

ROADMAP TO ALBERTA'S INNOVATIVE OFFSET SYSTEM

What the agriculture industry needs to know about this system and how it can benefit farm management

An era of carbon offsets is at hand in Alberta. It's based on first-of-its-kind legislation in North America and gives producers new ways to benefit from helping to reduce greenhouse gas emissions.

The system is in the early stages of application. As a result, there's a wide range of understanding and expectations about what it is, where it's headed and what producers need to know in order to participate and benefit.

"FARMERS HAVE NEW WAYS TO BENEFIT FROM HELPING TO REDUCE GREENHOUSE GAS EMISSIONS."

Important note: Record keeping is critical. To qualify for offsets, documents are needed to prove that the management practices used to reduce or remove emissions actually occurred. This is critical not only to earn offsets, but to protect the producer from liability if there is any challenge to the carbon offsets being claimed.

A few things need to be clear. It's not-asz-get-rich quick scheme. It's not a government support program, it is a market instrument. The system presents new ways for producers to consistently improve their operations and earn some extra dollars along the way. Here's an overview of the fundamentals.

THE NEW WORLD OF OFFSETS

A number of key developments are coming together to drive Alberta's offset system.

A new era. Whatever your view on climate change, it's clear the world is looking for ways to reduce greenhouse gas emissions and that is driving new initiatives around the globe. Alberta is taking steps to do its part and in fact is helping to lead the way.

Alberta taking charge. One of the key components of Alberta's effort is the *Climate Change and Emissions Management Amendment Act* and its accompanying *Specified Gas Emitters Regulation*, which is the first-of-

its-kind in North America to mandate specific emissions reductions from industry.

Regulating large emitters. A major target of this regulation is industrial facilities that produce more than 100,000 tonnes in carbon dioxide equivalent (CO₂e) emissions annually. Under the regulation, these large emitters are now required to cut their 'emissions intensity' by 12% each year. They can do this by: reducing emissions, paying into a *Climate Change and Emissions Management Corporation (CCEMC) fund*, or purchasing carbon offsets through the Alberta offset system.

Targeting greenhouse gases. The main greenhouse gases for agriculture include carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Each of these are recognized to have different rates of 'global warming potential' and are measured as carbon dioxide equivalents (CO₂e) over a 100 year period.

Gas	Global Warming Potential
CO ₂	1
CH ₄	25
N ₂ O	298



The role of offsets. In simple terms, a carbon offset is a trade-off. If a facility can't meet its own targets, it can purchase a voluntary emission reduction from another unregulated source to make up for that shortfall. At the end of the day, the goal of reducing emissions gets accomplished and emitters have another option to help meet their obligations in a manageable way as they adjust their operations and/or adopt new technologies to meet new requirements and regulations.

Alberta's offset system. The Alberta offset system is the framework of processes, rules and regulations by which the offset market operates. Alberta's offset system was established in 2007 and continues to grow and evolve. In 2012, standards of verification increased to Reasonable Level Assurance for audit by independent third parties. In 2016, the option of contributing to the CCEMC fund increased from \$15 / t CO₂e to \$20 / t CO₂e and the requirement to reduce emissions intensity increased from 12% to 15%. By 2017, payments to the CCEMC fund will increase to \$30 / t CO₂e and reduction requirements will increase to 20%. These changes increase the value and demand for offsets.

Protocols outline options. Approved protocols outline the specific types of practice change that are eligible to be recognized as a carbon offset. The Alberta offset system is broader than agriculture and includes a number of protocols that apply to other industries. Short summaries of the protocols have been developed for quick reference. Full, detailed protocols are also available. Detailed information about the requirements of the offset system, project development and verification is available at: <http://aep.alberta.ca/climate-change/guidelines-legislation/specified-gas-emitters-regulation/offset-credit-system-protocols.aspx>.

Short summaries of the protocols have been developed for quick reference. Examples include:

- Conservation Cropping – increased carbon storage in soils
- Beef Low Residual Feed Intake - genetic selection improvement feed utilization
- Beef Reduced Age at Harvest - earlier harvest dates
- Beef Fed Cattle - increased feed efficiency
- Nitrous Oxide Emissions Reductions (NERP) – improved fertilizer placement, timing, rate and product
- Dairy – improved management of diet and manure
- Energy Efficiency – improved energy use
- Bioenergy (3) - Biofuel, Biogas and Waste Biomass – renewable biological sources of energy

OPPORTUNITIES FOR PRODUCERS TO BENEFIT

There are many opportunities for agricultural producers to benefit from participating in this system.

Cashing in on offsets. Farmers can sell carbon offsets to regulated emitters. At current prices, this is unlikely to be a big money-maker. However, the value of offsets has significant opportunity to grow as the system evolves and the demand for offsets increases.

Capturing co-benefits. A major feature of the offset system is the value that protocols themselves offer as options for evaluating and improving farm management. A priority has been placed on developing protocols that improve efficiency, productivity, sustainability and other important aspects of a successful agricultural operation.

Gaining experience with environmental markets. Knowledge about verifiable records needed to demonstrate conditions “before” and “after” a management improvement is transferrable to other opportunities.

Contributing to the positive reputation of Alberta's agricultural industry. Carbon offsets help to demonstrate that environmentally and economically sustainable farm practices are being used.

As a result, producers now have access to a growing list of protocols that offer additional options to consider as part of their farm management.

COMMITMENT TO COMMUNICATIONS

A key to the success of the Alberta offset system system is getting knowledge to producers and others who can use it. Alberta Agriculture and Forestry is delivering a communications program to support this knowledge transfer which includes updates on the system, the protocols available and other key developments.

This information is made available in a variety of ways to producers and those who deal with producers, and is anchored online at the Alberta Agriculture and Forestry.

Agricultural Carbon Offsets with information on all the agricultural protocols.

For more information, contact Sheilah Nolan, Climate Change Specialist or call (780) 310-FARM (3276).