



# A Grassland Owner Primer on Canada's Market Landscape for Carbon

MARCH 2026



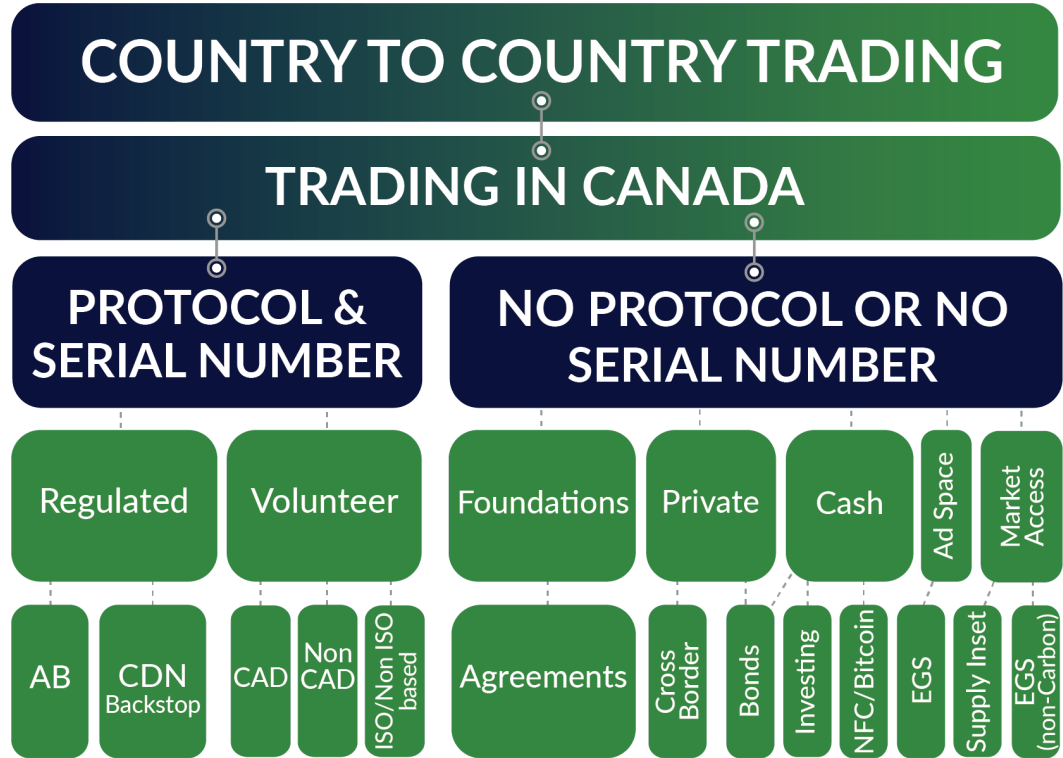
BIOLOGICAL  
CARBON  
CANADA



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# CARBON MARKET ROADMAP



## DID YOU KNOW?

All businesses, including agriculture, currently need to address carbon footprinting, scope their supply chain emissions and meet the non-uniform demands of customers and investors.

## QUICK SUMMARY

This document provides a quick summary of the marketplace's state regarding the ability to participate in the carbon market from a parcel of native grass and a corresponding improvement in the carbon sink, as of March 1, 2026.

## THE BOTTOM LINE

Carbon is a new business commodity.

The carbon marketplace trades data. This data and its corresponding certificate include regulatory offsets, voluntary certificates, and other market instruments. All are based on emission reductions, emission avoidance, and improvements in soil sinks.

Other market instruments do not directly tie their certificates to changes in greenhouse gas emissions.

All businesses, including agriculture, currently need to address carbon footprinting, scope their supply chain emissions (including data from ag commodity suppliers), and meet the non-uniform demands of customers and investors.

Climate markets are essential. From the grassland owner's perspective, they present a new product opportunity and examine emissions directly related to energy use expenses.

Final emitters paying a levy or buying an offset cover a portion of the total emission map. Climate markets refer to the buying and selling of actual reductions. The approval of Article 6 in Glasgow makes this now a reality. Emissions now go beyond a zero-sum game (Kyoto), and markets offer a cheaper and easier method to reach emission limits<sup>1</sup>.

When a grassland owner wants to sell into a carbon market, there is not just one market. Instead, the ranch is entering a new commodity market with new rules, players, and risks.

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<sup>1</sup> Carbon Brief

“A government program and a carbon levy do not make a market.”

Hon. C. Deacon,  
Senate of Canada

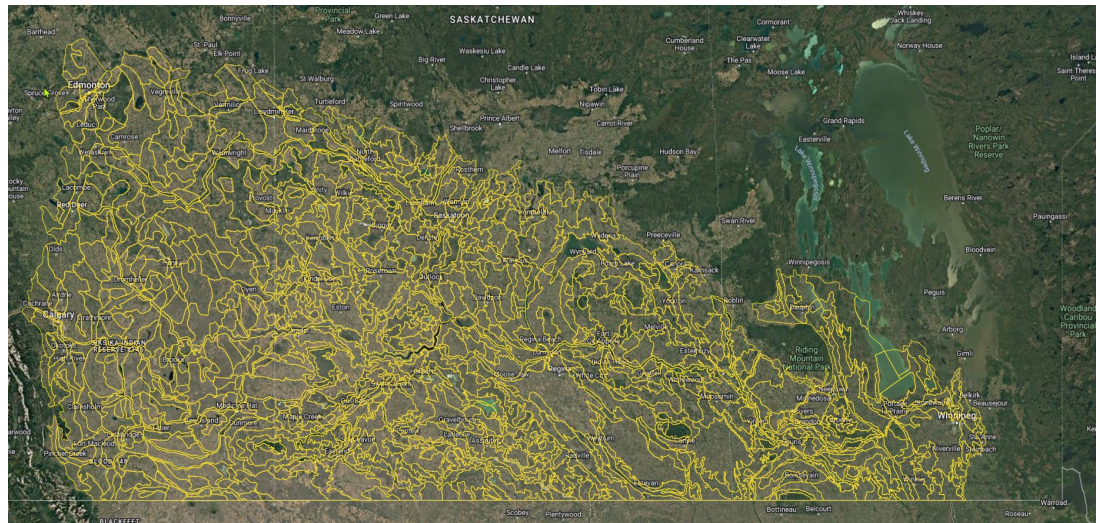
## GRASSLANDS MARKET OVERVIEW

Many factors impact the supply of agricultural credits.

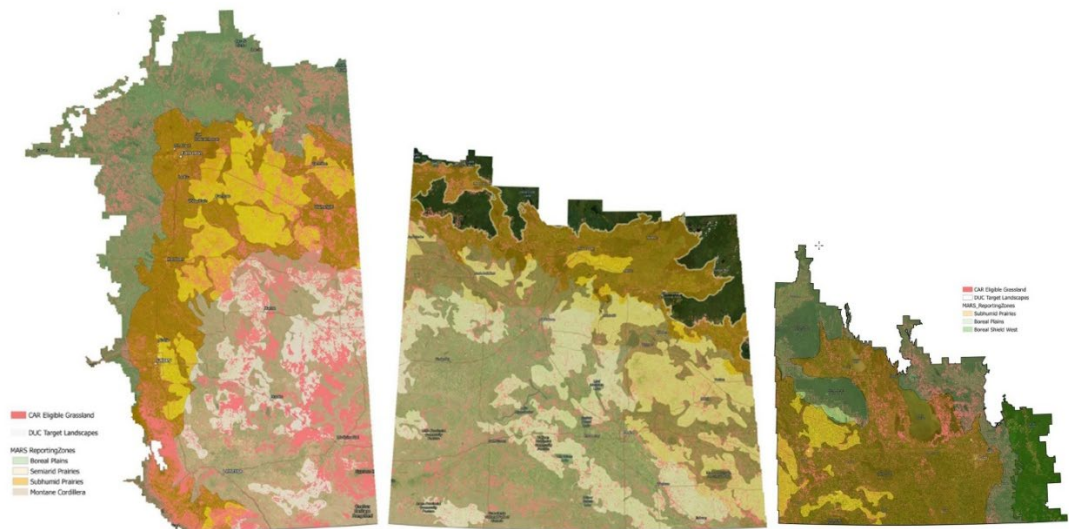
Ranch emissions are dispersed over extensive timelines and large landscapes. Inexact outputs and less-than-homogeneous biological processes also exist.<sup>2</sup>

The second factor is that the sector is not a reporting emitter. The lack of reporting leaves policymakers making decisions without good farm-based data.

**Figure 2 - Grasslands Inventory Prairie Provinces (source Univ. of Manitoba)**



**Figure 3 - Targeted Areas of possible eligibility grasslands**



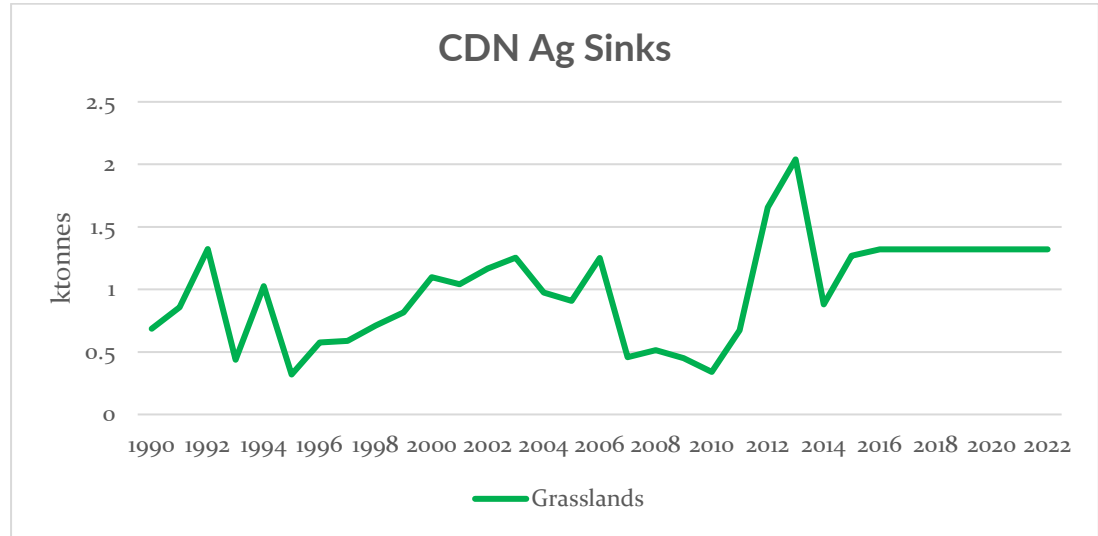
Source: Ducks Unlimited

<sup>2</sup> IETA

## GREENHOUSE GAS EMISSIONS FROM GRASSLANDS

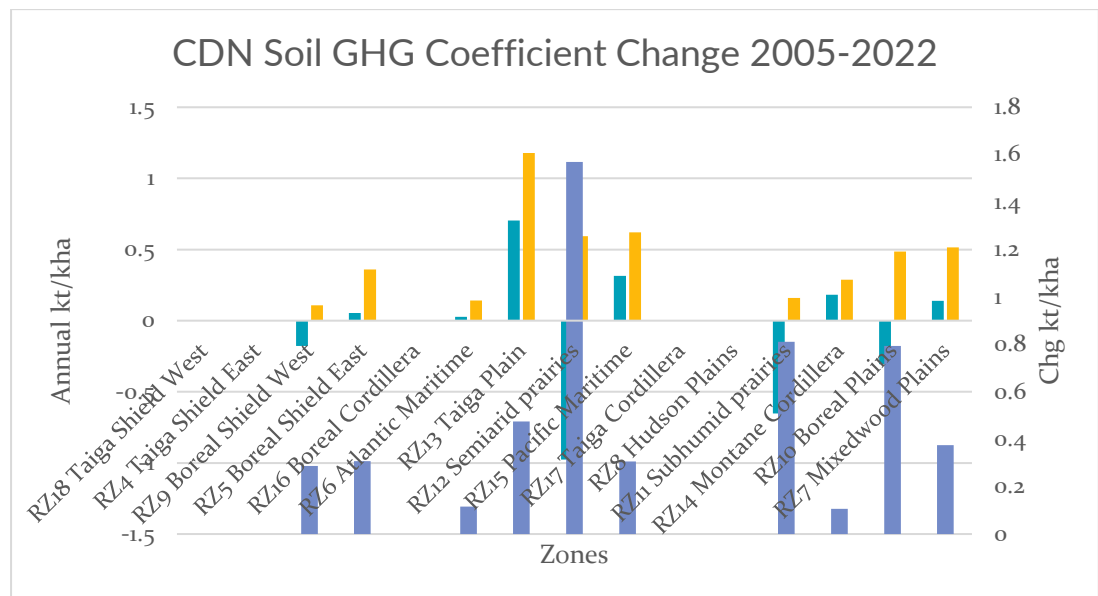
To put this in context with greenhouse gas emissions (and a corresponding offset), the grasslands in Canada have a GHG footprint. Using Environment & Climate Change Canada (ECCC) data, the table below shows the annual change in Canada's grasslands' GHG footprint. Note that the data indicates the sink is a yearly emitter.

**Figure 4 - Annual Sink Change and Annual Emissions**



The table below outlines the coefficient ECCC that applies to grasslands. The coefficient has changed over time.

**Figure 5 - ECCC Coefficients applied to soils.**



To put this in context, ECCC reports that 13,200 hectares of grasslands were converted to cropland, and the emission reported is 48,780 tonnes<sup>3</sup>.

**Table 1 - Grassland Loss by Zone in 2022**

ZONES	kha
RZ15 Pacific Maritime	0.03
RZ5 Boreal Shield East	NO
RZ7 Mixedwood Plains	NO
RZ16 Boreal Cordillera	NO
RZ4 Taiga Shield East	NO
RZ12 Semiarid prairies	12.06
RZ10 Boreal Plains	NO
RZ6 Atlantic Maritime	NO
RZ8 Hudson Plains	NO
RZ13 Taiga Plain	NO
RZ14 Montane Cordillera	1.11
RZ9 Boreal Shield West	NO
RZ17 Taiga Cordillera	NO
RZ11 Subhumid prairies	NO
RZ18 Taiga Shield West	NO

<sup>3</sup> Table 4.B - CAN\_2024\_2022\_25032024\_224710 GHG National Inventory

**Table 2 - Change in Grassland Area<sup>4</sup>**

ZONE	1990 TOTAL AREA (kha)	2022 TOTAL AREA (kha)	ANNUAL CHANGE (ha)
	7304.56	7067.35	-7412.66
RZ16 Boreal Cordillera			
RZ7 Mixedwood Plains			
RZ5 Boreal Shield East			
RZ3 Southern Arctic			
RZ18 Taiga Shield West			
RZ10 Boreal Plains			
RZ2 Northern Arctic			
RZ14 Montane Cordillera	213.37	195.69	-552.50
RZ8 Hudson Plains			
RZ4 Taiga Shield East			
RZ9 Boreal Shield West			
RZ11 Subhumid prairies			
RZ15 Pacific Maritime	1.07	0.30	-24.22
RZ13 Taiga Plain			
RZ12 Semiarid prairies	7090.12	6871.37	-6835.94
RZ6 Atlantic Maritime			
RZ17 Taiga Cordillera			

<sup>4</sup> Table 4.C for 1990 and 2022 ECCC GHG National Inventory

## DID YOU KNOW?

Since early 2023, the US Congress has allowed the USDA to regulate the voluntary market in the US. This may be a game-changer as voluntary market rules challenge both quality, supply, and price.

## MARKET CONFIDENCE

The relationship between buyer and seller is key. The distance between the two adds price risk.

### Well-functioning markets meet five confidence tests.

1. The process is transparent.
2. The credit is an actual reduction with no political adjustments.
3. Buyers and investors accept the offset for their intended purpose.
4. Offsets move seamlessly across borders.
5. Market integrity and transparency to see equity and well-being outcomes.

Since early 2023, the US Congress has allowed the United States Department of Agriculture (USDA) to regulate the voluntary market in the US. This may be a game-changer as voluntary market rules challenge both quality, supply, and price.

In May 2024, the USDA and several other Departments outlined their regulatory map and responsible participation outcomes for the voluntary market.

1. Credits will be real and have integrity.
2. Generating activities should avoid environmental harm.
3. Generating activities should support co-benefits and have benefit-sharing attributes.
4. Buyers should prioritize purchases in their direct supply chain.
5. There is public disclosure of purchases and retirements.
6. Only use high-quality credits.
7. Market participants should endorse market rules and the rule development process.

As of April 2025, the USDA has not publicly changed this framework.

To date, neither ECCC nor Agriculture and Agrifood Canada (AAFC) have published market participation outcomes.

## DID YOU KNOW?

Bloomberg's long-term forecast continues to recognize supply pressure and is hard-pressed to overtake \$40 USD, with prices pressed to break beyond \$12-18 USD.

## MARKET PRICE OUTLOOK

### Estimates

Bloomberg Professional Services recently offered a long-term outlook for voluntary carbon prices. Significant supply and demand volatility exists, and with Article 6 not yet fully implemented, the marketplace is regionally segregated. Long-term supply estimates overtake demand, putting price pressure on available credits. Supply sources continue to be projects that include avoiding deforestation, reforestation, and agriculture.

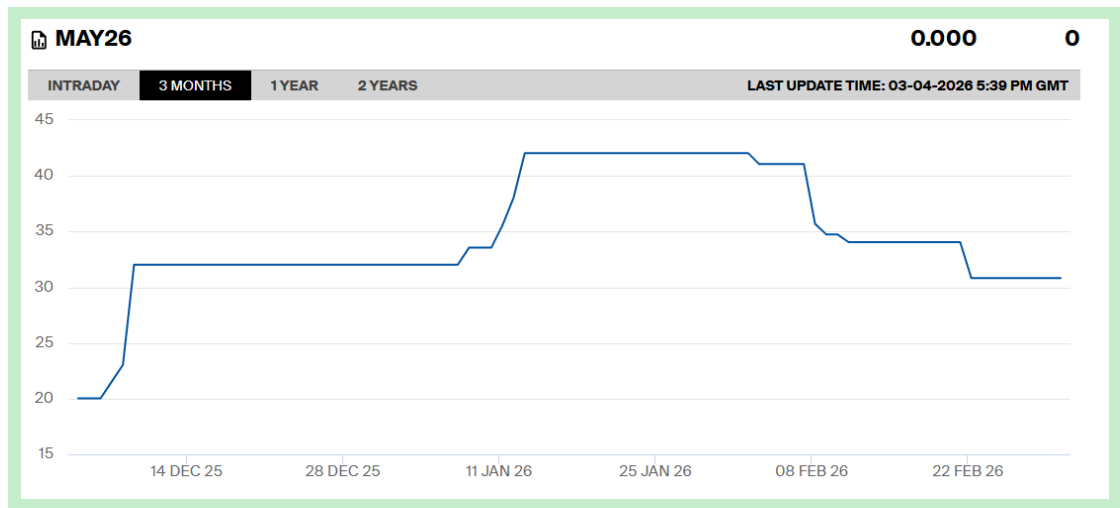
Bloomberg's long-term forecast continues to recognize supply pressure and is hard-pressed to overtake \$40 USD, with prices pressed to break beyond \$12-18 USD.

### Current Regulated Price

Alberta has the only regulated carbon market in Canada.

The figure below is the current settlement<sup>5</sup> of regulated instruments in Alberta.

Figure 6 - Nearby TIER Alberta Price



This price graph indicates a basis of \$64 under the \$95 OBPS 2025 price.

<sup>5</sup> <https://www.ice.com/products/83047161/Alberta-Emission-Offset-Vintage-2025-Futures/data?marketId=7641666&span=1>

## Current Voluntary Price

The figure below shows a voluntary instrument's current settlement<sup>6</sup> in North America.

**Figure 7 - Voluntary Futures**

CBL NATURE-BASED GLOBAL EMISSIONS OFFSET FUTURES - SETTLEMENTS								
TRADE DATE Tuesday, 03 Mar 2026								
Last Updated 03 Mar 2026 11:55:00 PM CT								
ESTIMATED VOLUME TOTALS 2					PRIOR DAY OPEN INTEREST TOTALS 373			
MONTH	OPEN	HIGH	LOW	LAST	CHANGE	SETTLE	EST. VOLUME	PRIOR DAY OI
MAR 26	-	-	-	-	+.03	.56	0	0
APR 26	-	-	-	-	+.03	.53	0	0
MAY 26	-	-	-	-	+.03	.58	0	0
JUN 26	-	-	-	-	+.03	.63	0	0



<sup>6</sup> <https://www.cmegroup.com/markets/energy/emissions/cbl-nature-based-global-emissions-offset.settlements.html>

## DID YOU KNOW?

Verification is the process of comparing the project and all the evidence against the protocol. The verifier is a third party to both the project and the registry.

# PROTOCOLS & SERIAL NUMBERS

## CANADIAN MARKET FOR GRASSLANDS OVERVIEW

### Protocol-Based Market Overview

#### What is a Protocol?

A protocol is a methodology that applies current scientific standards to measuring changes in greenhouse gases resulting from changes in practice. It defines acceptable project evidence and, when successful, reports the number of tonnes per output unit.

One example is the Canada Grassland Protocol<sup>7</sup>. The protocol output is based on keeping grasslands intact.

The other published protocols assume that the current grazing practices are incorrect, and the “new” grazing practice results in the sink change.

#### What is Verification?

Verification is the process of comparing the project and all the evidence against the protocol. The verifier is a third party to both the project and the registry.

Both Alberta and Canada have set standards for verifier qualifications.

#### What is Validation?

Validation is an internal process that confirms and ensures that data entered a system is accurate.

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<sup>7</sup> <https://www.canadianfga.ca/en/projects/grassland-protocol/>

## DID YOU KNOW?

The Federal Backstop legislation was passed in 2019, and offset regulations were issued in 2022. In addition, the Ministry has formed technical teams to work on soil carbon and livestock protocols.

## REGULATED MARKET OVERVIEW

### Alberta's Regulated Market

Alberta continues to have an offset market. Final emitters are subject to a carbon levy and can choose to pay the levy or purchase an offset. Alberta has set a standard for Protocol design, project verification, and serialization registry.

Alberta has no approved agricultural protocols for grasslands as of March 2025.

### Canada's Federal Backstop Regulated Market

The Federal Backstop legislation was passed in 2019, and offset regulations were issued in 2022. In addition, the Ministry has formed technical teams to work on soil carbon and livestock protocols.

Canada has set a standard for project verification and a serialization registry. The protocol design is in-house.

Following the publication of draft protocols, the design standard applies to other government priorities beyond reducing emissions.

As of March 2026, Canada has no approved agricultural protocols for grasslands.

### Market Enforcement

Both Alberta and Canada have enforcement systems to ensure the certificate submitted for compliance is true.

In 2023, Alberta charged a business for being a non-approved verifier<sup>8</sup>.

There is no regulatory body in Canada to ensure transaction certainty.

### What is Sold?

The grassland owner (seller) is creating and selling a compliance certificate. Each serial number represents a tonne of greenhouse gas reduction and sink improvement.

An offset created in a backstop province is eligible for use by a regulated emitter in another backstop province.

The price is bilateral. There is no price discovery; historically, it has been traded at a discount to the levy.

There have been no sales in a grassland-based regulatory offset to date.

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<sup>8</sup> <https://www.lexology.com/library/detail.aspx?g=292ece11-bc2f-42e6-a43b-c1a74805c3e2>

## VOLUNTARY MARKET OVERVIEW

### Protocols

There is one Canadian agricultural protocol for grasslands in 2025. This is:

- Canadian Grassland Protocol

Several voluntary protocols indirectly affect grasslands by altering soil sinks. These are:

- VM0032 Methodology for the Adoption of Sustainable Grasslands through Adjustment of Fire and Grazing, v1.0
- VM0042 Improved Agricultural Land Management, v2.1
- Soil Enrichment Protocol reducing emissions and enhancing soil carbon sequestration on agricultural lands Version 1.1

### Protocol Standards

There are several approaches to protocol design. The most well-known approaches are based on ISO 14064, the Verified Carbon Standard (65-70% of the project), and the Gold Standard.

A more extensive list of protocol designs is below.

- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Voluntary Carbon Standard (VCS)
- VER+
- The Voluntary Offset Standard (VOS)
- Chicago Climate Exchange (CCX)
- The Climate, Community & Biodiversity Standards (CCBS)
- Plan Vivo System
- ISO 14064-2
- WRI/WBCSD GHG Protocol for Project Accounting

## Verification

The voluntary marketplace has not set uniform performance standards for verifiers.

## Registries

Registries are systems that register a project, force transparency, track verification, and track sales and retirement.

Canada has a voluntary registry delivered through the CSA. Registries offer a bulletin board service.

## Market Enforcement

There is no regulating body in Canada to ensure buyer and seller protection.

The author is aware of issues with a private protocol in Saskatchewan that includes grasslands. The regulating body of engineers has engaged an engineer-in-training<sup>9</sup> who issued a verification report.

## What is Sold?

The seller is creating and selling certificates. Each serial number represents a tonne of greenhouse gas reduction and sink improvement.

When the protocol and registry owners are the same, the fee structure that sellers pay is enhanced.



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<sup>9</sup> Only a full engineer can issue a work product. An Alberta engineer must be registered in the province a work product is exported to.

## DID YOU KNOW?

There is no market activity directly tied to a grassland parcel.

# NO PROTOCOLS & NO SERIAL NUMBERS

## NON-PROTOCOL MARKET OVERVIEW

### Insetting

Based on the private business use of scope one, two, and three emission calculations, these supply chains calculate and report on their current greenhouse emissions and commit to markets and shareholders on their plans to lower their footprint.

Sustainability now equates to ESG reporting.<sup>10</sup>

### What is Sold?

The grassland owner is selling both a hard commodity and a data package.

Access to a supply chain and the marketplace.

Preferred access to third-party money.

### The Marketplace for Grasslands

There is no market activity directly tied to a grassland parcel.

The scope three market is concentrating on livestock and meat products.

Examples are:

- Verified Beef Production Plus & Trust Bix.
  - The beef producer sells both meat and data packages. A premium is paid for the data package.
    - Note that the data package extends to more information than scope three emissions.
- McDonald's Canada upstream commitments based on animal welfare and responsible antibiotic use<sup>11</sup>.
- Cargill Canada (Cargill USA)<sup>12</sup> has announced various animal health initiatives.
  - Note – Some of the initiatives may be eligible for protocol use in Alberta if the additive has Canadian approval.
- JBS Canada is concentrating on water and energy use.<sup>13</sup>
- PepsiCo entered the marketplace in late 2025.

<sup>10</sup> Canadian Securities Administrators Staff Notice 81-334

<sup>11</sup> McDonalds\_PurposeImpact\_ProgressReport\_2023\_2024

<sup>12</sup> <https://www.cargill.com/story/what-is-methane>

<sup>13</sup> JBS\_Sustainability\_Report\_2023

## DID YOU KNOW?

ALUS Canada, through its municipal partners, purchases project outcomes and data from grassland owners.

### Foundations and Charities

Canada has a strong group of foundations and charities that build capital pools and invest in the agricultural community.

The investments are by:

- Purchasing management agreements.
- Purchasing easements with management conditions.
- Purchasing land trusts.
- Purchasing lands.

Foundations and charities must reinvest a portion of their capital into their communities each year.

Carbon and carbon sinks are part of these strategic investments.

### What is Sold?

This agreement defines this issue. The published agreements restrict the scope of management decisions available to the business owner. The restrictions relate to the outcome of conserving grasslands.

### The Marketplace for Grasslands

ALUS Canada, through its municipal partners, purchases project outcomes and data from grassland owners.

The following organizations are currently reporting that they are entering into management agreements with grassland owners. There could be more

These are:

- The Saskatchewan Stockgrowers Foundation
- The Nature Conservancy of Canada
- Ducks Unlimited
- Birds Canada

## DID YOU KNOW?

Credit purchasers are bound by the environmental performance agreement attached to the credit facility. Performance is rewarded with a discount on the market interest rate.

### Cash Derivatives and Bonds

In the financial markets, bonds exist with environmental attributes.

The credit purchasers are bound by the environmental performance agreement attached to the credit facility. Performance is rewarded with a discount on the market interest rate.

Other instruments are now secured through highly secure data movement (i.e., blockchain), backed by greenhouse gas reductions. Like the mortgage derivative market, the instrument is derived from a GHG reduction.

### **What is Sold?**

The seller currently sells a reduction in the derivative market. There may be an agreement for performance.

### **The Marketplace for Grasslands**

There is no market activity directly tied to a grassland parcel.



### Environment Good and Service

An industry organization is working in Alberta on a payment for a biodiversity index scheme. The project bundles private and public rights into an index.

#### **What is Sold?**

The buyer pays to maintain or improve a biodiversity index using available information.

### **The Marketplace for Grasslands**

There is one known activity in Western Canada. This is:

- Grasslands Capital X

No transactions have been reported publicly to date.

### Carbon-backed Utility Tokens

Utility tokens grant token holders privileged access to services. The tokens are not investments<sup>14</sup> as they are speculative and act more like promotional tools for the issuing company.

#### **What is Sold?**

A company investing in a GHG project will issue an initial coin offering (ICO) to raise the funds necessary to develop the project.

### **The Marketplace for Grasslands**

There is no market activity directly tied to a grassland parcel.

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<sup>14</sup> Investments and securities are priced based on future expectations of future corporate profits.

## DID YOU KNOW?

Regen Organic Certification and other certification systems promote soil health, animal welfare, and farmworker fairness.

However, they are not carbon instruments and do not currently measure changes in greenhouse gas emissions.

### Others

Across Canada, various offsets are connected to wetlands, urban development, and other specifically targeted development instruments designed to raise the cost of urban and energy development.

### **What is Sold?**

A regulatory document.

### **The Marketplace for Grasslands**

There is no market activity directly tied to a grassland parcel.

The author is unaware of any regulatory document or municipal permit required before converting a native grassland parcel.

### Certification

Regenerative Organic Certification and other certification systems promote soil health, animal welfare, and farmworker fairness. However, they are not carbon instruments and do not currently measure changes in greenhouse gas emissions.

### **What is Sold?**

Certification is a promise of attributes that a commodity buyer wants.

### **The Marketplace for Grasslands**

There is no market activity directly tied to a grassland parcel.

There is market activity on the associated livestock.

## CONCLUSION

The owners of private grasslands in Canada have choices in today's marketplace regarding the building and sale of carbon instruments.



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## FOR MORE INFORMATION



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