

Carbon Offset Systems

ISSUE

To reduce Greenhouse Gas (GHG) emissions, one approach included in global climate changes strategies is to implement a Carbon Offset System. In 2021, the Saskatchewan Ministry of Environment started engagement on the development of the Saskatchewan GHG Offset Program. The intent of the program is to “*incentivize actions that sequester carbon or reduce emissions*” and “*provide recognition for non-regulated reductions in provincial GHG emissions*”.

Given the City of Saskatoon’s (City) GHG reduction targets and a list of existing and planned climate change projects and plans, the City is also contemplating the establishment of its own offset program to participate in the provincial system. As a result, what are the key features of a Saskatchewan-based carbon offset program and how would it be applicable to the City?

BACKGROUND

A carbon offset can be defined as an action or activity that compensates for the emission of carbon dioxide or other greenhouse gases to the atmosphere. Offsets are used globally; they were enabled under international law in the 1997 Kyoto Protocol and an approach for them also exists under Article 6 of the 2016 Paris Agreement.

By purchasing carbon offsets, a quantifiable amount of such an activity may be bought, sold, or traded especially as part of a system to reduce pollutants in the atmosphere. This functions on the principle that when you purchase carbon offsets, you are funding a project that reduces greenhouse-gas emissions, for example, increasing energy efficiency, developing renewable energy, restoring forests, or sequestering carbon in soil.

There are two carbon offset markets: the first is the compliance market and the second is a voluntary market. Carbon offsets can be generated and used under government-approved frameworks for regulatory purposes (compliance). For compliance markets, the example is that regulated industrial emitters who continue to emit carbon pollution can meet their regulatory obligations under climate policies by the purchase of offset credits. By contrast, the voluntary market is outside the compliance market and provides credits on a voluntary basis to any business or individual that wants to offset non-regulated emissions.

Carbon offset credits are calculated using a baseline case and a project case. The difference between these two is determined as the GHG savings and that value can be used as a carbon credit.

Carbon offset programs or systems include:

1. Regulations to implement the operational aspects;
2. Approved protocols that provide methodologies on quantifying GHG reductions for specific projects; and
3. A tracking or registration system.

These three aspects provide accountability that the GHG reductions are determined using a verified method, with proper accounting and tracking of credits. A good general overview and additional information on carbon credits can be read at this [link](#).

CURRENT STATUS

No compliance carbon offset system or program exists in Saskatchewan or nationally in Canada. British Columbia, Alberta and Quebec have existing provincial compliance programs.

DISCUSSION/ANALYSIS

Saskatchewan Ministry of Environment Carbon Offset Program Development

The Saskatchewan Ministry of Environment is developing the Saskatchewan Greenhouse Gas (GHG) Offset Program as part of the *Prairie Resilience: A Made-In-Saskatchewan Climate Change Strategy (Prairie Resilience)*. It provides offset credits to project developers who use approved offset protocols to reduce, remove, or sequester GHG emissions from the atmosphere. These credits can then be sold to regulated emitters, looking to reduce or account for their own GHG emissions. Regulated emitters in Saskatchewan are those defined and subject to *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*. This is Saskatchewan's version of an Output-Based Performance Standard and it applies a price to emissions that exceed the standard. Thus, when regulated emitters exceed the permitted emissions, they incur a compliance obligation (payment) that is paid into the *Saskatchewan Technology Fund*. The technology fund is allocated to projects that drive GHG reductions at regulated facilities. The cost of the compliance payments will increase over time with the increase of the federal carbon charge. The first compliance payments are expected in 2021.

To align with other provincial and proposed federal systems, the Saskatchewan GHG Offset Program is designed to incentivise activities that result in real, quantifiable, and verifiable reductions of GHGs in Saskatchewan. One key principle identified in the Saskatchewan Ministry of Environment GHG Offset Program Proposal Paper – February 2021 (included in Appendix 1) is that “*offset credits are only awarded for activities that are not required to occur and results in GHG reduction beyond those that would occur in business-as-usual scenarios.*” It provides financial incentives for activities that are not covered by existing carbon charges or regulations.

The two provincial protocols that are currently in development in 2021 are:

1. Landfill Gas Capture and Combustion; and
2. Aerobic Composting.

Carbon Offset Systems

The Administration has participated in the Technical Review Committee meetings (July 2021) for both listed protocols. Public review is expected to occur in September 2021 with the expected Program launch in 2022.

Other Greenhouse Gas Offset Systems

The Federal GHG Offset System is being developed under Part 2 of the *Greenhouse Gas Pollution Pricing Act*. Federal credits will not apply to projects if any provincial protocols exist for the same type of activity. Final federal regulations are expected in Fall 2021.

Other international compliance and voluntary programs exist, and the Administration will continue to investigate options with those programs.

City of Saskatoon Carbon Offset Program Development

The City owns and operates municipal landfill gas and composting facilities. Both assets reduce GHGs over baseline conditions and may be eligible under the new Saskatchewan program. Details and applicability with the federal program are unknown at this time, but the Administration will continue to monitor and review protocols as they are announced and published.

Both provincial and federal programs have the option to consider new protocols and each program will have a new protocol application procedure. Further protocol development beyond the items listed above will most likely be led by industry, not by Canada or Saskatchewan. The Administration will have future opportunities to lead or participate in new protocols that could provide additional carbon offset credits.

FINANCIAL IMPLICATIONS

A key benefit is that the selling of carbon offset credits provides a potential new revenue source for the City. The monetization of carbon and the ability to sell offsets provides economic incentives for existing and future GHG reduction projects. This new source of revenue adds a new consideration when project goals and plans are developed. The ability to reduce carbon, along with alignment of the Low Emissions Community Plan targets, can also provide income that may change financial and economic risks. At this point in time, the Administration cannot speculate on the expected revenues that could be generated as both quantity and cost per tonne are uncertain.

OTHER IMPLICATIONS

GHG Inventory and Reporting

The *Global Protocol for Community-Scale Greenhouse Gas Emission Inventories* is the methodology followed for the generation of the City's GHG inventory. As part of this protocol, any offset credit transactions are required to be reported. It is important to report credits that are sold in a meaningful way and to be transparent with the total GHG emissions impacts from City operations to the wider community.

If the City sells offset credits, then those GHG reductions should not be counted towards the GHG reduction goal. Selling offset credits may have significant impacts for

the Low Emissions Community Plan and Saskatoon's GHG reduction target, which would need to be further investigated and quantified. To this end, impacts to the GHG inventory and the reporting process will be further assessed once the details are available for the provincial and federal programs.

Offset Program Risks

Offset programs have been generally criticized as ineffective in reducing overall carbon emissions. Recent programs and protocols have improved over those previous generation of programs and worked to overcome and address some of the common pitfalls. Rigorous protocols and regulations have been developed to reduce risk.

Offset programs can provide financial benefits to both regulated emitters (buyers) and carbon offset producers (sellers), however the overall impact to provincial or federal GHG emissions can be debated.

There may be a reputational risk of participating and benefiting from the carbon offset market. The Administration will continue to research how other municipalities have approached these risks.

NEXT STEPS

The Administration is continuing to participate in the Saskatchewan Ministry of Environment Technical Review Committees for both the Landfill Gas Capture and Combustion and the Aerobic Composting Protocols. Additional information is expected in the Fall of 2021, and further reporting will be provided once it is received and analyzed.

APPENDICES

1. Appendix 1: Saskatchewan Greenhouse Gas Offset Program Proposal Paper - February 2021

Report Approval

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