reasonable mistake about what the law and regulations required. An administrative penalty can be as high as $1 million. Failure to pay could result in the MOECC ordering a person's cap and trade accounts to be suspended and taking away their authority to deal with emissions allowances and offset credits.

### Compliance Orders

Section 58 of the *Climate Act* allows a provincial officer to issue an order to any person who the provincial officer reasonably believes has contravened a provision of the *Act* or the regulations, a condition of registration under the *Act*, or a provision of an order made under the *Act* (other than an order of a court). A compliance order may require the person to whom it is directed to, among other things;

- comply with the provision or condition;
- prevent the continuation or repetition of the contravention;
- secure, whether through locks, gates, fences, security guards or other means, any land, place or thing;
- monitor and record, and report on the monitoring and reporting undertaken; or
- submit a plan for achieving compliance with the provision or condition, including the engagement of contractors, consultants and others, satisfactory to a provincial officer.

## B4.3 Replacing Offsets in the Case of Reversals

### Intentional Reversals, or Reversals Due to Error or Fraud

In addition to the enforcement provisions of the *Climate Act*, the regulations will also have specific provisions that provide the details on when an offset project proponent must replace offset credits as a result of intentional reversal, error, or fraud. Specifically, the offset project proponent will be required to replace offset credits issued for an offset project where;

- an intentional reversal has occurred;
- because of omissions, inaccuracies or false information in documentation provided by the applicant, the GHG

emissions reductions for which the offset credits were issued were not eligible for credits;

- it is found that offset credits were applied for under another program for the same reductions as those covered by the application for offset credits under Ontario's program; or
- the offset project was not carried out in accordance with the provisions of the Ontario offset protocol and/or the regulations.

In any of these cases, the MOECC will suspend the offset project proponent's CITSS account and provide notification of the invalid offset credits. If the project proponent fails to replace each invalid offset credit within 30 days of receiving notice, the credits will be removed from the proponent's account by the MOECC, the project registration cancelled, and the project removed from the Offset Registry.

### *What if the Invalid Credits Have Already Been Transferred to Another CITSS Account?*

If invalid offset credits have already been transferred to another party and the offset project proponent does not replace the invalid credits within the 30 day notice period, the MOECC will replace the invalid offset credits with an equivalent number of offset credits from the buffer account, and will cancel the offset credits in the buffer account that have been rendered invalid by the intentional reversal, fraud or error. This measure is intended to protect the interests of innocent third parties while preserving the validity of the offset program. An administrative penalty may apply to participants who transfer invalid credits to the CITSS account of another participant.

**Unintentional Reversals**

If an offset credit project experiences a loss in carbon sequestered due to an *unintentional* reversal (rather than intentional reversal, error or fraud), the ministry will retire from the buffer account a quantity of Ontario offset credits equal to the total number of tonnes of GHGs reversed. The ministry will also invalidate the offset credits in the buffer account that have been rendered invalid by the unintentional reversal.

## B4.4 Enforcement Provisions Set Out in Ontario Offset Protocols

Though at the time of writing Ontario had only released one of its protocols, the province may be required to establish provisions in its protocols that deal with other technical issues relating to the replacement of offset credits (beyond provisions relating to replacement contained in the regulations). For example, the WCI suggests that protocols should set out the requirement to create monitoring systems; risk mitigation approaches; and contingency plans specifying how, in the event of an intentional reversal, any invalid offset credits will be replaced by the proponent. Further, contingency plans should be drafted to include precise mechanisms for replacing credits at the time a reversal is identified, regardless of whether the proponent is solvent, exists in its original form, or has ownership/responsibility for the project.

# B5 Federal and International Offset Policies and Programs

## B5.1 The Pan-Canadian Offset Framework


First Ministers' Meeting, 2016. Prime Minister Trudeau announces the *Pan-Canadian Framework on Clean Growth and Climate Change*.

Photo credit: Adam Scotti. Photo provided by the Office of the Prime Minister of Canada © Her Majesty the Queen in Right of Canada, 2017.

The Canadian government is working with the provinces and territories to develop a *Pan-Canadian Offset Framework* as part of the *Pan-Canadian Framework on Clean Growth and Climate Change* (see Chapter 3 of the ECO's 2017 Greenhouse Gas Progress Report for more information on the latter). On March 17, 2017, the Canadian Council of Ministers for the Environment (CCME) posted a set of draft recommendations on the roles and objectives of its proposed *Pan-Canadian Framework on Greenhouse Gas Offsets* (referred to in this Appendix as the Pan-Canadian Offset Framework). The draft recognized that inconsistent rules and procedures across offset programs in Canada could increase costs for offset project proponents, regulated emitters, and/or verification bodies performing audits of offset projects. For this reason, one of the primary roles of the proposed Pan-Canadian Offset Framework would be to assist provinces and territories in developing offset programs that are compatible and that increase fungibility and transferability of offset credits between Canadian jurisdictions.

The proposed Pan-Canadian Offset Framework will establish guidelines and best practices for offset program design, including criteria for credible and fungible offsets; validation and verification requirements and processes; management of liability, offsets trading and transactions; and retirement or use of offsets. The Pan-Canadian Offset Framework is expected to be non-binding on jurisdictions operating their own offset programs, and to instead focus on facilitating offset project development in jurisdictions where a sub-national program does not exist.

While the Pan-Canadian Offset Framework has yet to be released, it is unlikely to impact negatively on Ontario's program design. In the future, the Pan-Canadian Offset Framework may assist the government of Ontario in administering its program with respect to projects registered in Ontario but located elsewhere in Canada.

Some of the specific issues which the Pan-Canadian Offset Framework will likely address include:

- Clarifying the use of offset credits created by projects carried out under compatible offset programs;
- Understanding the linkage between performance credits, allowances and offsets; and
- Identifying principles and key design requirements such as additionality, quantification, and accounting.

The Pan-Canadian Offset Framework will also seek to:

- Minimize transaction costs associated with offset projects;
- Find ways to support small project developers and enable small projects to enter the market;
- Reward technological innovation and the application of existing technologies in novel ways; and
- Promote environmental integrity by ensuring offset projects comply with existing environmental regulations.

## B5.2 The Western Climate Initiative

The WCI is a collaboration of American states and Canadian provinces that have adopted a common approach toward addressing climate change. Members have been working together since 2008 to establish a regional compliance market for carbon trading across participating jurisdictions. Currently, the WCI includes California, British Columbia, Manitoba, Ontario, and Quebec, although only California and Quebec have officially linked markets under a joint cap and trade system at the time of writing.

### *What Happens When Cap and Trade Markets Link Under the WCI?*

When cap and trade markets link, a single shared market is formed. After linkage, compliance instruments, including emissions allowances and offset credits, can be traded between market participants (including capped emitters and offset project proponents) through the shared CITSS platform. Each partner jurisdiction maintains its own system of regulation for things like registries, protocols, and offset credit issuance, but compliance instruments become fully equivalent and interchangeable amongst all registered participants in linked jurisdictions.

According to Ontario's proposed program design, geographic restrictions will remain: only offset projects located in Canada (but not in Quebec) are eligible to register under Ontario's offset program (and vice versa for Quebec). Similarly, only offset projects in the United States are eligible to register under California's program.

In a linked market, an offset project proponent registered in Ontario's offset program will be subject to Ontario's regulatory framework, but will be free to sell its offset credits to capped emitters from any participating jurisdiction (i.e., California or Quebec). A project proponent located in Ontario cannot, for example, register under California's offset program. Figure B4 illustrates how linked offset programs will operate under the WCI.

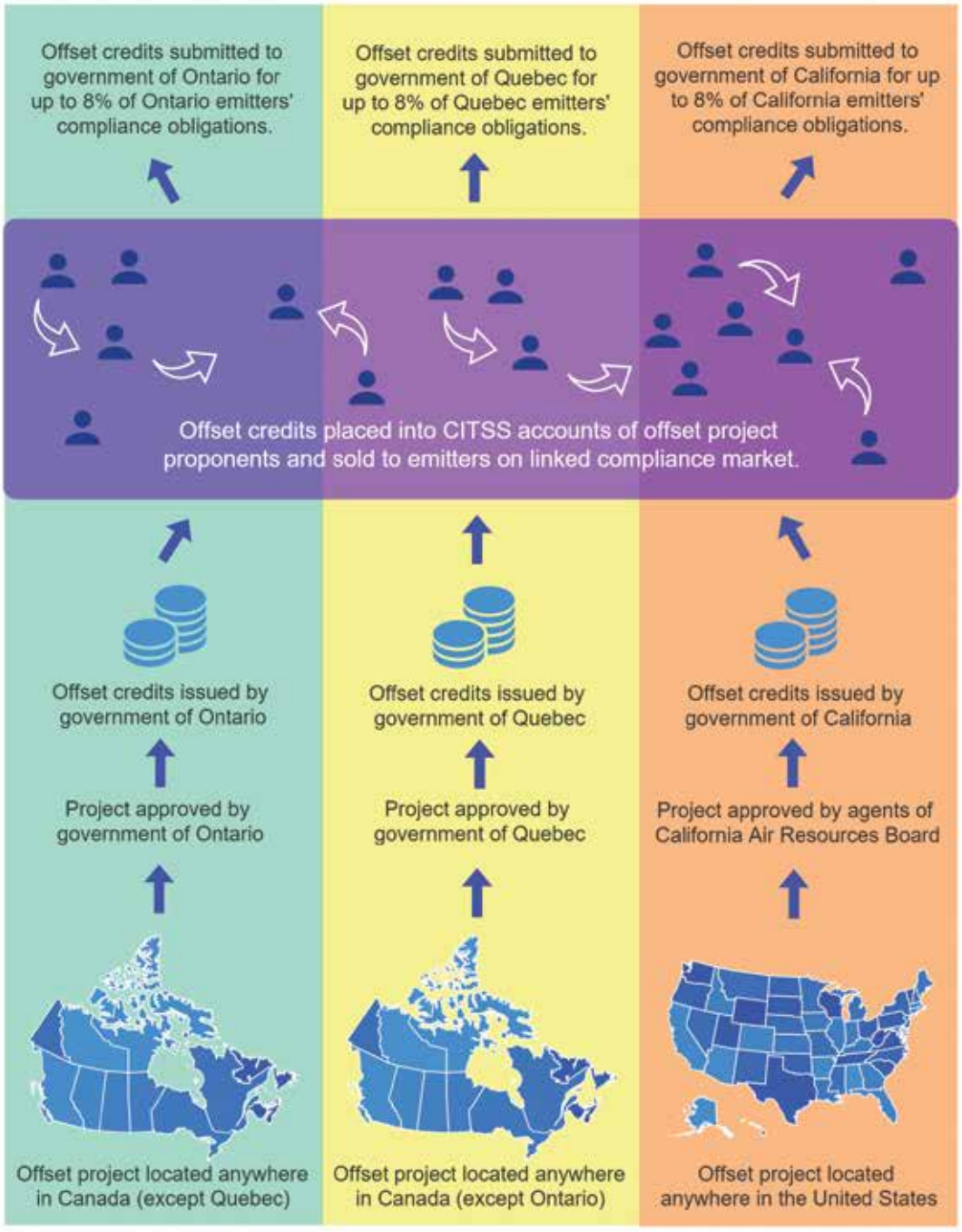


**Figure B4.** Offset programs in the WCI linked compliance market.

Source: Environmental Commissioner of Ontario.

## Endnotes

1. Note that the Kyoto Protocol established a third mechanism called International Emissions Trading ("IET") which allows Annex I Parties to "trade" their emissions by exchanging "Assigned Amount Units" (commonly referred to simply as "allowances").
2. For example, New Zealand allowed CDM credits to be used on its emissions trading scheme until December 2015, when it decided to limit eligible projects to domestic projects only.
3. Subarticle 12 of the California *Cap and Trade Regulation* also allows for linkages with other GHG emissions trading systems after public notice and opportunity for public comment in accordance with the *Administrative Procedure Act* (Government Code sections 11340 et seq).
4. Forest Trends' Ecosystem Marketplace, *Unlocking Potential: State of the Voluntary Carbon Markets 2017* (Washington DC: Forest Trends' Ecosystem Marketplace, May 2017) at 14, online: Forest Trends Initiative http://www.forest-trends.org/documents/files/doc_5591.pdf#. [Accessed October 27, 2017]
5. *Ibid* at 13.
6. *Ibid* at 3.
7. The term "offset project proponent" is used throughout this Report to describe the owner/operator of an offset project or an agent appointed to act on their behalf in fulfilling the requirements of Ontario's offset program. The proposed *Ontario Offset Credits Regulation* uses the terms "offset initiative operator" and "offset initiative sponsor" to distinguish between an owner/operator, on one hand, and an agent on the other. The owner/operator of a project can act as their own agent as well.
8. Note that experts such as Michael Gillenwater of the Greenhouse Gas Management Institute have suggested doing away with the "real" criterion on the basis that it lacks useful and precise meaning, and is adequately captured by the other quality criteria for offsets. See for example Michael Gillenwater, "What is wrong with 'real' carbon offsets?" (2012) 2 *Greenhouse Gas Measurement and Management* 167. The WCI's definition of the "real" criterion is slightly more robust, and states that a "real" offset credit must represent a reduction or removal of one metric tonne of $CO_2e$ resulting from a clearly identified action or decision, that is quantified using accurate and conservative methodologies that appropriately account for all relevant GHG sources, sinks, and leakage risks. The *Final Recommendations Paper* further specifies that sources must be controlled by the offset project proponent.
9. The principle of conservativeness requires the use of more conservative quantification parameters, assumptions, and measurement techniques to minimize the risk of overestimating emissions reductions for a given offset project.
10. While these criteria were originally included in the government's Offset Credits Regulatory Proposal posted to the Environmental Registry in November 2016, they no longer feature in the draft *Ontario Offset Credits Regulation*.
11. However, the proposed *Ontario Offset Credits Regulation* also defines reversal as an error, omission or misstatement made in an initiative report or verification report which causes a number of Ontario offset credits to be created which is greater than the number that should have been created.
12. Note that other risks, including pest outbreaks, disease, and emissions from end-use applications of wood products can also result in the release of forest carbon back into the atmosphere. See section 4.7.7 of Chapter 4 in the ECO's 2017 Annual Greenhouse Gas Progress Report for further discussion of risks associated with forest offsets.
13. WCI Inc. is the non-profit corporation formed to provide administrative and technical services to support the implementation of emissions trading programs by WCI partner jurisdictions.
14. COOP Carbone, "Offsets in Quebec: Current Situation" (presentation to the Ontario Cap and Trade Forum, April 2017), slide 6.
15. CSA Group, "Alberta Emissions Offset Registry Listings" (2017) online: https://www.csaregistries.ca/albertacarbonregistries/eor_listing.cfm. [Accessed October 3, 2017]
16. However, it is permissible to apply for registration before the project start date if an applicable protocol has already been published.
17. For an offset project, or for an aggregation of offset projects, where GHG emissions reductions, avoidances or removals of less than 25,000 metric tonnes $CO_2$ equivalent have been achieved during the 12-month period covered by an initiative report, the offset project proponent may postpone the verification report to the following year. The applicant must submit the annual initiative report and notify the Offset Registrar in writing within six months prior to the end of the relevant reporting period which indicates the emissions reductions, avoidances or removals for that year were below 25,000 tonnes and that the verified initiative report will be submitted the following year covering two years. The applicant must submit an initiative report and verification report within six months following completion of the second year.
18. *Quantification, Reporting and Verification of Greenhouse Gas Emissions*, O Reg 143/16 [*GHG Reporting Regulation*].
19. The qualifications include accreditation under ISO 14065 by a member of the International Accreditation Forum in either Canada or the United States according to an ISO 17011 program, with respect to the sector of activity for the offset project being verified.
20. Generally, for an aggregation, the verifier must visit each of the offset project sites that are members of the aggregation. Despite this general rule, the Ontario government has stated that a reasonable assurance verification for an aggregation offset initiative or a forestry project can be achieved through random spot checks, so long as the areas sampled are representative for the purposes of the *Cap and Trade Regulation*. The use of sampling techniques in place of a site visit must meet the requirements of the applicable protocol to avoid over-estimating the quantity of reductions, avoidances or removals achieved by the project. Sampling techniques for reasonable assurance may include, for example, aerial monitoring (including drones) and/or satellite observations.
21. The Ontario Offsets Registry will not have accounts in which offsets that have been approved will be held.
22. Note that the *WCI Final Recommendations Paper* states that individual crediting periods for sequestration offset projects may not exceed 25 years before a renewal.

23. The crediting period for an aggregation of offset projects will begin on the earliest start date of the emissions reductions of the inaugural members of the aggregation. New members may be accepted into the aggregation; however, the established start date identified in the registration will not change.

24. One exception to the annual reporting requirement is where annual reductions, avoidances or removals are below 25,000 tonnes.

25. However, a non-sequestration offset initiative is not eligible for offset credits for more than three consecutive crediting periods.

26. Contravention of an order relating to an administrative penalty is not an offence within the meaning of the *Climate Act*. The act also establishes liability for directors and officers of corporations that are found to have committed an offence within the meaning of the act.

27. Offences can be distinguished from administrative contraventions based on the quasi-criminal or criminal nature of the former. An offence usually involves some knowledge of wrongdoing, whereas administrative contraventions can be committed in good faith through mistake and/or even where all reasonable steps are taken.

28. The *Climate Act* allows the court that convicts a person of an offence under the act to increase a fine imposed upon the person by an amount equal to the amount of the monetary benefit acquired by the person as a result of the commission of the offence, despite the maximum fines provided.

29. Administrative penalties are effected through orders made by the Director requiring a person to pay an administrative penalty if the Director is of the opinion that the person has contravened or failed to comply with a provision of the *Climate Act* or *Regulations*.