# Saskatchewan Offset Framework Discussion Paper

May 2019



Saskatchewan

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# 1 Introduction

The Saskatchewan Ministry of Environment is developing a provincial carbon offset program to fulfill a commitment the Government of Saskatchewan made in *Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy* (*Prairie Resilience*). The program will create additional value for actions that result in carbon sequestration or reduced greenhouse gas (GHG) emissions, especially from our soils and forests.

The program will provide carbon offset credits to a project developer who uses approved methodologies to reduce, remove, or sequester GHG emissions from the atmosphere. These credits can then be sold to other organizations who are seeking to account for their own GHG emissions. Offset programs incentivize the innovative development of clean technologies, renewable energy, and environmentally sustainable practices.

Saskatchewan already has several regulations in place to address GHG emissions. These include *The Management and Reduction of Greenhouse Gases (General and Electricity Producer) Regulations, The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations,* and the *Oil and Gas Emissions Management Regulations*. The provincial offset program will be available to recognize the reduction, capture, or sequestration of GHG emissions by those who are not already subject to one of these regulations. The program therefore extends the incentive to reduce GHG emissions to all sectors of the economy, especially those that cannot easily be reached using direct regulation. This will help Saskatchewan adapt to a low-carbon economy and strengthen the province's resilience to climate change.

# 2 Purpose of Discussion Paper and Engagement Overview

The Ministry of Environment is committed to developing a made-in-Saskatchewan offset program that best serves the province by engaging participants to gather feedback on key design elements. Through engagement activities, interested and affected parties will be informed about the program, and have opportunities to provide input and voice their concerns.

Offset credits are one compliance option found within *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*. Other compliance options include best performance credits and payment into the provincial technology fund. The Ministry of Environment has committed to ensuring that all three of these compliance options are available by 2021, including a fully functional offset system. To achieve this date, engagement on the design of Saskatchewan's offset system will be conducted throughout 2019. Implementation of the program will begin in 2020, with a goal to have credits available in 2021.

Throughout the coming months, the ministry is planning on holding a number of engagement sessions regarding the development of the offsets program. The first multi-sector plenary session will be held in the spring of 2019, with the intent of sharing information and generating discussion. The input will be

used to support decision-making in the development of the program. Throughout the summer of 2019 a series of sector-specific meetings will be planned to dig deeper into specific considerations for the development of offset protocols in the province. Then, in the early fall a second multi-sector plenary session will be held to provide an overview of the potential provincial offsets program, generate further discussion and gather comments before final decisions are made.

This discussion paper serves as the first step in the ministry's engagement process. The paper describes the features of offset programs and sets the context in which Saskatchewan's offsets program will be developed. This includes an overview of recent provincial and federal policies, outcomes from previous engagement on a provincial offset program, and introduction to the various aspects of an offset program. Questions for consideration are included at the end of each section.

The ministry invites feedback from potential project developers, service providers, First Nations, Métis communities, and other interested organizations on the structure of Saskatchewan's offset program and to what extent it should integrate with other offset and climate change programs in Canada. The questions found throughout the paper will form the basis of the in-person engagement at the upcoming spring session.

Written comments are also welcomed, and can be submitted directly to the Ministry of Environment by **May 31, 2019** to Prairie.Resilience@gov.sk.ca; please use the subject line: **Offset Framework**.

# 3 Background

## 3.1 The Saskatchewan Context

The legislative authority for the creation of a provincial offset program is provided for by *The Management and Reduction of Greenhouse Gases Act* (the Act). The Act, which came into force in full in December 2018, enables the Minister of Environment to create a registry for offset credits and to determine what activities qualify for generating credits.

As part of *Prairie Resilience*, the ministry has introduced the *Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*. These regulations place output-based performance standards (OBPS) on facilities with annual GHG emissions over 25 kilotonnes carbon dioxide equivalent (kt $CO_2e$), with a voluntary opt-in for facilities over 10 kt $CO_2e$ [1] [2]. Regulated entities will be required to meet these performance standards by reducing emissions onsite or by using approved compliance options:

1) Payment into the provincial technology fund at the approved rate;

2) Submission of a best performance credit; and/or

[1] Carbon dioxide equivalent is the mass of carbon dioxide that would produce the same global warming potential as a given mass of a different greenhouse gas or a combination of different greenhouse gases.

[2] http://www.publications.gov.sk.ca/freelaw/documents/English/Regulations/Regulations/M2-01R3.pdf

3) Submission of a provincial offset credit.

Providing regulated emitters with multiple options to meet their performance standards will provide them with the flexibility to choose the mechanism most appropriate for their business.

## 3.2 Offset Programs in other Provinces

British Columbia has had an established offset program since 2010. Unlike Saskatchewan, B.C. does not have an OBPS program in place (with an exception for facilities producing liquefied natural gas)[3]. Instead, B.C. has an economy-wide carbon tax. The demand for offset credits in B.C. comes primarily from the province's *Carbon Neutral Government Regulation*[4], which has required all government operations and publically funded institutions to be carbon neutral since 2010. In order to qualify under their provincial system, offset projects must be located in B.C., be verified and use an approved protocol. The only currently approved protocol in B.C. is for fuel switching. A cancelled protocol previously allowed credits to be earned from the forestry sector. Protocols for vented emissions reductions and organic waste diversion are in development.

Alberta's offset program has been in place since 2007. The Alberta offset program acted as a compliance option for large emitters under the repealed *Specified Gas Emitters Regulation*, and continues this role under the current *Carbon Competitiveness Incentive Regulation*[5]. Both of these regulations establish an OBPS program. Under the current regulation, only offset credits generated in Alberta can be used for compliance by large emitters in the province. Credits generated in Alberta can be purchased outside of the province by interested organizations. Alberta requires third-party verification of offset credits and puts limits on both the expiry of credits and their use by a large emitter in a given year. Alberta currently has 20 approved offset protocols that can be used, ranging from energy efficiency to GHG emission reductions from pneumatic devices.

Quebec is the only other province that currently has an established offset program. Quebec has a cap and trade program that allows offset credits to be used to account for GHG emissions above the absolute cap set for all large emitters. Quebec's offset program is linked with California through the Western Climate Initiative (WCI). This allows offset credits produced in California to be purchased and used for compliance by facilities in Quebec, and vice-versa.

In 2017, Ontario's Liberal Government signed an agreement to join the WCI as part of its cap and trade program. However, the newly elected Progressive Conservative Government cancelled the cap and trade program in July 2018 and is currently in the process of leaving the WCI.

## 3.3 The Canadian Council of Ministers of the Environment

The Canadian Council of Ministers of the Environment (CCME) is a Minister-led intergovernmental forum for collective action on environmental issues of national and international concern. Under the CCME, the

[3] http://www.bclaws.ca/civix/document/id/lc/statreg/14029_01
[4] http://www.bclaws.ca/Recon/document/ID/freeside/392_2008
[5] https://www.alberta.ca/carbon-competitiveness-incentive-regulation.aspx

federal, provincial and territorial governments committed to work together on a pan-Canadian GHG offsets framework. The working group tasked with developing the framework took into consideration the practices of existing programs such those in Alberta and within the WCI. This resulted in a suite of recommendations for best practices that can be used to guide governments in the design and implementation of offset programs while also supporting future alignment of programs across the country.

Saskatchewan and other jurisdictions endorsed the draft pan-Canadian GHG offsets framework, which is expected to be finalized and published later in 2019. Although no government is required to adhere to the recommendations in the framework, Saskatchewan will be taking these recommendations into consideration when developing its provincial offset program.

### 3.4 The Federal Context

On June 21, 2018 the Government of Canada proclaimed the *Greenhouse Gas Pollution Pricing Act*[6] (GGPPA). The GGPPA enables a federal OBPS system that, similar to Saskatchewan's OBPS program, requires reductions in GHG emissions from large emitters. On October 23, 2018, the Government of Canada announced its application of the federal carbon pricing backstop. This included the introduction of an economy-wide carbon tax beginning April 1, 2019 on Saskatchewan, Manitoba, Ontario, and New Brunswick. It also included placement of the federal OBPS, effective January 1 2019, on large industrial emitters in Manitoba, Ontario, and New Brunswick, and on electricity generation and transmission pipelines in Saskatchewan.

The federal government has indicated that it may be developing a federal offset system, with federally-awarded offset credits. The proposed federal OBPS regulations enable these federal offset credits to be used as a compliance option by federally-regulated facilities. Additionally, the Government of Canada's recently released 2019 Budget provides $6 million from Environment and Climate Change Canada (ECCC) for the development and implementation of a federal offset program.

The proposed federal OBPS regulations also enable the use of provincial offset credits as "recognized units" towards compliance for regulated emitters. This could allow credits created under Saskatchewan's offset program to be used by facilities regulated by the federal government. While this could increase demand for Saskatchewan's offset credits, the Government of Canada has been clear that it will only allow the use of recognized units from provincial offset programs and protocols that meet a set of criteria the federal government has established[7]. These criteria are based on recommendations proposed by the CCME in the pan-Canadian GHG Offset Framework. A summary of the criteria can be found in Appendix B.

To date, ECCC has indicated that it will first focus on recognizing protocols for activities that occur across multiple jurisdictions. This includes activities in the Agriculture, Waste, Land Use and Land-Use Change,

[6] https://laws-lois.justice.gc.ca/eng/acts/G-11.55/page-1.html
[7] https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/pricing-pollution/obps-regulatory-proposal-en.pdf

and Forestry sectors. The specific programs and protocols that will be recognized by ECCC will initially be included in the final federal OBPS regulations, which are expected to be published in early 2019.

### 3.5 Previous Engagement on Saskatchewan's Offset Program

The Ministry of Environment held engagement sessions on *Prairie Resilience* in February and March of 2018, with bilateral meetings continuing from April and throughout the summer of 2018. A wide variety of organizations participated in this engagement, which focused on reporting and compliance regulations for large emitters, offset credits, the non-regulated sector, and a resilience reporting framework. Although the scope of the engagement was broad, the ministry received some clear feedback from participants interested in a Saskatchewan offset program. This feedback was summarized in a Report on What We Heard[8] and supplemented by written submissions to the ministry.

Participants suggested that Saskatchewan should look to existing programs in other jurisdictions for best practices and lessons learned. Industry participants suggested that offset credits could be awarded to projects within regulated sectors, as long as those projects were not already subject to GHG regulations. Participants supported the ability of offset producers to bank offset credits. Proposals for the length of time credits could be banked ranged from three up to 10 years, with some participants proposing no limit on the length of time allowed.

There was also general support for the design of Saskatchewan's offset program to enable trading of offset credits between Saskatchewan and other jurisdictions, both at the national and international level. Industry participants noted that a larger market could lower the cost of compliance, and project developers recognized the opportunity for greater demand for the credits they produce. Some participants believed the program should be designed to recognize early investments and actions to reduce emissions. Other participants felt that retroactively providing credit for emission reductions would complicate administration and verification of offset credits, and could reduce the credibility and value of offset credits in the program.

Participants generally agreed that the offset program needs to be as simple and transparent as possible. Offset developers in the agriculture sector can find it difficult to see value in offset programs given the administrative burden associated with monitoring, verifying and registering offset credits. While there was support to minimize the administrative burden and cost associated with verification, participants recognized that offset credits will need to be well documented and credible. There was no general consensus on if or how aggregators should be integrated into the offset program. Industry representatives recognized the benefit aggregators could have in streamlining transactions for compliance purposes, while offset developers raised concerns that aggregators can lead to a lack of transparency on pricing and can also reduce the value returned to project developers.

Participants indicated that offset protocols should be designed with efficiency and the protocol user in mind, and be published as soon as possible to capture early actions taken to reduce emissions. Proposals

[8] http://publications.gov.sk.ca/documents/66/106725-MNP%20Climate%20Change%20Engagment%20Report%20(April%2023%202018).pdf

for activities covered by protocols included a nitrous oxide emission reduction protocol (NERP), renewable energy and energy efficiency projects, and zero-tillage practices. Several participants proposed that the scope of land-based protocols should include a whole-system approach that would account for any carbon releases associated with implementing the offset project, including activities such as forest and grassland conversion and the draining of wetlands. Further, participants identified the current difficulty of and future need for understanding the quantification and sequestration potential of land-based carbon sinks such as grasslands and wetlands. Scientific rigour in offset protocols will be required for Saskatchewan offset credits to be considered credible and accepted at the international level.

Additionality has and continues to be a contentious topic. Some participants supported the traditional implementation of additionality, in which projects must go beyond "business as usual" practices. Others noted that this requirement lacks efficacy in activities with dynamic annual emissions and for which there is no static baseline scenario to compare against. In the latter case, some participants proposed that rather than focusing solely on providing compensation for projects that demonstrate additionality, the offset program should also provide incentive for existing activities that reduce emissions but are facing economic pressures that would end or alter the activity.

Feedback received from the ministry's first round of stakeholder engagement will be incorporated into 2019 engagement initiatives to ensure interested organizations have the opportunity to contribute to the design of the offset program.

# 4 Key Considerations for Saskatchewan's Offset Program

Since the Ministry of Environment's previous engagement on offsets, the regulatory landscape in Canada has shifted considerably. Four provinces are now subject to a federal carbon tax, and the Government of Canada has introduced a federal OBPS program in Ontario, Manitoba, New Brunswick, and in part in Saskatchewan. Importantly, the federal government has introduced the option for provincial offset credits to be used as "recognized units" under the federal OBPS system, should those credits meet the federal criteria.

While developing Saskatchewan's offset system, two critical aspects need to be considered: the ease with which offset credits can be generated and recognized, and the size of the market into which those credits can then be sold.

Within the borders of Saskatchewan, *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations* create the local market for offset credits. This market consists of regulated emitters who may choose to use an offset credit as an option to meet their compliance obligations. The size of this market, and therefore local demand for offset credits, is influenced by a few factors. For one, the regulated emitters have other compliance options available, including best performance credits and payment into the provincial technology fund. Additionally, the emissions thresholds in the regulations were designed to be technically achievable. This means a regulated facility may choose to reduce emissions, rather than make use of an alternative compliance option such as an offset credit.

The ability to use provincial credits as a "recognized unit" in the federal government's OBPS program provides an opportunity for Saskatchewan to expand its market beyond provincial borders. Regulated facilities in Ontario, Manitoba, and New Brunswick could use a Saskatchewan offset credit as a way to meet their compliance obligations. However, in order for Saskatchewan offset credits to be eligible as recognized units, they must meet the criteria established by the federal government.

The Government of Canada has used the pan-Canadian GHG offsets framework developed by the CCME as a starting point for the criteria governing recognized units and federal offset credits. The final criteria proposed in the draft federal OBPS regulations may be more stringent than Saskatchewan would prefer for its own offset system.

It is important to consider this balance throughout the design of Saskatchewan's offset system. While certain decisions may enable more provincial offset credits to be generated, they may also reduce the ability of those credits to be sold outside Saskatchewan. The implications of the federal system are highlighted throughout the offset program design elements in the remainder of this paper.

# 5 Core Design Elements of Offset Systems

The development of any offset program will incorporate, to some extent, certain design elements to help ensure that offset credits are credible and represent a quantifiable reduction in GHG emissions. The core design elements below reflect those found in the CCME pan-Canadian GHG offsets framework and will be taken into consideration to help guide the design of Saskatchewan's offset program.

### *Real*

An offset credit should represent a one tonne reduction or removal of GHG emissions resulting from a clearly defined action or decision.

### *Verifiable*

An offset project should be well documented and transparent so that it can be objectively reviewed by a third-party verifier.

### *Additional*

The activity undertaken for an offset project should be additional to ensure the environmental integrity of offset credits. The specific criteria that define "additionality" differ from program to program, but they will typically include one or several of the following: regulatory additionality (the action is not required by law); common-use additionality (the technology or activity is not in common use); financial additionality (the project is not economically viable without the revenue generated from selling offset credits); and/or the offset credit helps to overcome other significant non-financial barriers to implementation.

### *Permanent*

GHG emission reductions from an offset project should be permanent or guarded against reversal. If reversals are identified, there should be provisions in place to ensure the reduction or removal is replaced and the environmental integrity of the offset program is maintained.

*Enforceable*

Offset project developers should be required to comply with approved quantification protocols and offset program requirements. This can be done by establishing sufficiently clear and understandable requirements in program design, protocols and reporting forms.

*Single Use*

An offset program should have transparent record keeping and best accounting practices to ensure that offset credits are only used for compliance once to avoid double-counting of emission reductions.

A summary of how the Government of Canada intends to apply these core design elements to federal offsets and recognized units is provided in Appendix B.

# 6 Start Dates, Crediting Periods and Baselines

## 6.1 Project Start Date

The project start date can be defined and implemented in an offset program in two different ways. The first option defines the project start date as the date the project first began operation. Limitations can be placed that only allow projects which commenced after the initiation of the offset program to be eligible for generating offset credits, or more open criteria can be implemented that allow projects to earn credits even if they started prior to introduction of the offset program.

Alternatively, the project start date may be defined to be the date that the activity being undertaken is registered as an offset project in the offset program. By design, this date cannot predate the start of the offset program. The rules governing eligible projects could restrict eligible projects to only those which began after initiation of the offset program, or allow for earlier projects to also enter the system.

Eligible program start dates are often tied to a regulatory announcement regarding an offset system. For example, *Prairie Resilience* signaled that Saskatchewan would create a provincial offset system. As *Prairie Resilience* was released in 2017, that year could be used to set eligibility criteria for project start dates. Alternatively, the *Management and Reduction of Greenhouse Gases Act* was initially passed in 2010, and included provisions for offset credits. This could justify 2010 as an appropriate reference year for eligible project start dates. Saskatchewan could also consider allowing projects which began before either of these dates to enter into the program as eligible projects.

The Government of Canada has currently proposed that only offset credits awarded to projects which begin in 2017 or a subsequent year may be used as recognized units. Awarding offset credits for projects before this date could reduce the credibility of Saskatchewan's credits and the program as a whole, and limit the ability for Saskatchewan's credits to be used as federal recognized units.

## 6.2 Crediting Start Date

The crediting start date for an offset project marks the date that the project is first eligible to generate offset credits. The crediting start date is related to and can be the same as the project start date, depending on how the project start date is defined in the program. For instance, the crediting start date could be established as the day that the activity is first registered in the offset program. Alternatively, the crediting start date may be set earlier than when the project is registered in the program and may align with the first day of operation for the activity, subject to the program start date.

As with the project start date, only offset credits awarded in or after 2017 are eligible to be used as recognized units in the federal government's system.

## 6.3 Crediting Period

The crediting period dictates the length of time an offset project can earn offset credits. The length of the crediting period is predetermined for each type of activity undertaken and can provide certainty to project developers. The crediting period is dependent on how long the project conditions are believed to be valid. For instance, in order to satisfy the criteria of additionality, the action taken or technology used should not have become common practice. At the end of the crediting period, any project that no longer meets all criteria for the program will no longer be eligible to earn offset credits.

The length of a crediting period can vary by protocol, though the crediting period used in current offset programs typically falls between seven and 10 years. Restricting a program to shorter crediting periods makes it difficult to demonstrate the influence the offset credits had on the decision to move forward with the project. Allowing longer crediting periods can make it difficult to demonstrate the activity undertaken by the project has not become common practice. Certain types of projects, such as those involving carbon sequestration in soils, forests, or deep saline aquifers, can have longer crediting periods to recognize that carbon sinks must be maintained for longer periods of time to ensure there is no offset reversal.

The Government of Canada has proposed several criteria regarding crediting periods. First, crediting periods are to be determined based on a length of time during which the established baseline is expected to be valid (see section 6.6 for more information on baselines). Second, there is a maximum crediting period of 10 years for non-storage based projects, and not more than 30 years for storage-based projects. Third, there is to be a minimum crediting period of five years.

## 6.4 Crediting Period Extensions

An offset program can be designed to allow project developers to extend the crediting period for their project to continue earning offset credits. At minimum, a project may be eligible for an extension if there is still an approved quantification protocol, the project developer can show that the project still meets the requirements of that protocol, and the project in question is in good standing in the offset program.

As with the original crediting periods, crediting period extensions can vary in length. For example, a crediting period may be extended up to the length of the original crediting period. Sequestration projects are unique in that they may be renewed for longer periods. For example, afforestation projects may need 60 years or more to reach the maximum potential sequestration levels. In addition, the number of crediting period extensions a project developer may apply for can vary. A program may only allow a single crediting period extension, or allow multiple extensions as long as all criteria are met.

The federal government does consider crediting period extensions in its acceptance of offset credits as recognized units. To be eligible, any process for extension or renewal of a crediting period must be based on a rigorous and full evaluation of all requirements and must be established in the quantification protocol.

## 6.5 Baselines for Offset Projects

The number of offset credits earned by a project is determined using an approved quantification protocol and involves comparing the actual GHG emissions emitted or sequestered by an offset project to a baseline. The baseline is intended to consider what the GHG emissions or reductions would have been if no offset project was implemented. For efficiency, offset protocols may determine which sources and sinks need to be considered when establishing the baseline for a project. If a source or sink is not altered by implementing the project, it may not be included in the scope of the baseline. An approved quantification protocol may set the baseline for each project independently, or the baseline may be determined using an average baseline consisting of a set of data from many similar activities.

The baseline for an offset project will typically remain constant for the duration of the initial crediting period. If an offset project developer is eligible for a crediting period extension, a new baseline would need to be established for the project subject to the method outlined in the approved quantification protocol.

### Questions for consideration on start dates, crediting periods, and baselines:

How would the choice of the program start date affect your interests?

How should the project start date and crediting start date be implemented in the Saskatchewan offset program?

Are there data concerns associated with allowing earlier project and/or crediting start dates?

Does a crediting period of seven to 10 years for non-sequestration projects present limitations? What about opportunities?

Should offset projects be provided the opportunity for credit period extensions? If yes, should projects be limited to one extension over the life of the project?

What criteria should be considered to determine the baseline for an offset project under an approved protocol?

# 7 Eligibility, Ownership and Aggregators

## 7.1 Eligible Greenhouse Gases

Only certain types of GHG emissions are eligible to earn offset credits through an offset program. For instance, water vapour is technically a greenhouse gas, but it would not be included in the eligible GHGs for an offset program[9]. In addition, offset programs require defined global warming potentials (GWPs) for the eligible GHGs to convert them to $CO_2e$ units.

The CCME has recommended that offset programs adopt the set of GHGs and GWPs recognized in the most recent Intergovernmental Panel on Climate Change (IPCC) Assessment Report[10]. However, Saskatchewan's *Management and Reduction of Greenhouse Gases (Reporting and General) Regulations* and *Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations* both use the set of GHGs and GWPs recognized by ECCC in the National Inventory Report[11] (NIR), which does not currently use the most recent IPCC report.

While utilizing the most recent IPCC report to set the eligibility criteria for Saskatchewan's offset program would be proactive, aligning with the coverage in Saskatchewan's current regulations and ECCC would provide consistency across the regulations. Given that offset credits produced in Saskatchewan will be used as compliance options in the Saskatchewan OBPS, priority may need to be given to maintaining uniform accounting of GHG emissions. Additionally, the proposed federal OBPS regulations indicate that the net reduction or removal for offset credits must be based on one or more of the GHGs reported in Canada's most recent NIR, and that GWPs are used that are less than or equal to those in the latest NIR.

## 7.2 Location

Offset programs typically restrict the generation of offset credits to those offset projects that are located within the geographic boundaries of the jurisdiction. However, Saskatchewan may choose to recognize offset projects that occur outside the province – for instance, if a business based in Saskatchewan happens to have a facility just on the other side of a border. If Saskatchewan's offset program accepts offset projects that are not within the geographic boundary of the province, the CCME recommends that there should be appropriate agreements in place with host jurisdictions to avoid double-counting and ensure enforcement powers.

## 7.3 Offset Credit Ownership

One of the traits of a credible offset program is the ability to track ownership of offset credits as they are transferred from project developer to buyer. This can be facilitated by issuing unique serial numbers to each offset credit. Knowing who owns each credit in the program at any point in time can help prevent

[9] Although water vapour is a greenhouse gas, it stays in the atmosphere for a relatively short period of time (days rather than years or decades) before precipitating out. In addition, unlike many other greenhouse gases, water vapour generally is not attributable to anthropogenic sources.
[10] https://www.ipcc.ch/reports/
[11] https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html

the repeated use of individual credits, which could result in double-counting of emission reductions. Ownership tracking also ensures the program runs smoothly without having to validate claims of credit ownership whenever a transaction occurs.

In existing offset programs, an offset project developer must be able to demonstrate legal ownership of the GHG emission reductions resulting from the offset project. The determination of ownership of offset credits created from an offset project may be explicitly stated in an approved quantification protocol and can be verified by a certificate of ownership. When two or more parties have claim to offset credits generated by a project, it is common for ownership to be established through contractual agreement.

The Government of Canada requires that jurisdictional offset programs have a mechanism to ensure clear ownership, with dispute-resolution mechanisms. This must include an offset credit tracking system that enables transparent reporting of information and auditable record keeping.

### 7.4 Aggregators

In some cases, there may be many similar offset projects that are small in scale, which can make it difficult for the project developers to verify and sell the credits they earn at a reasonable cost. An aggregator is a person or company that, through contractual arrangement, works with such project developers who have a small number of offset credits to pool the credits into a sufficiently large volume to reach economies of scale for verification and transaction costs. Aggregation of offset credits can also make the credits more appealing to potential buyers, as it saves them from having to deal with many project developers independently and they can instead make a single payment to one organization.

Aggregators are frequently utilized by offset projects in the agriculture sector, where a project may consist of a single farm. Aggregators can either act as a direct purchaser of offset credits from the small offset projects, or as an agent that represents the smaller projects in transactions in the offset market. If an aggregator conducts bilateral negotiations with project developers, it can be difficult to know if two project proponents are getting the same price for their offset credits.

An offset program that permits the use of aggregators may require additional rules to ensure that communication between project developers and aggregators, including costs and transaction fees, remains transparent.

#### Questions for consideration on eligibility, ownership and aggregators:

How important is it for the eligible GHGs and associated GWPs in Saskatchewan's offset program to align with those in Saskatchewan's OBPS program and Canada's NIR?

Should activities occurring outside Saskatchewan's borders be eligible to earn Saskatchewan offset credits?

What is an appropriate approach to confirm ownership, particularly in multi-owner or lease scenarios?

Should Saskatchewan's offset program allow for aggregation of offset projects?

If aggregation of offset projects is allowed, what measures should be taken to ensure there is transparency?

# 8 Quantification Protocols

## 8.1 Approved Quantification Protocols

Approved quantification protocols provide the detailed, project specific information necessary to meet program and regulatory requirements. This includes outlining the GHG emissions covered for the offset activity and the quantification methodologies that must be used to measure the reductions or removals of GHG emissions. An approved quantification protocol is necessary for any offset project.

Common types of quantification protocols include those for projects related to renewable energy, agriculture, forestry, and waste. These types of projects are often targeted because they help reduce GHG emissions but may be uneconomical without the added revenue generated from offset credits and are in sectors that are not easily subject to regulations.

The Government of Canada has established multiple criteria that must be met in order for an offset protocol to be deemed acceptable. These criteria are summarized in Table 3 of Appendix B.

The most significant federal criteria regard additionality for offset projects. Four additionality criteria are proposed:

1) The protocol is based on reasonable, conservative and justifiable baseline assumptions;
2) The activity is not required by law and any legal requirements in the jurisdiction where the protocol is applicable have been considered when defining the baseline;
3) The technology or project activity is not in common use or is not considered business-as-usual in the relevant industry sector or geographic region; and
4) Project developers demonstrate how the project activity would either not be economically feasible without carbon offset revenue, or that it faces significant non-financial barriers to implementation.

In order for Saskatchewan's offset credits to be considered recognized units by the Government of Canada, all federal criteria must be met.

## 8.2 Adopting New Quantification Protocols

Proponents wishing to earn offset credits must be performing an activity that is covered by an approved quantification protocol in an offset program. There are two main ways in which a protocol can be adopted for use in an offset program. First, the offset program administrator (i.e. the provincial government) may draft protocols internally with the help of hired consultants or sector experts. Alternatively, the offset program may have a public submission process that allows any interested party to submit a draft protocol for review by the offset program administrator. In each case, the process

would typically include a review by a technical review committee before a final protocol is approved and published.

### 8.3 Review and Updating of Quantification Protocols

Quantification protocols that have been approved for use in an offset program should be periodically reviewed to ensure that they reflect the best available science and quantification methodologies. A common approach to this review process is to establish a complete review of all active protocols to be completed within a specified number of years. However, this does not provide the flexibility to update protocols as soon as new methodologies or science becomes available.

An alternative approach is risk-based and varies for different types of protocols. Some protocols cover activities that have a high risk for reversal or new quantification methodologies, while others are based on established and reliable quantification methodologies with a low risk of reversal. This approach allows for high risk protocols to be reviewed more frequently or as needed to ensure they retain the most current best practices. It also allows low risk protocols to be reviewed less frequently and at the discretion of the offset program administrator.

Protocols that have undergone review by the offset program administrator may be left unchanged, updated to reflect improved science or revise errors, or terminated.

### 8.4 Terminating Quantification Protocols

If an approved quantification protocol that has been reviewed is found to no longer meet the requirements of the best available quantification methodology, or the activity has become common practice, the protocol may be terminated. When a protocol is terminated, new projects based on the protocol will no longer be eligible for the offset program. If there are existing offset projects in the program that use a recently terminated protocol, they could be allowed to continue operation until the end of their current crediting period, but would not be allowed to extend the crediting period of the project.

### Questions for consideration on quantification protocols:

**Which quantification protocols should be approved for use at the start of the Saskatchewan offset program to ensure uptake by project developers and an adequate supply of offset credits?**

**How should draft protocol development be considered?**

**What approach to review and update protocols in Saskatchewan's offset program would be most efficient in terms of utilizing available resources and timely incorporation of new science and best practices?**

**What would be the impact on your ability to develop an offset project if Saskatchewan's offset program adopted the additionality criteria set by the Government of Canada?**

Would any of the other federal criteria for eligible offset protocols found in Appendix B inhibit your ability to generate offset credits?

# 9 Validation, Verification and Government Audits

## 9.1 Validation

Validation of offset projects is an optional process that can be incorporated into an offset program. In contrast to verification, which takes place after an offset project has been in operation for a period of time, validation is carried out by a third-party verifier before the offset project begins operation. Validation of an offset project helps ensure that the project will meet all requirements of the offset program and will be unlikely to have issues arise when the project does undergo verification. The most common standard used in the validation of GHG emissions is the ISO 14064-3 Standard. It provides guidance on how validations should be conducted, but is broad enough to be implemented in various programs with varying goals.

The Government of Canada's criteria does not require projects to undergo validation in order for credits generated by the project to be eligible as recognized units in the federal OBPS.

## 9.2 Verification

Verification is commonly accepted as a mandatory process in regulatory offset programs. After the GHG emissions for an offset project have been determined using an approved quantification protocol, the data should be verified to ensure it is complete, accurate, follows the prescribed quantification methodologies, and represents real reductions in GHG emissions. Verification is typically completed by external third-party verifiers and is required to be completed before a project developer can be awarded offset credits. As with the validation process that takes place prior to the project beginning, the ISO 14064-3 Standard may be used to carry out the verification process. Verification must be completed by an offset project prior to every submission for offset credits.

Offset credits that have not undergone some form of verification inherently have a much greater risk associated with them. This can reduce the value that purchasers are willing to pay for these credits. The Government of Canada's criteria for recognized units specifies that a project must undergo third-party verification to a reasonable level of assurance by a verification body accredited at the project level to the ISO 14065:2013 standard by the Standards Council of Canada, the American National Standards Institute, or another member of the International Accreditation Forum.

## 9.3 Requirements for Third-Party Verifiers

Third-party verifiers are responsible for validating and verifying offset projects. They are responsible for ensuring the offset project does not contain any misrepresentations, is accurate, and is transparent.

Depending on the program in question, a third-party verifier may be qualified to perform validation and verification if they have experience in performing verifications and are part of a relevant profession that would provide them with the necessary background knowledge and expertise. Such professions could include professional engineers, registered professional foresters, and professional accountants. As validations and verifications require a broad scope of expertise, a third-party verifier that performs validations and verifications often consists of a team of qualified persons.

Alternatively, or possible additionally, an offset program may require the third-party verifier to be accredited to an international standard in order to be eligible to perform validation and verification. The most common accreditation used is to the ISO 14065 Standard, which outlines the requirements for GHG validation and verification bodies.

This accreditation is currently required for third party verifiers in Saskatchewan's OBPS program. The federal government's criteria for recognized units also requires verification be done by organizations accredited to the ISO 14065 Standard by the Standards Council of Canada, the American National Standards Institute, or any other accreditation organization that is a member of the International Accreditation Forum.

### 9.4 Government Audits

The ministry may perform audits on active offset projects periodically to ensure compliance with offset program requirements. Audits could also occur when a review of documentation indicates inconsistencies, such as missing data or an inappropriate quantification methodology. Offset project developers are normally provided written notice of an impending audit and are expected to cooperate in the auditing process by providing any requested documentation or data and by working to correct any issues that are identified.

#### Questions for consideration on validation, verification and government audits:

**Should Saskatchewan's offset program require validation of offset projects before they are eligible to earn offset credits?**

**Should priority be given to aligning verification requirements with the proposed federal OBPS regulations?**

## 10 Offset Credit Registry

### 10.1 Accounts and Information

A registry can be implemented as part of the infrastructure and administration of an offset program. Offset registries are valued for the transparency and improved record keeping they provide. Typically, each offset project will have an account in the registry. The account may provide information on the project including: the project start date, the location, the owner, the approved quantification protocol

under which the project is generating offset credits, and the serialized offset credits that have been generated by the project.

In jurisdictions with regulated emitters who use offset credits as a mechanism for compliance, an offset registry may be linked or integrated with a compliance registry for those regulated emitters. This can provide a single portal through which offset credit transactions can be completed and a single public place to disclose all information related to offset project developers, offset projects and offset credits, as well as tracking the compliance balances of regulated emitters.

The Government of Canada's criteria require offset programs to have in place infrastructure to register offset projects, provide information, and track offset credits in order for the credits to be eligible as recognized units.

## 10.2 Maintenance and Cost

The offset registry can be developed and maintained internally or can be contracted out to a third party. Contracting the development and maintenance to a third party can be more efficient and provide added expertise. The Government of Alberta's offset registry is currently administered by CSA Group[12] while the Western Climate Initiative has developed its own infrastructure, known as the Compliance Instrument Tracking System Service (CITSS)[13].

The cost of an offset registry will depend on its complexity and functions. Aside from the up-front cost to establish the infrastructure, a registry will have annual maintenance costs that cover expenses related to account services and maintaining data servers. These annual costs could be recovered through transaction fees from users of the registry. Such transactions could include the serialization of offset credits on the registry or transfer of credits to another party. This method of cost recovery is dependent on and would be affected by the supply of offset credits and rate of transactions. If Saskatchewan does not have a large number of offset credits registered or transferred on a registry, or if the transaction costs represent a large portion of total value of the offset credits, this model of cost recovery may not be sustainable.

## 10.3 Serialization

Offset programs can use unique serial numbers to track the current status and ownership history of each credit on the offset registry. This ensures that a regulated emitter cannot use a previously used credit or a credit owned by someone else for the purpose of compliance. In addition, if Saskatchewan's offset program is linked with another offset program (e.g. another province or a federal offset program), this can help verify that an offset credit does not exist in two registries at the same time.

[12] https://www.csaregistries.ca/albertacarbonregistries/home.cfm
[13] https://www.wci-citss.org/

Although serialization is not necessarily required in an offset program, it can provide many benefits. The federal government's criteria require clear ownership of credits and the ability to ensure credits are not registered in another offset program. Serialization is an efficient way to achieve these requirements.

## 10.4 Buying and Selling Offset Credits

Regulated emitters purchasing offset credits from project developers are expected to form the primary action undertaken within a Saskatchewan offset registry. While offset programs may operate as a free market, the details of the sale of offset credits are usually worked out between the two entities through a contract and are not necessarily available for public viewing on the registry.

The sale or purchase of offset credits may be restricted to organizations within a jurisdiction, or they may be made available for purchase by organizations located outside the jurisdiction. Saskatchewan could seek to link its offset program with those found in other jurisdictions. A larger market would allow offset project developers to seek the best price for their offset credits, but this may remove some of the demand for Saskatchewan offset credits. Linked programs must have similar standards for transparency, additionality, and permanence to ensure offset credits from both programs can be considered equivalent when traded.

Further, an offset program may allow the sale of offset credits to non-regulated entities, such as environmental groups and other environmentally conscious businesses, that may want to voluntarily buy credits to demonstrate environmental stewardship. Regardless of who is allowed to purchase offset credits, the registry should be operated to ensure that credits are only used once for compliance and that they are only registered on one registry at a time.

## 10.5 Expiration of Offset Credits

Offset programs can allow offset credits to be held or banked by an entity for use at a later time. A project proponent may choose to keep the credits generated by the project until the price of the credits rises. Similarly, a regulated emitter may choose to purchase offset credits and bank them for use against compliance obligations incurred in future years. However, unlimited banking of credits can lead to an illiquid offset market in which the participants refuse to sell or buy credits, especially if there is an oversupply of credits in the market. As a remedy, offset programs can implement expiration dates for offset credits to ensure the offset market remains functional. For example, once issued, an offset credit could expire after eight years. Expiration of offset credits can help ensure that new emissions reductions continue to be made and there will be continuing demand for offset credits.

While the Government of Canada does not specify whether offset programs must have expiration dates for offset credits, it will only accept eligible recognized units that have been in existence for eight or fewer years.

## 10.6 Classification of Offset Credits

Offset credits can be categorized on a registry based on their current status within an offset program. This provides transparency and facilitates tracking of the credits. The offset credit categories used may include categories similar to the following:

*Active*

Offset credits that have been serialized and posted on the registry. These credits are available for purchase. This category includes those held by the original owner and those that have been sold. Offset credits can be sold multiple times and will remain in this category until there is a request to retire the credit or the credit is removed or transferred from the registry.

*Transferred*

Offset credits that have been transferred out of the registry either through purchase by an entity outside provincial borders or registration of the credits on another registry. These credits are no longer available for sale.

*Pending*

Offset credits that have been submitted by a large emitter for compliance obligations and are pending approval. This may also include non-regulated entities submitting credits for voluntary retirement. These credits are no longer available for sale.

*Retired*

Offset credits that have been confirmed as being used for compliance by regulated emitters or retired for voluntary purposes. Credits in this category are no longer available for sale.

*Withdrawn/Revoked*

Offset credits that are a result of errors identified by the project developer or identified through government audit can either be voluntarily withdrawn by the project developer or revoked by the offset program administrator. Credits in this category are no longer available for sale.

Providing specific categories for offset credits that have been used for compliance or otherwise removed from the registry preserves transparency and discloses important information about offset projects which can maintain public confidence in the offset program.

For recognized units, the Government of Canada requires offset programs to have some mechanism to monitor credit issuance, transfer, retirement and cancellation and checks to ensure the offset project and credits are not registered in another program.

### Questions for consideration on the offset credit registry:

Is there concern with publically posting project information on an offset registry?

**Should offset credits in Saskatchewan's offset program have expiration dates to ensure continuing demand and additional emission reductions? If yes, after how long should offset credits expire?**

# 11 Records, Reversals and Penalties

## 11.1 Record Retention

Offset project developers are required to collect and track all supporting information and data needed to quantify GHG emissions. This data is kept by the project developer for verification purposes and in case the project is selected for a government audit. The offset program administrator may also be responsible for retaining records for the same purposes. The data may be required to be retained physically and/or digitally.

A reasonable period of time for which offset project records are expected to be retained in offset programs is five to seven years after the final crediting period for the project has ended. For example, if an offset project has a crediting period of seven years, the project developer could be required to retain all records for at least 14 years.

## 11.2 Addressing the Risk of Reversal

Almost every offset project runs the risk of having captured or reduced GHG emissions released into the atmosphere. To retain the integrity of the offset program and offset credits, there needs to be a mechanism to address this risk of reversal. In addition, the offset program may require the owner of the offset project to implement a monitoring plan to identify any potential reversals and either prevent or minimize the release of GHG emissions.

One possible way to address this risk is to apply a risk factor to the GHG emission reductions for a project. For example, if a project reduced 100 tonnes of emissions, and the risk factor was 10 percent, then the project proponent would receive 90 offset credits. The risk factor addresses the potential risk of some of the reduced or sequestered GHG emissions being released into the atmosphere (i.e., a reversal). The risk factor would vary by project type and would be set out in the applicable approved quantification protocol.

An alternative approach to handle offset reversals would be to assign responsibility to a specific party. When a reversal is identified, that party would be accountable for surrendering the credits associated with a reversal or replacing the credits if they have already been sold or transferred out of the program.

For recognized units, the Government of Canada may accept either of these approaches, or other possible approaches to addressing reversals or permanence issues. The federal criteria for offset programs focuses more on ensuring some form of contingency plan is in place to address reversals and maintain the integrity of the offset program. For protocols with leakage concerns, this leakage is required to be conservatively reflected in the quantification of offsets to be issued.

### 11.3 Penalties for Non-compliance

As with any regulated program, penalties are enforced on those who willingly or through negligence allow non-compliance with the requirements of the offset program. As the severity of non-compliance increases, additional, more stringent enforcement actions may be considered. Offset programs generally aim to make the penalties greater than the potential benefit gained from an act of non-compliance. This is recommended by the CCME and is required for federal recognized units. The Government of Canada also required liability rules if offset credits are deemed ineligible either before or after they are used for compliance.

Acts of non-compliance that result in offset credits being issued to a project developer in error can be addressed by revoking the carbon offset credits that were issued or requiring the project developer to replace the revoked credits with new, valid carbon offset credits. Additional penalties may include requiring a project developer to surrender additional carbon offset credits (above and beyond the credits that were revoked) or more defined monetary fines.

#### Questions for consideration on records, reversals and penalties:

What mechanism should be used to guard against the potential reversal of GHG emission reductions or removals from offset projects in Saskatchewan's offset program?

What mechanisms should be put in place to administer penalties to persons who are in non-compliance with program requirements?

# 12 Appendix A: Definitions

**"Afforestation"** is the establishment of a forest or stand of trees in an area where there was no previous tree cover.

**"Business as usual"** refers to the normal operations of a business or activity that a facility would undertake without the presence of additional incentives to change behaviour.

**"$CO_2e$"** or "carbon dioxide equivalent" is the mass of carbon dioxide that would produce the same global warming potential as a given mass of a different greenhouse gas or a combination of different greenhouse gases.

**"Double-counting"** occurs when an offset credit is used for compliance, is revoked, or is voluntarily retired and is used again by the same or another entity for one of the same purposes.

**"Greenhouse gas"**, "greenhouse gases" or "GHG" means any one or combination of carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons (HFCs), and perfluorocarbons (PCFs).

**"Offset project developer"** is the person, such as the owner of the facility carrying out the offset project, who is responsible for registering the project, submitting annual reports to the registry, and ultimately is responsible for any non-compliance that may occur.

**"Offset reversal"** occurs when the greenhouse gas emissions that were captured or prevented from entering the atmosphere due to the offset project activity and registered as offset credits are later released or escape into the atmosphere.

**"Offset program administrator"** is the entity in charge of administering the offset program. The role of the offset program administrator is designated in the offset program framework and is normally carried out by the Minister of Environment or an equivalent official for the jurisdiction in question.

**"Third-party verifier"** is a person or team of persons who possess the skills and experience necessary to carry out validation and verification on offset projects.

**"Regulated emitter"** is an entity that emits greenhouse gases through the operation of a regulated facility.

**"Sequestration"** refers to the activity of capturing and storing greenhouse gas emissions. This is can be done for example through soil, forests, or carbon capture and storage in which the greenhouse gases are stored in geological formations deep underground.

**"The ministry"** refers to the Saskatchewan Ministry of Environment.

# 13 Appendix B: ECCC Criteria for Recognized Units[14]

| Table 1: Criteria for Recognized Units |
|---|
| Issued by an eligible offset program using an eligible quantification protocol |
| Issued to a project that was started in 2017 or a subsequent year |
| Verified by a verification body accredited at the project level to the ISO 14065:2013 Standard by SCC, ANSI, or another member of the International Accreditation Forum |

| Table 2: Criteria for Eligible Offset Programs | |
|---|---|
| **Area** | **Specific Requirements** |
| Governance and Oversight | Overseeing the program's ongoing operation.<br><br>Avoiding conflicts of interest.<br><br>Ensuring clear ownership.<br><br>Overseeing offset protocol development, review and approval.<br><br>Registration of projects.<br><br>Verification of emissions reduction or removals prior to issuing offset credits.<br><br>Compliance and enforcement processes.<br><br>Dispute-resolution mechanisms.<br><br>Mechanisms to address credit revocation. |
| Transparency | Public disclosure of approved protocols, invalidated protocols and protocols under development.<br><br>Public disclosure of information for approved offset projects. |

[14] The criteria listed here have been summarized and condensed. For full details see ECCC's Regulatory Proposal: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/pricing-pollution/obps-regulatory-proposal-en.pdf

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|---|---|
| | Public disclosure of projects under review for renewal, projects under investigation for reversals or invalidation of credits and de-registered projects. |
| Uniqueness of Credits | Avoid double-counting of emission reductions or removals.<br><br>Rules for credit issuance, transfer, retirement and cancellation that ensure a credit can only be used once.<br><br>Checks to ensure the offset project and credits are not registered in another program.<br><br>Commitment that GHG emissions reductions or removals resulting from offsets used for compliance in ECCC's large emitter program will not be claimed by the jurisdiction. |
| Program Infrastructure | An offset credit tracking system that enables transparent reporting of information and auditable record keeping.<br><br>Unique project identifiers that allows cross reference with publically available project documentation and information.<br><br>Account registration, including those in all backstop jurisdictions.<br><br>Information transfer capability to provide relevant information on offset credit use for compensation in ECCC's large emitter program. |
| Permanence and Risk Reversal | Use of monitoring systems and risk mitigation approaches to prevent reversals.<br><br>Contingency plans which address how reversals will be handled. |
| Third-party Verification | Verification to a reasonable level of assurance.<br><br>Verifiers and validators are independent and competent. |
| Robust Compliance and Enforcement | Cost of non-compliance are greater than benefits of non-compliance.<br><br>Liability rules if offset credits are deemed ineligible. |

| Table 3: Criteria for Eligible Offset Protocols | |
|---|---|
| Area | Specific Requirements |
| Eligible Offset Project Activities | Emission reductions or removals are generated from an activity that is not covered by carbon pollution pricing in the jurisdiction of origin.<br><br>GHG reductions or removals considered are those reported in Canada's National Inventory Report (NIR).<br><br>Specify the use of GHG global warming potentials that are less than or equal to those in the latest NIR. |
| Additionality | Protocol is based on reasonable, conservative and justifiable baseline assumptions.<br><br>Activity is not required by law and any legal requirements in the jurisdiction where the protocol is applicable have been considered when defining the baseline.<br><br>The technology or project activity is not in common use or is not considered business-as-usual in the relevant industry sector or geographic region.<br><br>Proponents demonstrate how the project activity would either not be economically feasible without carbon offset revenue or that it faces significant non-financial barriers to implementation. |
| Crediting Period | Crediting periods are determined based on a timespan over which the baseline is expected to remain valid.<br><br>Maximum crediting period of not more than 10 years for non-storage-based projects, and not more than 30 years for storage-based projects.<br><br>Minimum crediting period of no less than five years.<br><br>Any process for renewal of a crediting period must be based on a rigorous and full evaluation of all requirements and must be established in the quantification protocol. |
| Accurate Quantification Methods | Net emission reduction or removals are measured in a reliable and repeatable manner and includes all relevant GHG sources and sinks. |

| | |
|---|---|
| | Uncertainty is quantified and estimated reductions or removals are accurate within scientifically-established standard or acceptable statistical precision for the project or equipment type.<br><br>Conservative assumptions and approaches are considered to avoid over-estimation of GHG reductions or removals. |
| Permanence | Requires project proponent to monitor permanence for projects that sequester carbon in sinks or reservoirs.<br><br>Project plans outline provisions to mitigate the risk of reversal.<br><br>Environmental integrity is maintained in the event a reversal occurs. |
| Verifiability | A project's GHG reductions or removals can be verified to a reasonable level of assurance.<br><br>Incorporates best practices for data measurement, ongoing monitoring activities, data management procedures and record keeping, and quality assurance/quality control activities. |
| Guards Against Leakage | Required assessment and mitigation of leakage risks.<br><br>Leakage is conservatively reflected in quantification of offsets to be issued. |