



The Wild Alberta Food Project

Amendment 1.

How can the law and
lawyers help incentivize
the use of Alberta's
carbon-credit market?

Executive Summary

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What is Regenerative Agriculture?

- ◆ Regenerative agriculture (RA) is an approach to farming that uses soil conservation as the entry point to regenerate and contribute to multiple provisioning, regulating and supporting services, with the objective that this will enhance not only the environmental, but also the social and economic dimensions of sustainable food production.¹ As Alberta-specific research is aggregated, an Alberta-specific definition will emerge.
- ◆ Among the many benefits of RA, is that it enables farmers to sequester enormous amounts of carbon in their soil. For this reason, the scientific community views RA as an essential tool in fighting and reversing climate change.

What is *TheWildAlbertaFoodProject.com* (TWAFP)?

- ◆ TWAFP is an interdisciplinary venture created by Scott McKenzie to assess how regenerative agriculture can improve Alberta's food system.
- ◆ TWAFP concluded that RA can improve Alberta's food system by producing healthier food more resilient to food-borne illnesses and the negative impacts of climate change. The benefits of RA will "spiral up" from improved soil quality, ultimately producing positive ecological, social, and economic outcomes.
- ◆ RA is a farmer-led social movement with substantial staying power once its practices are adopted. Increased adoption can be increased through sound public policy and legislation.
- ◆ Despite widespread regional and international support, scaling RA remains the "white whale" of interdisciplinary and transdisciplinary research.

What Issue is Addressed in this Amendment?

- ◆ The issue addressed in this amendment is the absence of legislation and policy incentivizing farmer use of Alberta's carbon-credit market.

1. Loekie Schreefel et al., "Regenerative Agriculture – the Soil Is the Base," *Global food security* 26 (August 2020): 6, accessed December 10, 2022, <https://doi.org/10.1016/j.gfs.2020.100404>.

- ◆ In its 2023 conclusion, while enumerating the contents of a prospective Alberta Regenerative Agriculture White Paper, *TWAFP* identified Alberta’s carbon-credit market as potentially vital to increasing farmer adoption of regenerative practices:

*The White Paper should include an account of how new technology can be assimilated to fully leverage **Alberta’s existent carbon-credit market apparatus**, which, although a relatively unknown variable, **could be the x-factor in [regenerative agriculture] adoption** reaching the tipping-point necessary to supplant the current industrial agricultural regime... **Through enacting sound public policy** informed by comprehensive Alberta-specific research, and by utilizing Alberta-developed technology to measure, track, and share environmental feedback, **the Alberta government can validate and incentivize both RA adoption, and RA investment.***

Additional research validates the ‘hunch’ expressed by *TWAFP* in 2023.

Methodology

- ◆ Apply normative economic analysis to farmer adoption of regenerative agricultural practices.
- ◆ **Normative Economic Analysis:**
 - **Pareto efficiency:** A better outcome arises where everyone is better off.
 - **Kaldor-Hicks efficiency:** The gains to be achieved through a change are great enough that the gainers would be willing to compensate the losers to keep those gains.
 - Legislating monetary incentives for Farmers to use Alberta’s carbon market is a rare instance in which both Pareto and Kaldor-Hicks efficiency is achieved.

Current Applicable Law and Policy

- ◆ **Alberta Emission Offset System (AEOS) implemented via Alberta’s Technology Innovation and Emissions Reduction Regulation (TIER)**
 - Information for industry on Alberta’s approach to reduce emissions from large industrial emitters. <https://www.alberta.ca/technology-innovation-and-emissions-reduction-regulation>.

◆ **Alberta Carbon Capture Incentive Program (ACCIP)**

- Grants to help accelerate the development of carbon capture, utilization and storage in Alberta. <https://www.alberta.ca/alberta-carbon-capture-incentive-program>.

◆ **Alberta Emissions Reduction and Energy Development Plan (AEREDP)**

- Charting Alberta's course to reduce emissions, attract investment, and grow the economy. <https://www.alberta.ca/emissions-reduction-and-energy-development-plan>.

What is Alberta's Carbon-Credit Market?

- ◆ Alberta's carbon-credit market was established in 2007, and was designed to help Alberta reach its goal of being carbon neutral by 2050. In the *Alberta Emissions Reduction and Energy Development Plan* released in January 2024, the government of Alberta outlined several initiatives aimed at positive ecological outcomes, including a broad explanation of Alberta's carbon-credit market:

Emission offsets, also known as carbon offsets or carbon credits, are verified emissions reductions from designated activities that can be used to offset emissions in other areas of the economy. Facilities regulated by TIER can buy emission offsets to achieve emissions reductions required by the TIER Regulation. This enables regulated facilities to invest in lower cost emissions reductions while planning the necessary capital investment required to reduce on-site emissions. The Alberta Emission Offset System incentivizes emissions reductions in industries and sectors not regulated by TIER.

Alberta's emission offset system is internationally recognized and is the longest-standing system in North America, established in 2007. This groundbreaking offset program has attracted interest from jurisdictions around the world, including in the United States, Australia and South Korea. Alberta is also recognized for the large number of its established protocols or activities that can generate an offset.²

The Problem: Insufficient Monetary Incentive to use the Carbon Market

- ◆ The *Alberta Emissions Reduction and Energy Development Plan's* agriculture summary:

2. www.open.alberta.ca/dataset/7483e660-cd1a-4ded-a09d-82112c2fc6e7/resource/75eec73f-8ba9-40cc-b7f4-cdf335a1bd30/download/epa-emissions-reduction-and-energy-development-plan.pdf

Agriculture

Alberta farmers and ranchers are well established land stewards and continue to make improvements to lower their carbon and environmental footprint, while improving productivity and resilience to a changing climate to support global food security.

Actions and opportunities:

- Explore new and existing best management practices for greenhouse gas emissions reduction and removal, including assessing ecosystem services provided by agriculture which are currently not captured in traditional markets.
- Implement the new Sustainable Canadian Agriculture Partnership programs, which are set to begin accepting applications in April 2023.
- Continue to ensure that the environmental stewardship of agricultural producers in the province is recognized and that our agricultural commodities continue to play a major role in meeting global food security needs.
- Assess opportunities to expand and refine agricultural emission reduction protocols, such as the Nitrous Oxide Emission Reductions Protocol, to increase usability and reduce data burden.

There is no financial incentive to simply use the carbon-credit market.

- ◆ In her study, *Carbon Credit Systems in Alberta Agriculture*, Sarah Van Wyngaarden of UCalgary's Simpson Center states:

*Agricultural producers voluntarily participate in these markets through agricultural carbon offset protocols; regulated emitters can purchase agricultural carbon credits to meet their emission reduction requirements. **The main goal of these agricultural protocols is to reduce on-farm emissions through the adoption of best management practices (BMPs)**, alongside providing producers with the potential benefit of earning additional revenue by selling carbon credits on the market.*

*While producers have participated in the market for quite some time, **the impact of the market on Alberta agricultural producers is unknown**. After a case study of current agricultural carbon offset protocols, **the results suggest producers are mainly participating for the economic benefits stemming from the adoption of BMPs, rather than the potential revenue from selling carbon credits on the market.***

*Results also show **protocols have high emission reduction potential**, but this analysis was limited due to a **lack of publicly available data**. The most significant observation is that most protocol emission reductions come from one protocol, the Conservation Cropping Protocol, which is concerning given **its retirement on***

December 31, 2021. The main consideration will be addressing current protocol shortcomings to ensure producers are willing and able to participate in the market.³

Van Wyngaarden aptly describes how the carbon-credit market is designed to work and notes its potential. Her conclusion, however, that addressing protocol shortcomings ought to be the main consideration, incorrectly assumes that addressing such shortcomings will ensure market use. While protocols will be important, *TWAFP* believes that their value would be heightened by financial incentives attached to the amount of market-use.

Recommendations

1. Provide public, transparent, and accurate data illustrating the emission reduction potential of on-farm regenerative practices.
2. Provide Alberta farmers with an impact assessment explaining the potential economic benefit of increased carbon market use.
3. Enact legislation or policy stipulating monetary incentives for increased carbon market use, i.e., create benchmarks at which producers will earn financial reward. For example, a \$5,000 bonus for each 10 transactions.

Conclusion

Regenerative agricultural practices inherently capture carbon in soil. Producers receive credits based on the amount of sequestered carbon in their soil, which they can sell on the market to high emitters.

TWAFP's normative economic analysis produced a simple theory: **As the volume of market transactions goes up, so too does the volume of regenerative practices used by farmers.**

Once farmer adoption reaches a certain point, food system transformation will occur naturally, in alignment with market forces. Alberta farmers will see increased profit, Alberta's citizens will be healthier, and Alberta's food system will be far more resilient to food borne illnesses and the negatives impacts of climate change. Thus, it seems both Pareto and Kaldor-Hicks efficiency may be achieved by changing the law, or adding to it in this case, because a better food system is better

3. From https://www.policyschool.ca/wp-content/uploads/2022/06/JSC16_CarbonCreditSystemsABAgric.Wyngaarden.June9_.pdf

for all, and farmers who transition from industrial to regenerative farming would be compensated for any costs incurred because the gains would be so great.

Despite the Alberta government implementing policies aimed at increasing positive ecological outcomes in the agriculture sector, their efforts are undermined by not providing farmers with a financial incentive to use the carbon-credit market. The above recommendations would rectify this problem and improve Alberta's food system in the process.