

Regulation respecting afforestation and reforestation projects eligible for the issuance of offset credits on Québec privately-owned land

Ministère de l'Environnement et de la Lutte contre les changements climatiques, de la Faune et des Parcs

Government of Québec

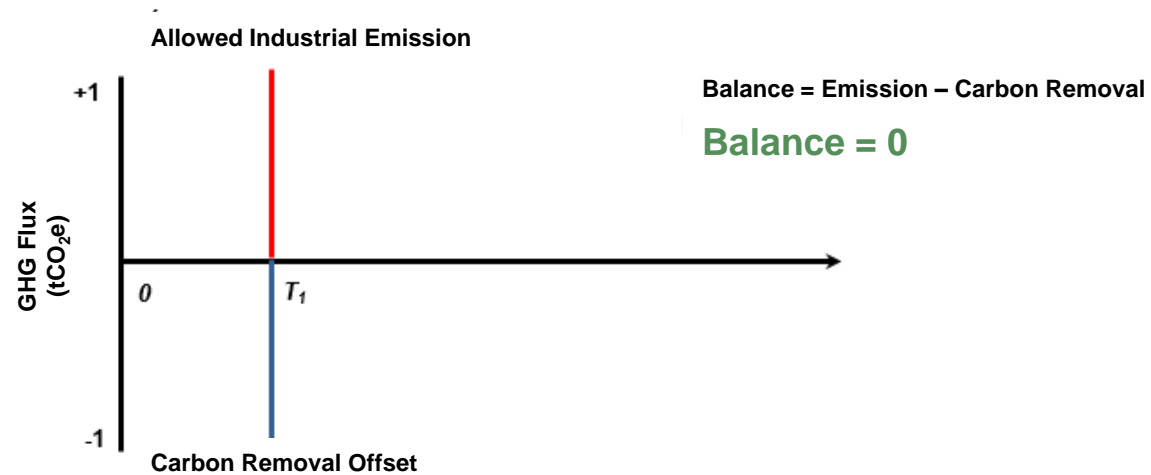
June, 2023

Outline

1. Introduction
2. Quantification and Issuance Approaches
3. Regulation Overview
4. Implementation of an afforestation and reforestation project
5. Conclusion

1. Introduction

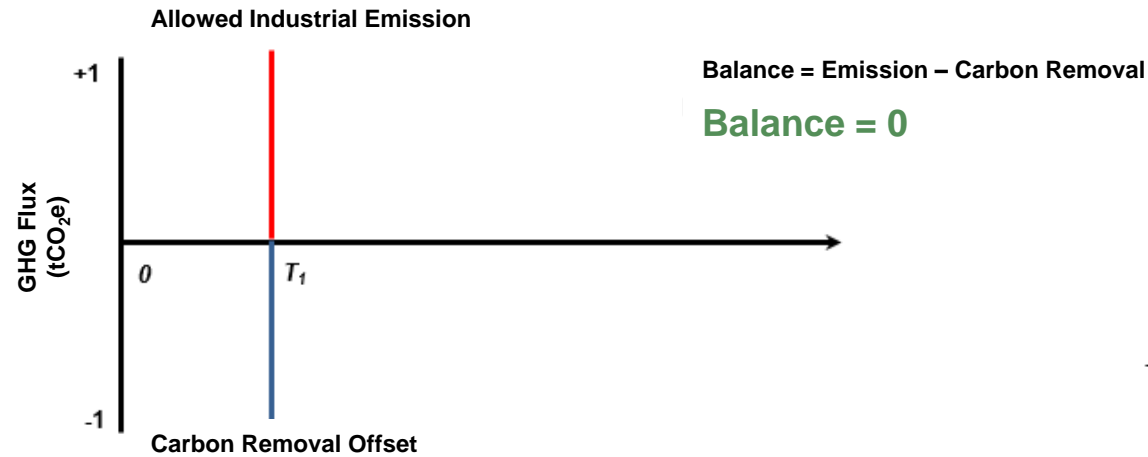
- Agriculture, Forestry and Other Land Use (AFOLU) sector and **traditional GHG emission offsetting**



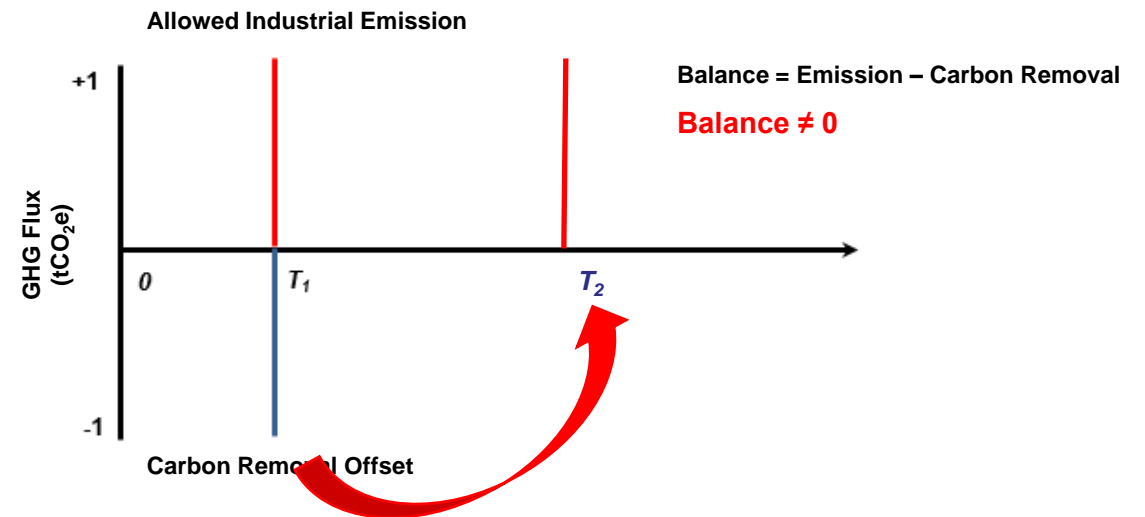
Adaptée de Murray et Kasibhatia, 2013

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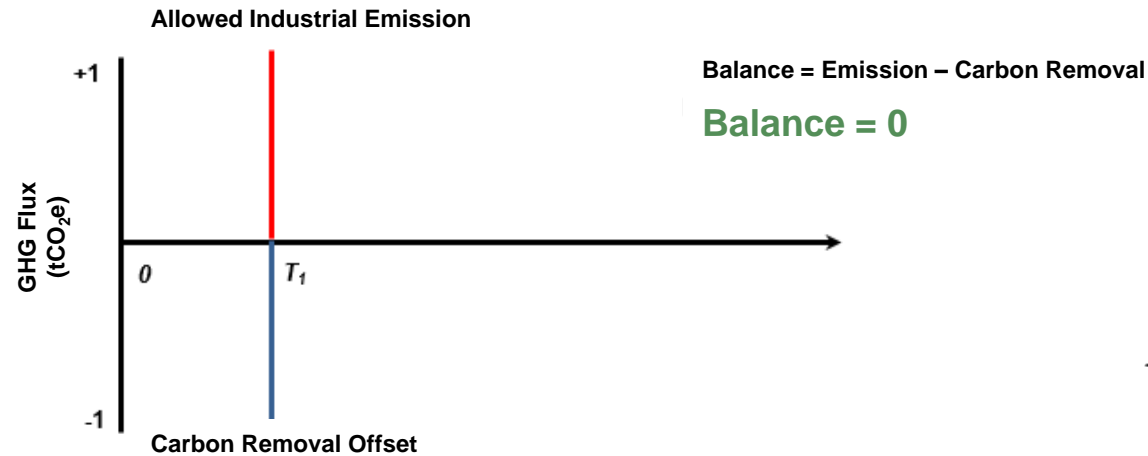
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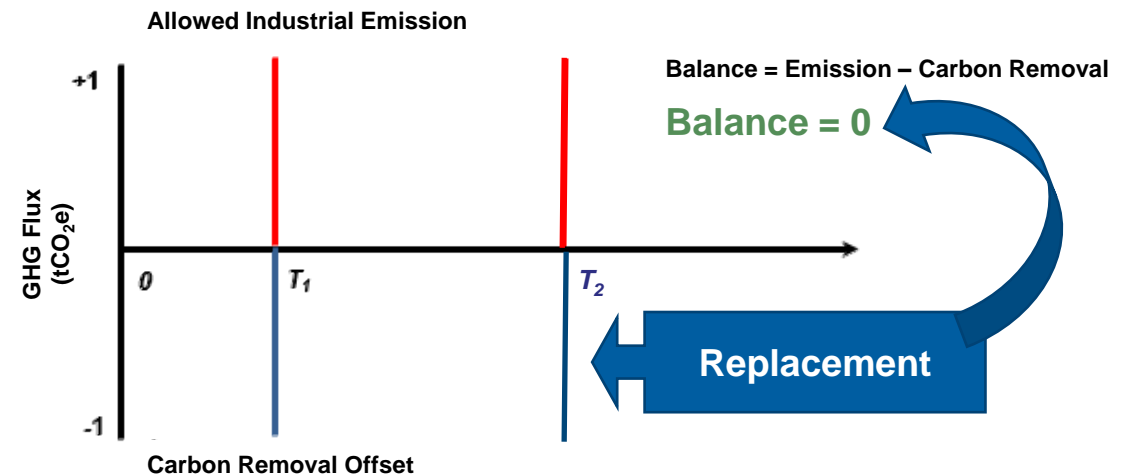
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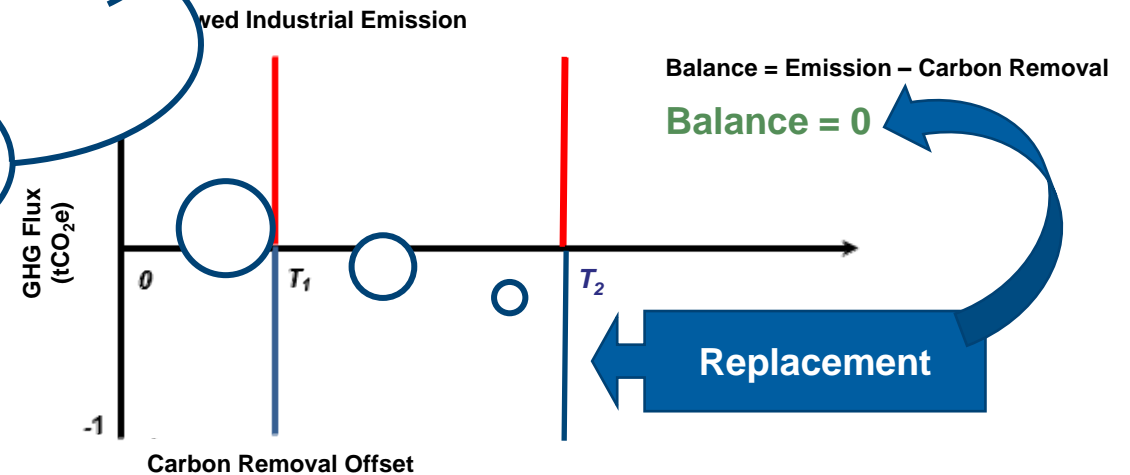
1. Introduction

- Agriculture, Forestry and Other Land Use (AFOLU) sector and **traditional GHG emission offsetting**

Allowed Industrial Emission
+1
Emission
Removal

Question:

On the basis of this offsetting approach, **how can we guarantee the environmental integrity of temporary actions like those associated with the AFOLU sector?**



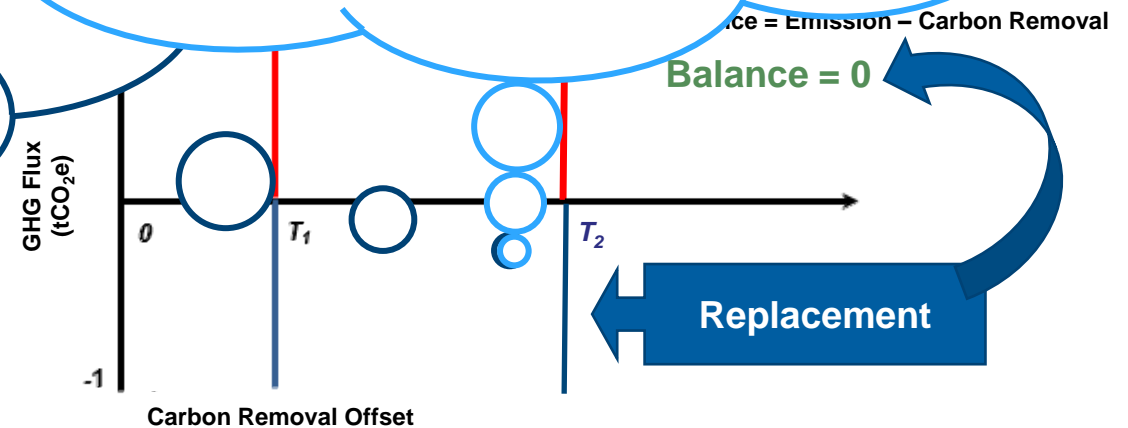
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Answer:
By implementing a **100-year MRV requirement and commitment** towards the project, and especially the carbon stocks that has been rewarded by offsets credits.



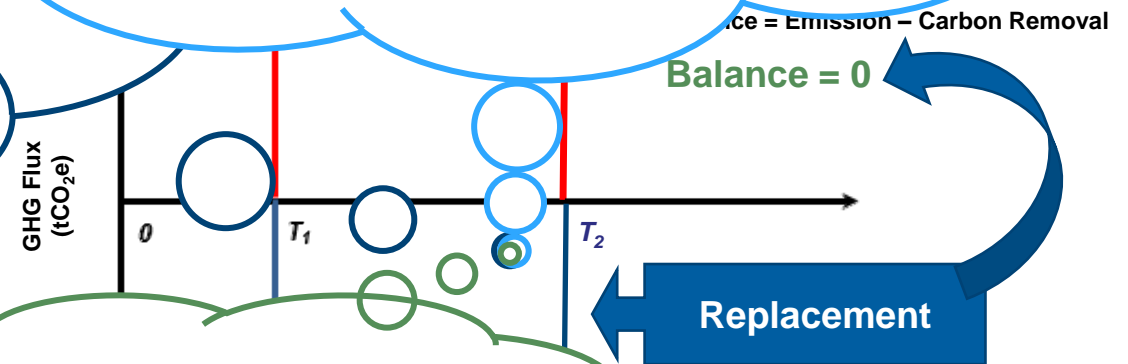
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Question:
Who knows what will happen over a 100-year project life?

1. Introduction

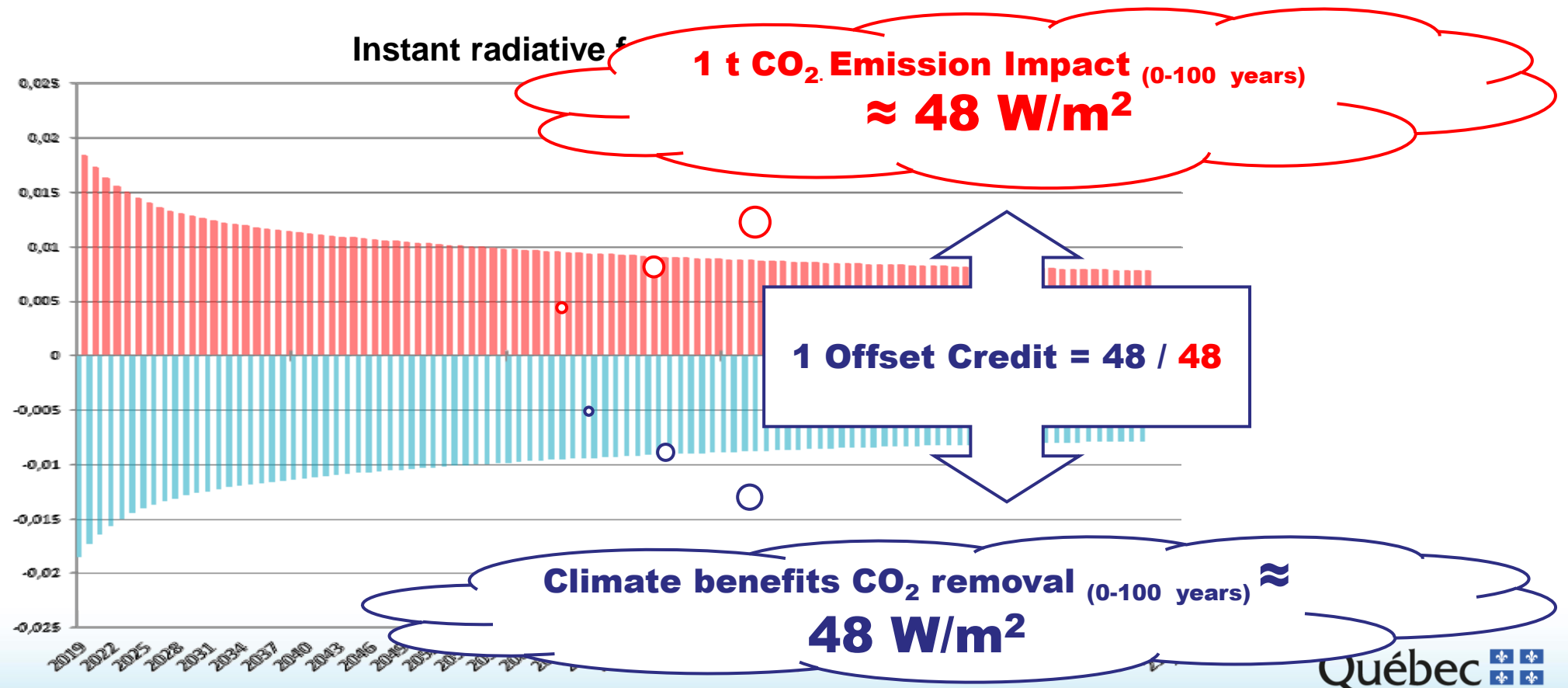
- Review of the process leading to the publication of the regulations:
 - **Context: Quebec's cap-and-trade system for greenhouse gas emission allowances (regulated market)**
 - **2013-2015 :**
 - **Literature review** (Scientific journals and existing GHG offset programs (voluntary and regulated markets))
 - Definition of the **issues** (Additionality of gains, use of territory and resources, sovereignty, PERMANENCE of gains)
 - **Development of a new quantification and issuance approach** for projects whose benefits are temporary. The approach has been the subject of a master thesis and several presentations at the provincial and national levels (Scientific and Technical Committees, Professional and academic conferences and events);
 - **Drafting of a technical protocol**
 - **2018-2022 :**
 - **Drafting of a regulatory protocol** (Legal Affairs Department of the MELCCFP)
 - Development of a **project budget balance calculator** (CIRAIG)
 - **Public pre-consultation** on the foundations and the approach introduced in the draft regulation (Summer 2018)
 - **Public consultation** (Summer 2021, more than 27 participants, more than 181 comments and suggestions)
 - **Publication of the regulation** relating to afforestation and reforestation projects on private land eligible for the issuance of offset credits (Regulation) in the Gazette officielle du Québec (December 14, 2022)

2. Quantification and Issuance Approaches:

- **Inspired by a Ton-Year approach** (Moura Costa, Lashof, IPCC 2000-Special Report)
- **Goal:**
 - Be able to demonstrate why a credit is issued or **offset potential of a credit** (rewards carbon stock and above all its benefit or effect on the climate system)
- **Objectives:**
 - **At the time the credits are issued**, they meet all the essential elements or criteria of the offset program (permanent, real, additional, verifiable and transparent).
 - Environmental integrity is **assured at time of issuance, not after 100 years.**
 - When an offset credit is issued, **the credit unconditionally cancels 100 years of warming effect to come** associated with the emission of one-ton CO₂eq. in the atmosphere.

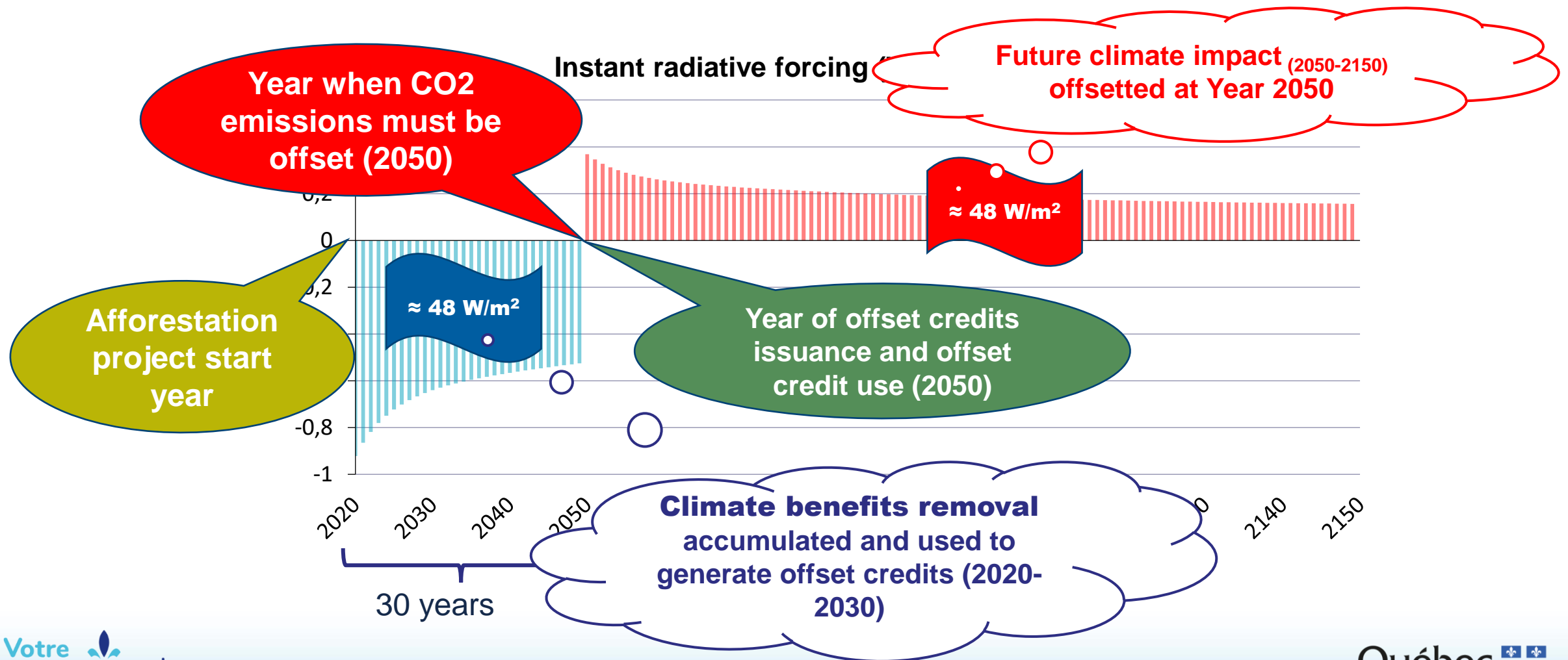
2. Quantification and Issuance Approaches:

- **Offset credit creation concept:**
 - **1 offset credit** is generated when **one ton of CO₂ or more**, produces enough measured or real climate benefits (W/m²) to cancel the impact of 100 years of presence in the atmosphere of 1t CO₂ emission.



2. Quantification and Issuance Approaches:

- Application of the concept of offset credit creation to an offset credit project:



3. Regulation Overview



- Regulation Scope :
 - **Private lands** in Québec
- Eligible project types:
 - **Afforestation:**
 - **Establishment** of a forest or forest stand in an area where the **preceding vegetation or land use was not a forest**, by made-made means such as planting and seedling.



<http://www.rfq.uqam.ca/cartable/bulletin/pdf/Bulletinvol5no3.pdf>

3. Regulation Overview



- Eligible project types:
 - **Reforestation:**
 - **Reestablishment** of trees on **denuded forest land** by man-made means such as planting and seedlings.
 - Reforestation = **Fill planting**
 - Reforestation activities **in a forest management context are not eligible** (as Improved Forest Management (IFM) project)



Archive Guillaume Roy

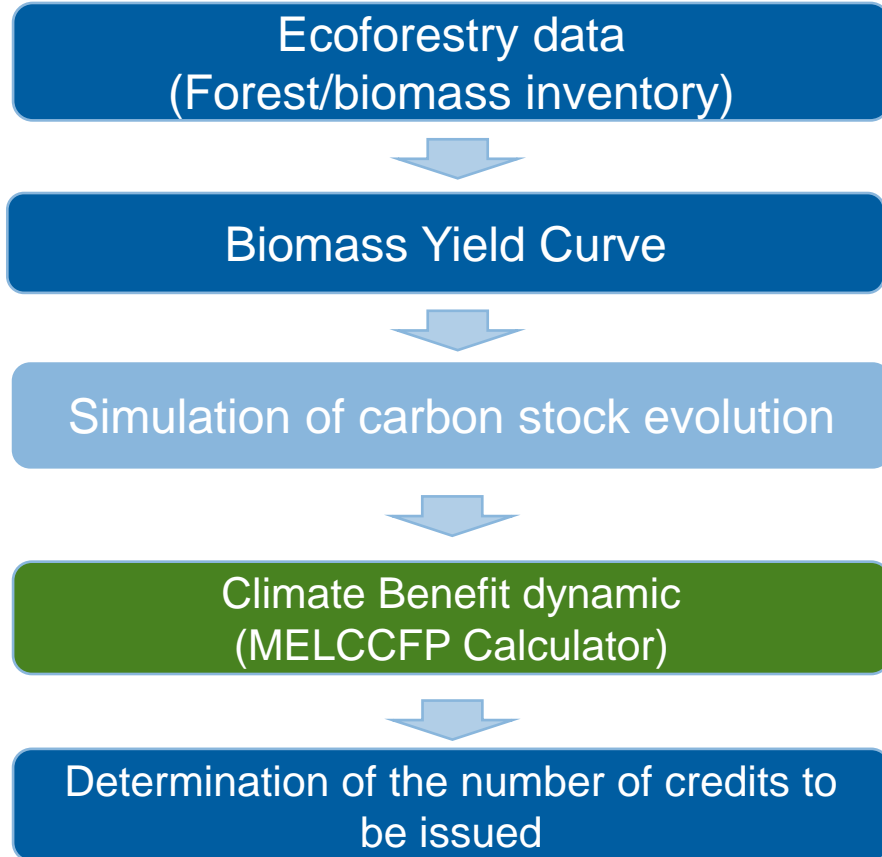
3. Regulation Overview



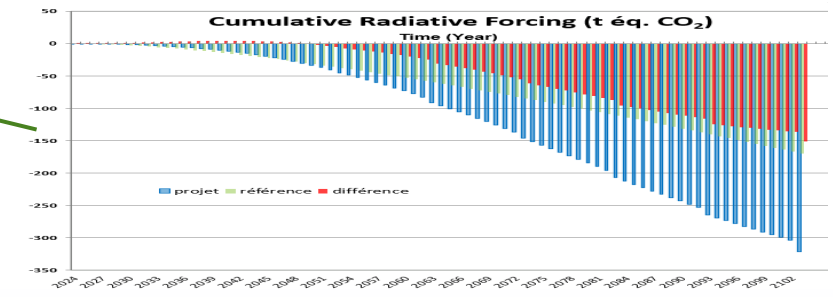
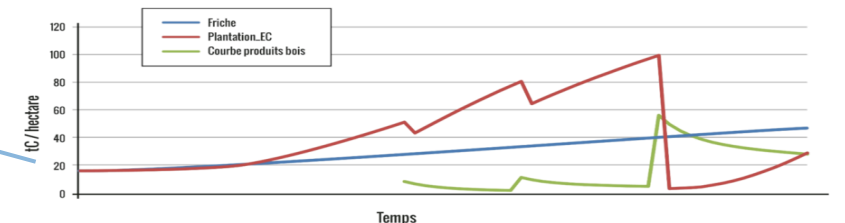
- **Inventory frequency:**
 - Year 0 and at each Offset Credit Issuance Request
- **Carbon pools to be accounted for:**
 1. Living aerial biomass
 2. Living below ground biomass
 3. Dead biomass
 4. Soil (if site preparation treatment impacts more than 25% of the lot used for the project)
 5. Timber forest products
- **Tools mandatory:**
 - Carbon Budget Model of the Canadian Forest Sector
 - Climate Benefit Budget balance Calculator

3. Regulation Overview

- Reference and Project Scenarios Characterization
 - Defined at Year 0 and updated with each offset request



Carbon Stock Evolution of a project ending after 80 years



3. Regulation Overview

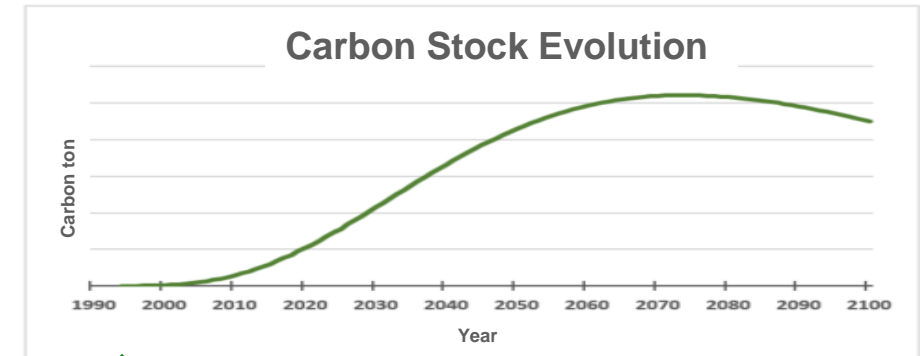
- **Measures to facilitate project development:**

- **Early projects:**

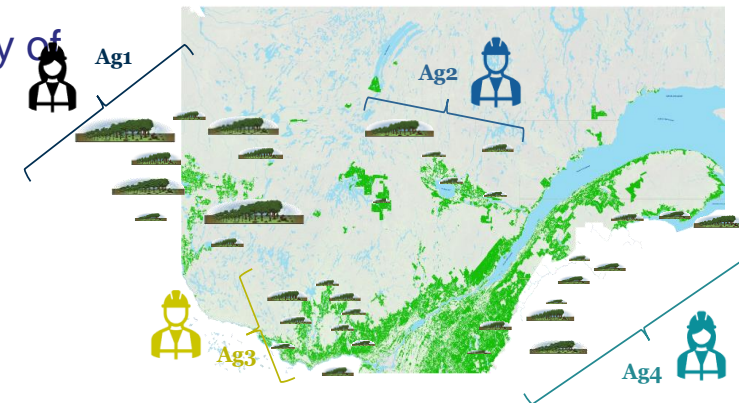
- Definition: Project began between 1990 and 2023
 - Forest has been planted in that period
 - Climate benefits taken into account in a project's balance budget are the ones quantified from 2007 onwards (WCI additionality criterion).
 - Each project must meet all regulatory requirements

- **Project aggregation:**

- Grouping of several eligible projects under the responsibility of the same promoter
 - No limits on the number of aggregated projects
 - No limits on total aggregation area
 - Projects can be added and removed.

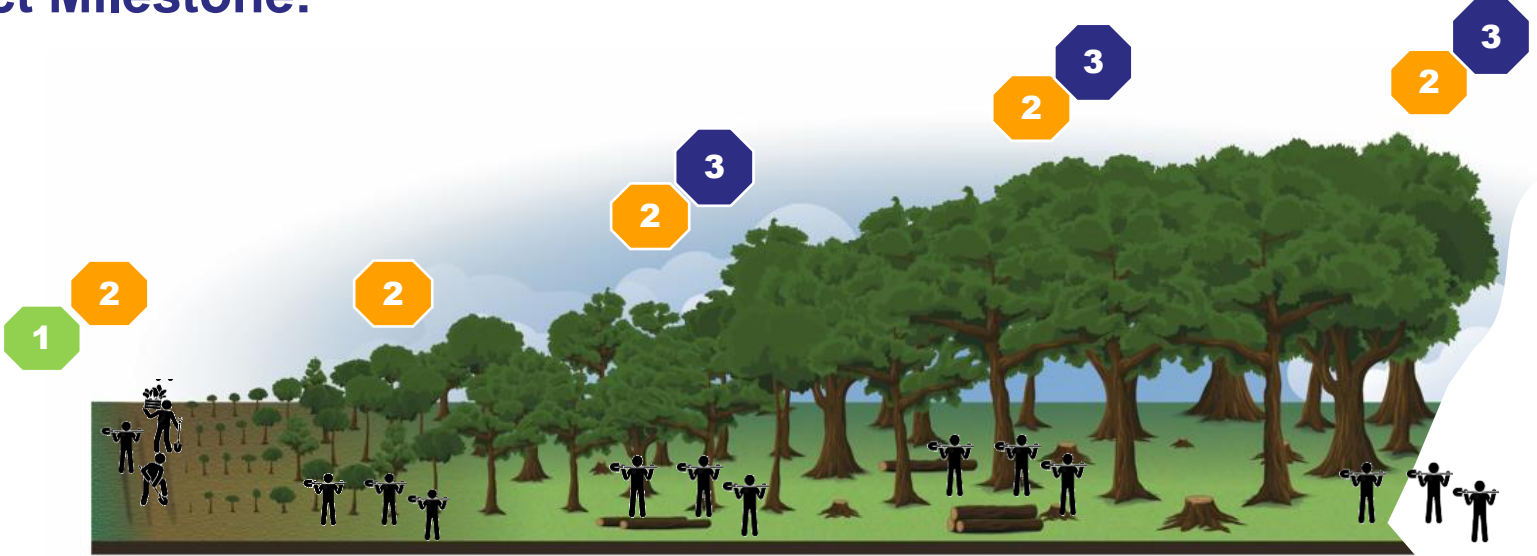


↑
Eg.: Start date 1994



4. Implementation of an afforestation and reforestation project

- Project Milestone:



Step 1
Initial characterization
and Project Filing

Step 2
Implementation and
monitoring

Step 3
Issuance Request

4. Implementation of an afforestation and reforestation project

- **Project Milestone :**

Step 1
Initial characterization
and Project Filing



- **Initial characterization of the project**

- Characterization of the original state of the lot for the project (land-use history, forest/Biomass/Carbon inventory)
- Definition of baseline scenario, and project scenario with a forest management plan

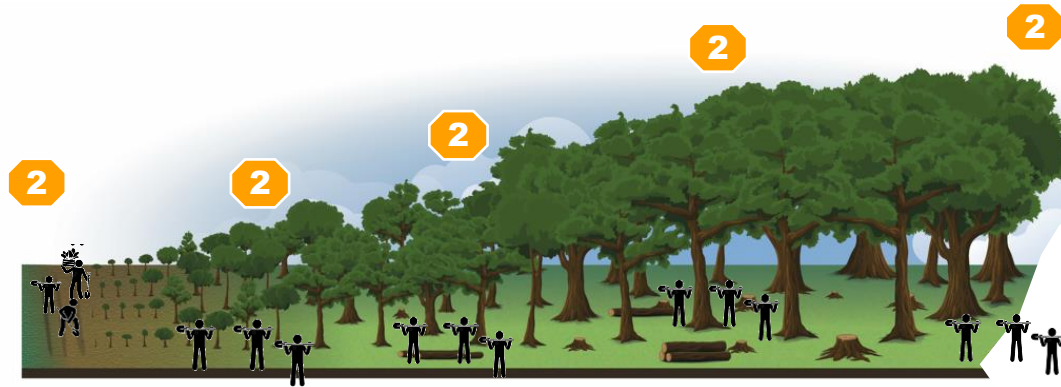
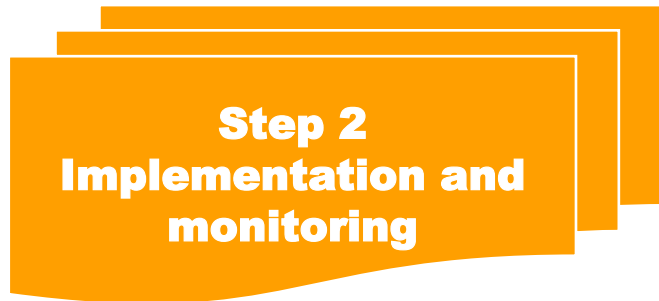
- **Third-party Project Plan verification :**

- Project eligibility
- Initial inventory
- Baseline scenario

- **Project Plan submission**

4. Implementation of an afforestation and reforestation project

- Project Milestone :



- Implementation of the silvicultural strategy

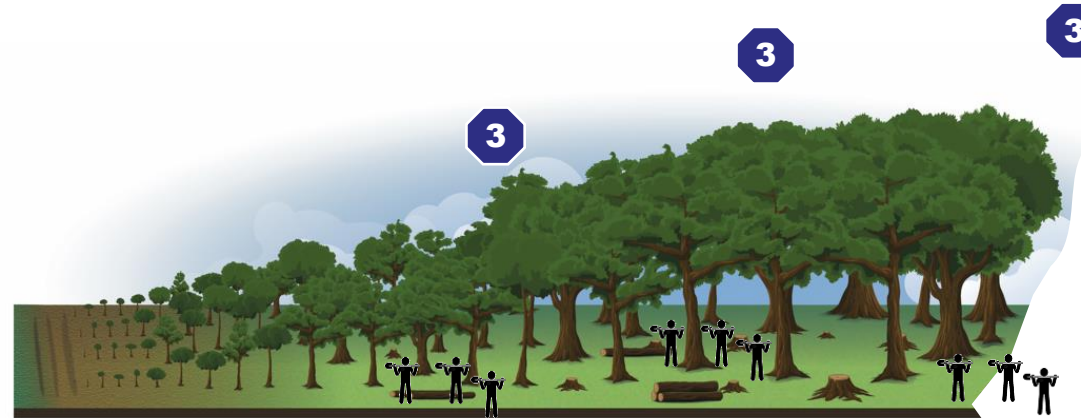
- Planting
- Pre-commercial thinning
- Commercial thinning
- Harvesting (Optional)

- Monitoring natural disturbances and silvicultural treatments

- If carbon stocks are impacted, the impact of the disturbances must be factored into the project outcome.

4. Implementation of an afforestation and reforestation project

- Project Milestone :



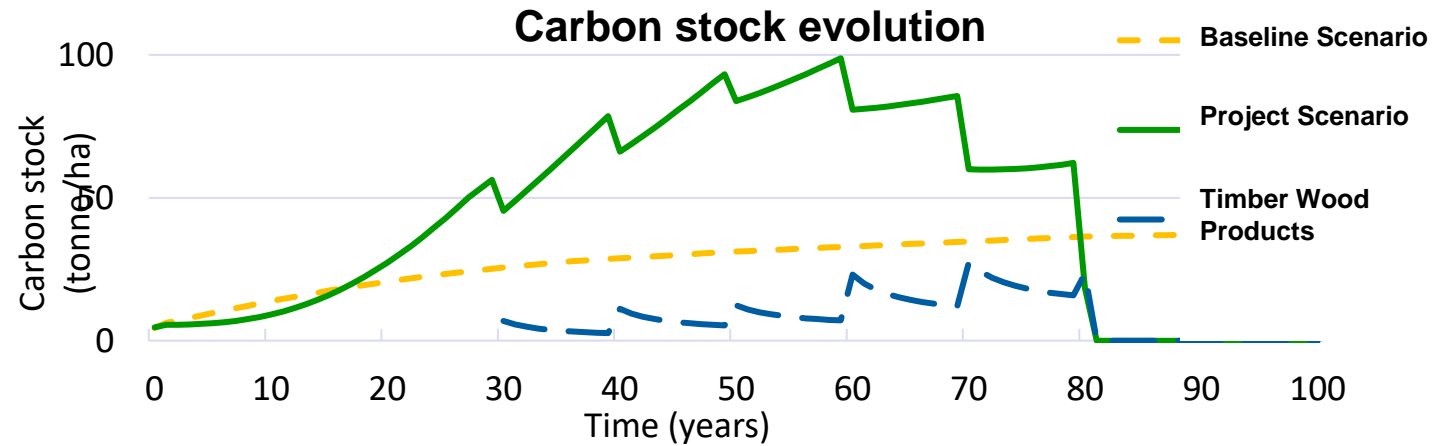
- The timing of issuance requests is at the promoter's discretion
- Project Report:
 - Carbon pools inventory
 - Project scenario updates and project outcome (GHG fluxes and Climate Benefit)
 - Determination of the number of offset credits to be issued
- Third-party project report verification:
 - Forest inventory
 - Project outcome

5. Conclusion

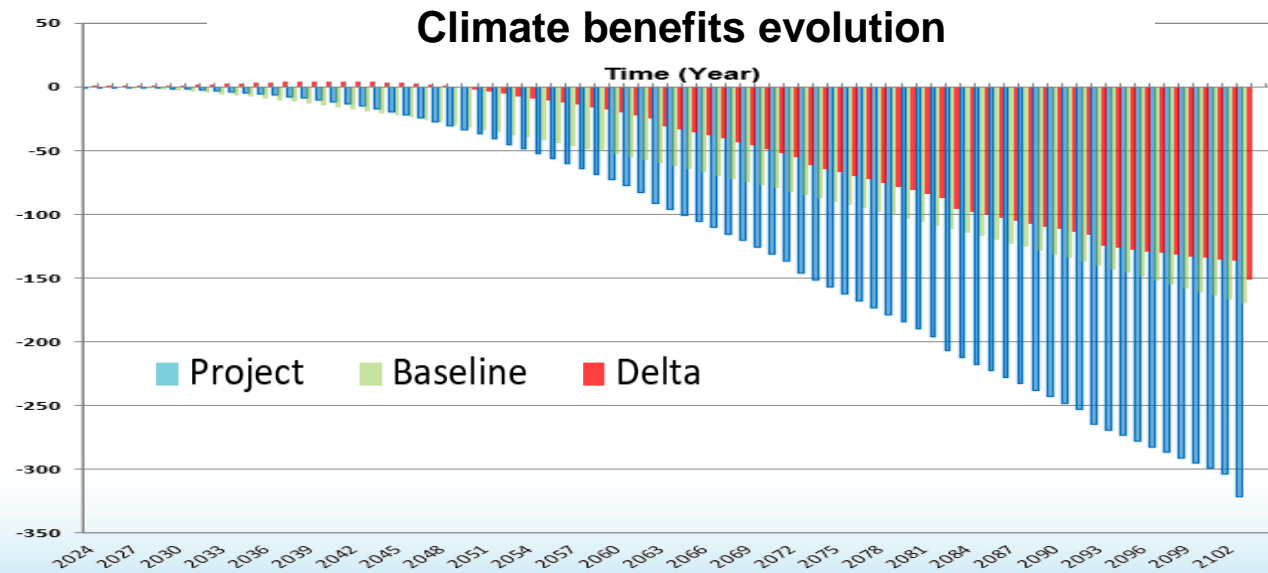
- **Afforestation and reforestation projects are first and foremost forest management projects with a carbon objective**
- **Innovative quantification and issuance approach:**
 - **Increase the environmental integrity** of the credits generated by a temporary activity (removals):
 - 100 years of banked climate benefits **before issuing an offset credit**
 - **Rewards** real, additional, verifiable and permanent **climate benefits**, not only a carbon stock
 - Avoid the obligation to keep out of the atmosphere the carbon rewarded with credits for a minimum period of 100 years:
 - No management risk of reversibility
 - No long-term commitments from project developers and the government
 - No restrictions on forest management and land use activities
 - Maximize revenues (such as forest product production and offsets credits) and environmental co-benefits
- **Allows Project Aggregation**
- Introduce **Early Projects concept**

This regulation calls for a paradigm shift in the way credits are generated for temporary withdrawal projects.

• **From**



• **to**





- **For more information:**

<https://www.environnement.gouv.qc.ca/changements/carbone/credits-compensatoires/sequestration-carbone-boisement-reboisement-terres-prive-en.htm>

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