
British Columbia
Greenhouse Gas Offset Protocol

**FOREST CARBON
OFFSET
PROTOCOL**

VERSION 2.0

Technical Discussion Paper

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Purpose of the document

The Government of British Columbia is updating the 2011 Forest Carbon Offset Protocol (FCOP) and inviting your input on a revised FCOP version 2.0.

This discussion document:

- Provides a brief overview of the carbon market and B.C.'s Offset Program.
- Outlines how to participate in this engagement.
- Describes how FCOP functions.
- Describes the proposed changes between FCOP 1.0 and FCOP 2.0; and
- Identifies outstanding policy considerations and solicits input on options.

Inviting your input

The Government of British Columbia (B.C.) is inviting business, Indigenous peoples, governments, and others to provide feedback on a revised [draft FCOP 2.0](#).

This discussion paper is a companion document to FCOP 2.0. Key changes and areas of particular focus for the Director are illustrated below, as well as questions on methodology, project definitions and other policy considerations. Interested parties are also encouraged to provide input on other areas of the draft protocol.

Following engagement, B.C. will provide a summary of feedback and the final revised FCOP document.

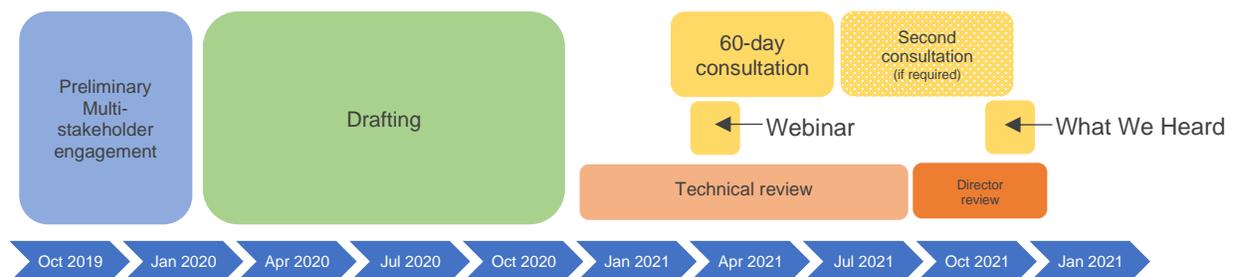
Details on the engagement

- Engagement is open from March 30, 2021 to May 31, 2021.
- Please send your submission to ghgregulator@gov.bc.ca with **FCOP Feedback** as the email subject. When providing feedback, please indicate the applicable section and line number in the draft protocol.
- Meetings are available upon request.

Timeline for engagement

Date	Milestone
March 30, 2021	60-day engagement on FCOP 2.0 opens
April 14, 2021	Webinar [registration link here]
May 31, 2021	60-day engagement closes
Fall 2021	What We Heard document released
Fall 2021	Final protocol draft released

Timeline for protocol development



Background on B.C.'s carbon market

In 2018, the Government of B.C. released the CleanBC Plan, with goals to reduce greenhouse gas emissions and create a stronger future for British Columbia. Carbon offsets are one of the ways government is working with business, Indigenous peoples, governments, and communities to build a clean, low carbon economy for B.C.

Carbon offsets are tradable certificates representing the reduction or removal of greenhouse gas (GHG) emissions. The sale of offsets provides another funding source for innovative emissions reduction work across all sectors, as well as economic diversification opportunities within the province.

For carbon offsets to be recognized as B.C. offset units, projects must meet provincial regulations and use an approved protocol. Once offset units are issued by the regulator through the [B.C. Carbon Registry](#), they can be transferred to other parties for voluntary or compliance purposes. Currently, the Government of B.C. [purchases offset units](#) as part of its [Carbon Neutral Government Program](#). Other organizations may purchase offset units for their own voluntary emission-reduction objectives.

Current regulatory framework for carbon offsets in B.C.

The current offset legislative framework is comprised of:

1. The [Greenhouse Gas Industrial Reporting and Control Act \(GGIRCA\)](#), which establishes protocol requirements, statutory authorities, the BC Carbon Registry, and offset regulation-making power.
2. The [Greenhouse Gas Emission Control Regulation \(GGECR\)](#), which sets out requirements for the BC Carbon Registry, emission offset project plans, and reporting and monitoring requirements. All projects under B.C.'s offset system must have a project plan that has been independently validated, and all subsequent offset project reports are required to be independently verified.
3. Protocols established by the Director appointed under GGIRCA set out instructions on how to quantify greenhouse gas emission reductions from a particular type of project. Project plans may only be prepared according to protocols established under GGIRCA. FCOP is an example of such a protocol.

B.C.'s FCOP

FCOP sets out the instructions on how to quantify greenhouse gas emission reductions and removal enhancements from forest sequestration and storage. The protocol establishes project requirements of forest carbon offset projects; particularly the development of a project plan, in addition to validation and verification requirements.

FCOP 1.0 was introduced in 2011, before being repealed in 2015. Projects approved under FCOP 1.0 continue to generate credits under grandparenting provisions of GGIRCA. There is increasing demand for additional offset options from purchasers in the voluntary market, Federal Output Based Pricing System and Carbon Neutral Government programs. Using input from stakeholders, technical experts, and Indigenous communities, government has developed an updated FCOP 2.0 which reflects changes in B.C. legislation and updated best practices.

Consistent with International Standards Organization (ISO) 14064-2: 2019, the World Resources Institute / World Business Council for Sustainable Development GHG Protocol, and other international approaches to carbon offset protocol requirements, FCOP 2.0 establishes the following:

- General eligibility.
- Guidance and requirements for establishing a baseline scenario.
- Categorization and calculation of forest carbon project sources, sinks, and reservoirs (SSRs) for both the baseline and project activity scopes.
- Requirements for mitigating project risk; and
- Monitoring requirements.

Moreover, the protocol outlines requirements for project proponents to ensure that the resulting offsets are real, additional, measurable, permanent, and verifiable.

What is new in FCOP 2.0

For FCOP 2.0, the following changes are being considered:

- **More specific guidance:** FCOP 2.0 is more procedural with less extraneous text.
- **Baseline Scenario simplified:** Methodologies for establishing baseline scenarios are reduced to two methods, whereas FCOP 1.0 permitted five different baseline scenario approaches.
- **Sources, Sinks and Reservoirs (SSRs) modified:** SSRs (quantified activities and/or physical carbon sequestration processes) calculated in the protocol are consolidated and simplified.

- **Leakage revised:** Land use-shifting leakage and harvest-shifting leakage (defined below) are included as SSRs to be considered at every project issuance, with revised factors and guidance.
- **Contingency account:** GGIRCA requires that up to 51 percent of offset units generated be held in a contingency account and retired by the Regulator in the case of unintentional reversals. In other jurisdictions, this is called a “buffer pool”. The methodology for calculating the risk of reversal, and risk-based contributions to the contingency account are described in Appendix G of the protocol.
- **Harvested wood products:** Storage of harvested wood products (HWP) in-use (i.e. newsprint, building supplies) is considered. Storage of carbon in HWP in dumps and landfills is omitted from the draft FCOP 2.0.

The proposed changes noted above, and more, are discussed below.

Other considerations for potential project proponents

Forest carbon offset projects are typically large enough in size to achieve economies of scale and to overcome validation, verification, and monitoring costs. Project proponents are encouraged to consider the financial viability of projects before proceeding.

Project proponents are encouraged to review right of access considerations in the protocol, and to consult with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development and Ministry of Indigenous Relations and Reconciliation (if applicable) prior to development of the project plan where projects are on Crown land.

Areas of focus under consideration

The Director is looking for feedback on all aspects of the draft FCOP, particularly on areas of focus below:

- A. Project types
- B. Data sources
- C. Establishing a baseline scenario
- D. Harvested wood products
- E. Program of activities
- F. Contingency account and project risk
- G. Calculation of leakage
- H. Monitoring, validation, and verification requirements

Note that the Director welcomes feedback on issues outside of those explored below. When providing feedback, please indicate the applicable section and line number in the draft protocol.

A. Project types

Eligible project types for FCOP 2.0 include:

- Afforestation and reforestation
- Conservation and improved forest management
- Avoided conversion

Afforestation and reforestation refers to establishment or re-establishment of trees through planting, seeding, and human induced promotion of natural seed sources. Conservation and improved forest management refers to the stewardship practices that increase sinks and/or reservoirs above the baseline. Avoided conversion refers to the prevention of direct human-induced conversion of forest land to non-forest land use.

Questions for consideration:

- **Are the range of potential activities (Section 3.2) that fall under each category correct? Are there further project types, or examples of project types, that should be considered?**

B. Data sources and modelling requirements

FCOP 2.0 relies on parameters and data from the sources found below. Where data is not available, project proponents must use the next available source:

- National Inventory Report (Environment and Climate Change Canada).
- Final Essential Requirements for Mandatory Reporting – Amended for Canadian Harmonization (Western Climate Initiative).

- International Greenhouse Gas Inventory and subsequent or applicable Refinements (Intergovernmental Panel on Climate Change (IPCC)).
- Land Use, Land Use Change and Forestry Good Practice Guide (IPCC); and
- Other peer reviewed sources, as required.

FCOP also stipulates requirements for modelling, including:

- The requirement that growth and yield models are utilized which have been used in B.C.'s Timber Supply Reviews.
- The Carbon Budget Model of the Canadian Forestry Service [CBM-CFS3 (Kurz et al. 2009)] must be used to approximate national and forest management unit-level forest carbon accounting in Canada.
- The targeted sampling error for total biomass/carbon should be less than or equal to 20 percent at 90 percent confidence level for both plantation and natural forests. Sampling should be conducted at least once every 10 years.
- Sustainable harvest flows must be estimated in accordance with the timber supply analysis standards and principles commonly used by the Forest Analysis and Inventory Branch in Timber Supply Reviews in B.C.

Question for consideration:

- **Are estimation or modelling methods, data sources, requirements, or parameters missing from Section 8.0 (Quantification of Emission Reductions and Removal Enhancements)? Should the protocol include additional or different monitoring requirements to ensure conservativeness and accuracy?**
- **It is proposed that for sampling the forest reservoir, the targeted sampling error for total biomass/carbon should be less than or equal to 20 percent at 90 percent confidence level for both plantation and natural forests. Instead of requiring a minimum sampling error for field sampling, should B.C. instead apply a range of discounts (uncertainty discounts) depending on the resulting sampling error? If so, what are appropriate uncertainty discounts?**

C. Establishing a baseline scenario

Baseline scenarios provide justification for what would have occurred in the absence of the project. In FCOP 2.0, two methods for establishing a baseline scenario are included: a performance standard approach, and a project specific approach (Section 5.0).

Questions for consideration:

- **What additional or replacement approaches for establishing the baseline scenario would be beneficial for project proponents?**
 - **How would these baseline approaches ensure additionality and conservativeness?**
- **Is the evidence required to substantiate the baseline scenario approach appropriate?**

D. Harvested wood products

The Government of B.C. recognizes that harvested wood products store a significant amount of carbon dioxide. However, due to the uncertainty around waste disposal practices and the amount of harvested wood products in landfills and dumps, FCOP 2.0 is omitting calculation of harvested wood products in dumps and landfills for both sink and source categories. Storage of carbon in harvested wood products in-use (section 8.1.2 and section 8.2.2) is still an important aspect of the protocol.

Questions for consideration:

- **What information may justify the inclusion in FCOP of carbon storage in harvested wood products in landfills?**

E. Program of activities

A program of activities, also known as a programmatic or aggregated approach, refers to a type of project where a group of similar smaller projects (project instances) are approved and administered under a single offset project.

Questions for consideration:

- **What information or further guidance needs to be provided by government to ensure that a programmatic approach to carbon offsetting can ensure real project reductions while allowing participation from smaller tenure sizes?**

F. Contingency account and project risk

Forests are subject to a variety of natural disturbances that reduce growth and carbon storage. In order to be considered as *real* and *permanent* emission reductions and removal enhancements, sequestration must be guaranteed for 100 years after the end of the project crediting period. To ensure permanence for 100 years, B.C. requires that up to 51 percent of offset units generated are contributed to a Regulator-managed contingency account.

Each sequestration or storage project's contribution of offset units to the contingency account is calculated, asserted and verified using a risk of reversal factor described in the protocol (see Equation 1, Section 8.0; and Equation 30, Section 8.4.5.2, and Appendix G). After a fire, pest infestation, windthrow, or other event (reversal) that reduces the carbon reservoir of the project, an equivalent amount of contingency account units is retired, representing the reversal.

Questions for consideration:

- **The Director acknowledges that the risk profile of projects may change due to the changing climate and different mitigating factors specific to each project.**
 - **The Director is developing a tool to better quantify natural disturbance, social, and financial risk.**
 - **What particular risks should the Director be considering?**
 - **How does a project best account for the risks associated with a changing climate?**
 - **What management actions can proponents take to reduce risk, and therefore reduce the number of offset units that are remitted into the contingency account?**
 - **Do different project types have different types of risk?**
 - **How should these mitigation measures be quantified?**

G. Calculation of leakage

Two types of leakage are discussed in FCOP 2.0; land use-shifting leakage and harvest-shifting leakage. Land use-shifting leakage refers to the increase in emissions due to land use changes elsewhere as a result of the project. Harvest shifting-leakage refers to the increase in harvested wood production elsewhere to make up for lost supply as a result of the project. The applicability of each type of leakage for each project type is summarized in section 8.3.1.

Questions for consideration:

- **Are there alternative methods for establishing harvest-shifting leakage that should be considered?**

H. Monitoring, validation, and verification requirements

Monitoring during a project period must be consistent with the monitoring approach in the crediting period. The methodology for monitoring will be described in the project plan.

Following the crediting period, monitoring reports are required from the Project at 25-year, 50-year, 75-year, and 100-year increments (section 10.1).

Questions for consideration:

- **What types of methods should be considered to ensure appropriate monitoring following the crediting period? What types of guidance should be made available to project proponents related to the monitoring of projects?**