

# EnviroPath: Alberta Offset Revocation Analysis

August, 2017

An important consideration in deciding whether to use offsets for compliance purposes is to understand the risk associated with offset revocation.

The following information is intended to provide Alberta carbon market participants with information needed to understand historical offset revocation incidence and trends. The data in this analysis is current as at the end of February 28th, 2017 and is based on data available on the Alberta Carbon Registry<sup>1</sup>.

## AB Offset Issuance and Revocation Summary

Offset Protocol	Total Issued	Total Revoked	Revocation Rate
Acid Gas Injection	2,273,808	-	0.00%
Aerobic Composting Projects	1,123,519	-	0.00%
Anaerobic Decomposition of Agricultural Materials	31,379	-	0.00%
Anaerobic Treatment of Wastewater Projects	996,942	-	0.00%
Biofuel Production and Usage	210,066	-	0.00%
CO2 Capture and Permanent Storage in Deep Saline Aquifers	166,540	-	0.00%
Conservation Cropping	2,426,848	-	0.00%
Direct Reductions in Greenhouse Gas Emissions Arising from Changes in Forest Harvest Practices	798,645	-	0.00%
Diversion of Biomass to Energy from Biomass Combustion Facilities	2,775,688	-	0.00%
Energy Efficiency for Commercial and Institutional Buildings	172,894	16,501	9.54%
Energy Efficiency Projects	1,695,638	-	0.00%
Energy Generation From the Combustion of Biomass Waste	124,074	-	0.00%
Engine Fuel Management and Vent Gas Capture Projects	348,960	-	0.00%
Enhanced Oil Recovery	1,440,290	-	0.00%
Enhanced Oil Recovery (streamlined)	713,800	-	0.00%
Instrument Gas Conversion to Instrument Air Conversion in Process Control Systems	62,671	-	0.00%
Landfill Gas Capture and Combustion	1,611,287	-	0.00%
Low-Retention, Water-Powered Electricity Generation as Run-of-the-River or an Existing Reservoir	1,011,447	-	0.00%
Nitrous Oxide Abatement from Nitric Acid Production	3,734,738	-	0.00%
Reducing Days on Feed of Beef Cattle	45,126	-	0.00%
Substitution of Bitumen Binder in Hot Mix Asphalt Production and Usage	343	-	0.00%
Tillage System Management	11,038,581	861,235	7.80%
Waste Heat Recovery (streamlined)	55,655	-	0.00%
Waste Heat Recovery Projects	149,724	-	0.00%
Wind-Powered Electricity Generation	9,159,541	-	0.00%
<b>Total Issued Offsets</b>	<b>42,168,204</b>		
<b>Total Revoked Offsets</b>		<b>877,736</b>	
<b>Revocation Rate</b>			<b>2.08%</b>
<b>Revocation Rate Net of Tillage</b>			<b>0.04%</b>

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*Historical revocation rate of .04%, net of tillage*

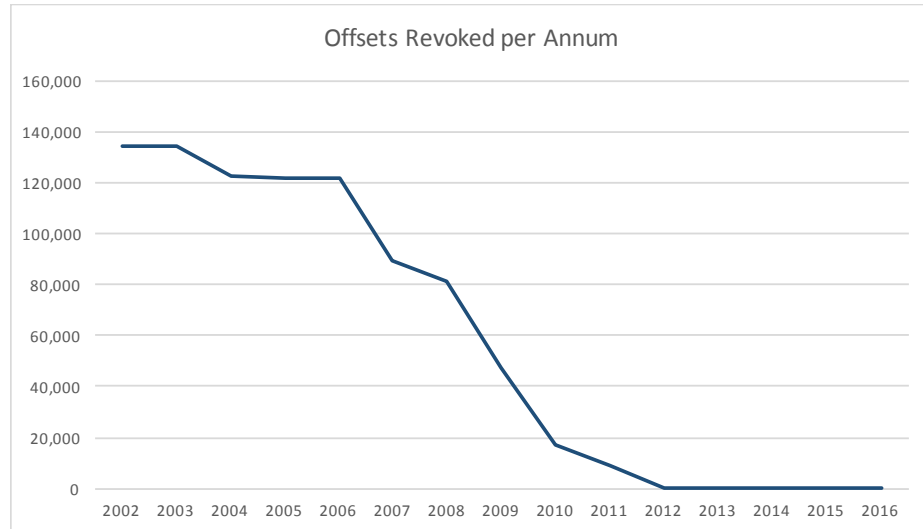
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Offset revocation in the Alberta market has been centered around two protocols, detailed in the above table, and dominated by Tillage System Management. It is understood from conversations with the program regulator, Alberta Climate Change Office (ACCO), that most of the tillage offsets that were revoked were subsequently re-verified and reissued.

<sup>1</sup> <https://www.csaregistrries.ca/albertacarbonregistries/home.cfm>

## Offset Revocation Trends

*Offset revocation has declined steadily since program inception, with no revocations since 2011*



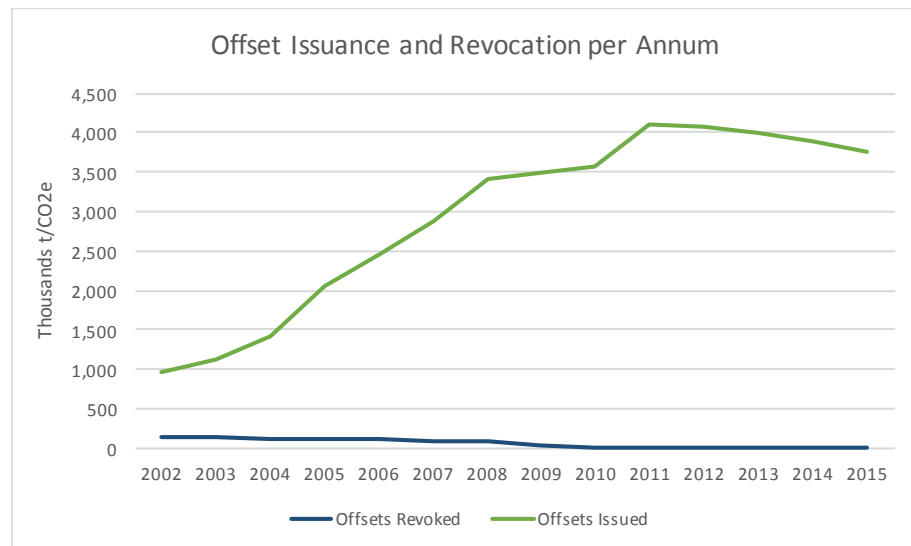
Offset revocations have shown a steady decline since program inception in 2007, potentially indicating a learning curve in the early days of the Alberta carbon market. Actual revocation vintages date back to 2002 as there was a look-back provision that allowed for certain protocols (e.g. tillage) to generate credits from before the program start date. This ended in 2011.

There have been no revocations since 2011 and from 2012 the stringency of the offset project verification standard was raised to a “reasonable” level of assurance, from the previous “limited” level of assurance.

Offset projects are also subject to post-issuance audits, initiated by the regulator. Audits are used to ensure the integrity of the offset system. Details around project audits are not publicly available but it is understood that approximately 10-15% of projects are targeted for audit per year.

## Offset Issuance and Revocation Comparison

*Offset issuance has increased, while revocation has declined*



While the issuance of offsets and Emissions Performance Credits (EPCs) has increased, revocation rates have been declining to the point where there have been no recent revocations. The tapering off of offset issuance since 2012 is related to the look-back provision being eliminated as of January 1, 2012. In addition to annual offset issuance, historically, an average of just under two million EPCs have been issued per year.

## Offset/EPC Pricing

Payment into the Climate Change and Emissions Management Fund is the risk-free, but most expensive, compliance option. Offsets and EPCs involve some risk and therefore price at a discount to the risk-free option. Factors that impact the discount include the project type, willingness of the seller to provide a guarantee, credit quality of the seller, and whether or not the project has been audited in the past.

The use of offsets can result in a considerable savings, given their potential discount to Fund payment. The following tables provide two offset usage scenarios under varying purchase price points:

1. A 150k tone compliance obligation with 100% offset usage, as allowed for 2017 compliance.

Price paid per EPC/Offset	\$20	\$21	\$22	\$23	\$24	\$25	\$26	\$27	\$28
Savings on a 150k compliance obligation through 100% offset/EPC usage	\$1,500,000	\$1,350,000	\$1,200,000	\$1,050,000	\$900,000	\$750,000	\$600,000	\$450,000	\$300,000

2. A 150k tone compliance obligation with 30% offset usage, as currently allowed for 2018+ compliance.

Price paid per EPC/Offset	\$20	\$21	\$22	\$23	\$24	\$25	\$26	\$27	\$28
Savings on a 150k compliance obligation through 30% offset/EPC usage (45k)	\$450,000	\$405,000	\$360,000	\$315,000	\$270,000	\$225,000	\$180,000	\$135,000	\$90,000

## EnviroPath Market

In 2016 WattEx, a wholly owned subsidiary of the NGX, launched the EnviroPath



carbon market. EnviroPath offers simple, transparent and cost-effective offset and EPC transactions for the Alberta market. Leveraging a standardized spot contract and proven auction platforms, buyers and sellers are able to transact and settle quickly, enabling greater compliance flexibility.

If you have questions about the Alberta carbon market or would like to learn more about the EnviroPath platform please feel free to contact us:

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