

# **Alberta Offset System – First Year Retrospective**

Discussion Paper

To be used in conjunction with the Alberta Environment Offset Consultation  
Workshop

Royal Executive Inn  
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## **1.0 Purpose and Description of the Paper**

Alberta is the first jurisdiction in North America to take the bold first step of regulating over 70% of its industrial emissions through a baseline-credit emissions trading system. This system of intensity based targets and compliance options have laid a foundation for a carbon trading market to emerge in Alberta.

During its first 6 month cycle, the market responded favorably creating over 1.5 million tonnes of verified offset credits in the first compliance cycle – a million of which were used by compliance by regulated facilities. This represented about 25% usage of the available compliance options. The credit creation and transaction process, as well as the costs of establishing projects was a steep learning curve for the 7 project developers who created the tonnes, the verifiers who reviewed them and the buyers who transacted on them – these are early days in the development of the Alberta carbon trading market. However, Alberta proved an offset market could work, given the right set of policies and tools, and that the aggregation business model, where several small suppliers are grouped to present a cost-effective package to buyers, can also be done. The world is truly watching Alberta.

Alberta Environment is holding this Review of the Offset System, after the first compliance cycle, to identify what did work and what needs to be improved, to enhance and improve the system going forward. The caveat here, is that the bilateral, Over the Counter (OTC) market in play right now in Alberta, can't move to an open, transparent, liquid and robust market overnight; but steps can be taken to put in additional market structures, if need be, that would move it towards a well-functioning market in the future.

The intent of this paper is to examine the first cycle of the carbon market in Alberta, and perform a Gap Analysis against a set of criteria drawn from well established, functioning markets. The gap analysis led to a series of survey questions, to further tease out details and feedback of market experiences in Alberta's carbon market. Major market players – sellers, aggregators/project developers, verifiers and buyers – were sent customized sets of questions, and the results of these are presented, in aggregate, in Section 4.0.

This process allows for identifying area of improvement, which are suggested in Section 6, to stimulate thinking at the Offset Consultation on July 3<sup>rd</sup>. The results of the Session, along parts of this Paper, will be submitted to Alberta Environment as recommendations for the Offset System on a go-forward basis.

It's important at this point, it re-iterate the key principles on which Alberta's Offset System was designed – for discussion purposes participants may want to check against these principles as they read this paper, and during the July 3<sup>rd</sup> Offset Session.

<b>Principle</b>	<b>Description</b>
<b>Administratively Simple</b>	Administered in a simple, cost-effective and timely manner
<b>Maximum Scope</b>	Enable projects in all sectors and of all types and size, over time and to the extent practical
<b>Building and Linking</b>	Maximize efficiency and resources by building on and linking with existing programs and trading systems
<b>Transformational Change</b>	Support transformational change across all sectors of the economy and society so that emission reductions and removals are a part of daily decision-making by Albertans
<b>Environmental Benefits</b>	Ensure project-based emission offsets result in further reductions and removals in greenhouse gas emissions, than would be the case if offset credits were not available; and
<b>Transparency and Accountability</b>	Earn public confidence and mitigate conflicts of interest, the offset system must maximize opportunities for public scrutiny and input at the level of individual projects; and ensure robust, independent verification of emission reductions and/or removal enhancements while respecting confidential business information

## 2.0 Key Elements for Market Integrity

The following key market elements are drawn from other well-established markets with some considerations from carbon trading markets in existence. Most of the elements are common to markets for any traded good. These elements can be used to help guide further development of the Alberta carbon emissions market. A fulsome description of each of these elements, and within the context of the current Alberta policy focus is given in Appendix B.

These elements form the basis for the gap analysis presented in the next Section of this report.

Element
1. Market Liquidity
2. Efficient market offset systems
3. Administrative efficiency
4. Pricing transparency
5. Clearly defined, long term protocols for generating carbon credits
6. Carbon trading markets that mirror existing commercial trading practices
7. Effective contract design
8. Registration of trades
9. Clearing system to reconcile trades and provide performance assurance
10. Arbitration of trading disputes
11. Effective market regulation
12. Stable and reliable trading environment

### 3.0 Gap Analysis of Alberta Market Function in 2007

Market Integrity Criteria	Gap Analysis
1. Market liquidity	Lacking liquidity at this point. Being a new market, the transaction time and cost was significant, but is expected to come down over time. A general lack of clarity on implications of participating in the market long term exists. Most market participants are first time traders in a carbon emissions market.
2. Efficient market offset systems	With first cycle, it's in its infancy. In the absence of a central trading registry the only means available to offset contracts is to reverse bilateral agreements by trading in the OTC market again.
3. Administrative efficiency	Alberta project cycle is spared from bureaucratic red tape existing in other systems; however, it's still cumbersome. Existence of government approved protocols helps.
4. Pricing transparency	Non-existent. Only reporting is through media news stories with no 3 <sup>rd</sup> party validation.
5. Clearly defined, long-term protocols for generating carbon credits	Existing protocols all contain specific formulas. What is not so clear is whether or not market participants, particularly offset suppliers, fully understand the calculation methodology.
6. Carbon trading markets that mirror existing commercial trading practices	The OTC market in existence is the commercial trade, which mirrors components of the commercial market. Complete details of commercial market not well known at this time, other than anecdotal reports. Of what is known, there is no standard contract nor a industry/government sanctioned dispute resolution process.
7. Effective contract design	No standardization of terms across marketplace as individuals using their own contracts which are believed to be unique to each participant.
8. Absence of price caps	There is effectively a price cap \$15 per tonne due to the Tech Fund option for emitters. Given there is no linking to external markets for buyers, the tech fund acts as a 'safety valve' to eliminate the risk of buyers being captive within the Alberta market.
9. Stable and reliable trading environment	Uncertainties related to provincial and federal trading environments create uncertain trading environment with minimal stability. Reliability is only as good as the partners on the opposite side of the transaction. Uncertainty exists over impact on offsets and banking of offsets under future regulatory environment in Canada (federally and other provinces).
10.Registration of trades	Not in place
11.Clearing system to reconcile trades and	Not in place

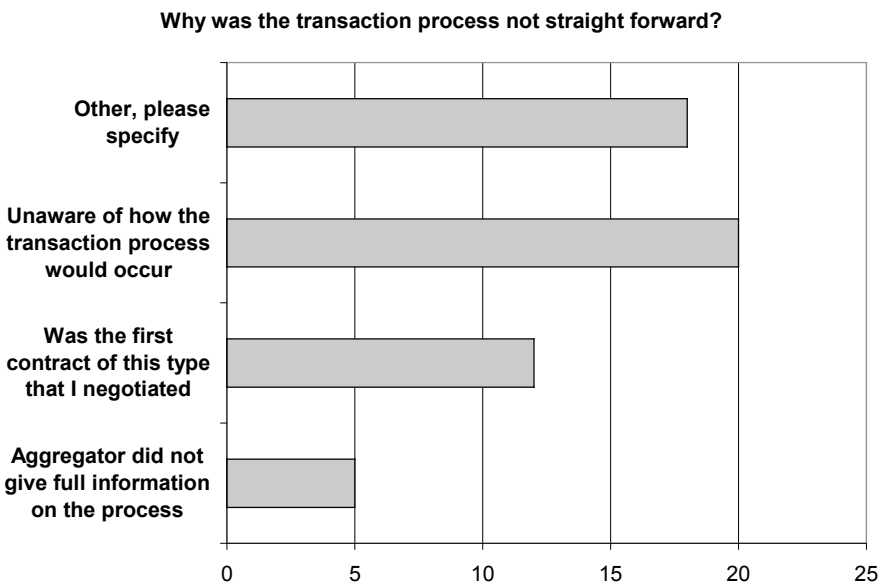
provide performance assurance	
12.Arbitration of trading disputes	Not in place
13.Effective market regulation	No market reaches its' desired end state upon initial implementation. Openness to improvements being made will support the development of the market.

## 4.0 General Market and Survey Trends

### 4.1 Information to Participate in the Offsets Market

- 64% respondents felt they had enough information to participate in the carbon offset market
  - Some suggestions for additional information that may better inform decisions include:
    - Visibility of market participants
    - A more clear registry
- 82% did receive conflicting information in the marketplace
  - Conflicting information mentioned includes:
    - Completed transactions
    - Dollars available to producers
    - Custom protocols/coefficients
    - Registry
- Most respondents (60%) did not find the offset transaction process straightforward
  - Why? Primarily because they were unaware of how the transaction process would occur (36%) (see Figure 1 below)

**Figure 1**



### 4.2 Offset Systems Outside of Alberta

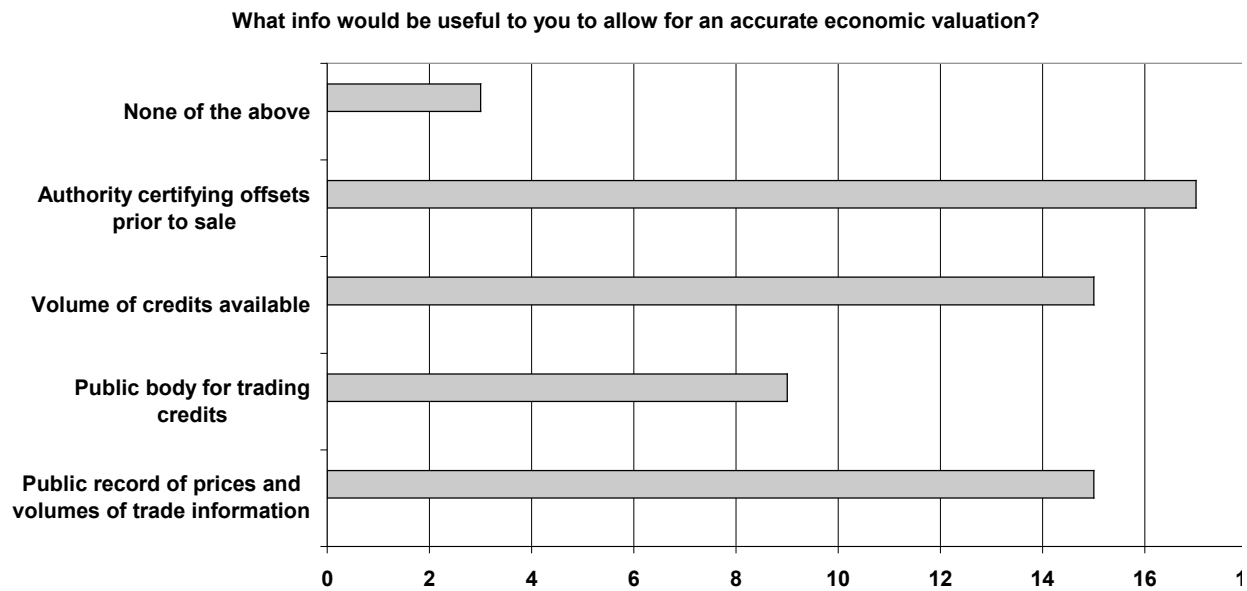
- Less than half of respondents (44%) have participated in other carbon offset programs
- Respondents provided pros and cons of the Alberta offset system as compared to other systems including:

- Pros - a lot of protocols; allows project developers to initiate protocols; liability off aggregator; credits back to 2002; fair, transparent and accurate protocols; environmental integrity; proactive; low validation and verification costs
- Cons - lack of credit certification, lack of government intervention in project approval, no grassland protocol, large cost of verification, lack of stability through one year contracts, limited to Alberta offsets, tech fund price cap, need for government intervention for some inappropriate aggregators; intensity based reductions; over reliance on tech fund; March timing for compliance; lacks compatibility with other registries; lacks market fluidity

### 4.3 Independent Economic Valuation

- Less than half of respondents (48%) performed independent economic market analysis. And of those who did, they thought the following would be useful for their economic valuation (see Figure 2 below):

**Figure 2**



### 4.4 Improvements in the Offset Market

- Respondents find the following needs to happen to get a liquid, transparent offset market:
  - Larger volume of sales/ increase in supply
  - Perfect information
  - Credit certification
  - Offsets available centrally for purchase
  - Allow offsets beyond Alberta's borders for compliance
  - Federal/provincial policy clarity for after 2010
  - More protocols
  - Cost certainty
  - Understanding which credits have higher risk

- A trading platform
- Sectoral baselines
- More visible registry
- Price and quality disclosure
- No price cap
- Compatibility with North American registries
- 55% of respondents feel an Alberta-based public exchange would facilitate more trading – those who did not think it would facilitate more trading generally felt that the market was too small (supply too limited) and didn't want to restrict trading to Alberta
- 87% of respondents want to see offset credits certified by a recognized public authority citing certainty, fungibility, transparency of risk as some of the reasons for their support
- Respondents were undecided on whether a dispute resolution body is needed in the Alberta offset system (50% for and 50% against)
- Almost all respondents (94%) want to see mobility of offset credits from the rest of Canada and internationally

#### **4.5 Response to the Alberta Offset System Approach**

- The majority of respondents (59%) support Alberta's approach of using an intensity-based cap in a baseline and credit system with a safety valve/technology fund, offset system, and banking as means to contain costs
  - Support was stated for: encouraging adoption of GHG technology, allowance for industry growth, certainty in the process, recognition of limitations without federal climate change policy in the U.S., and reasonable compliance costs
  - Unfavourable aspects of the system were considered by some to be: the lack of offset certainty (increased offset risk) because future tech fund prices are not yet public, the lack of an absolute cap, the tech fund price cap, incompatibility with a global system, and too much focus on cost containment
- The assurance factor for biosinks and the registry were the only aspects of the Alberta offset system that didn't have overwhelming support – yes 50% and no 54% response respectively.

**Table 1**

<b>To date, do you support the Alberta offset system approach?</b>		
The use of protocols	<b>Yes</b>	<b>82%</b>
	No	12%
	NA	6%
The breadth of protocols	<b>Yes</b>	<b>79%</b>
	No	21%
	NA	0%
Protocols based on ISO 14064-2 framework	<b>Yes</b>	<b>77%</b>
	No	15%
	NA	8%

Protocol excel spreadsheet calculators	<b>Yes</b>	<b>62%</b>
	No	31%
	NA	8%
No government validation	Yes	33%
	<b>No</b>	<b>67%</b>
	NA	0%
An assurance factor for biosinks projects to deal with potential for non-permanence	<b>Yes</b>	<b>50%</b>
	<b>No</b>	<b>42%</b>
	NA	8%
Allow no offsets from outside Alberta	<b>Yes</b>	<b>79%</b>
	No	21%
	NA	0%
Credit issuance January 1st, 2002	<b>Yes</b>	<b>64%</b>
	No	29%
	NA	7%
Start date January 1st 2002	<b>Yes</b>	<b>79%</b>
	No	14%
	NA	7%
The design of the Alberta registry	Yes	46%
	<b>No</b>	<b>54%</b>
	NA	0%

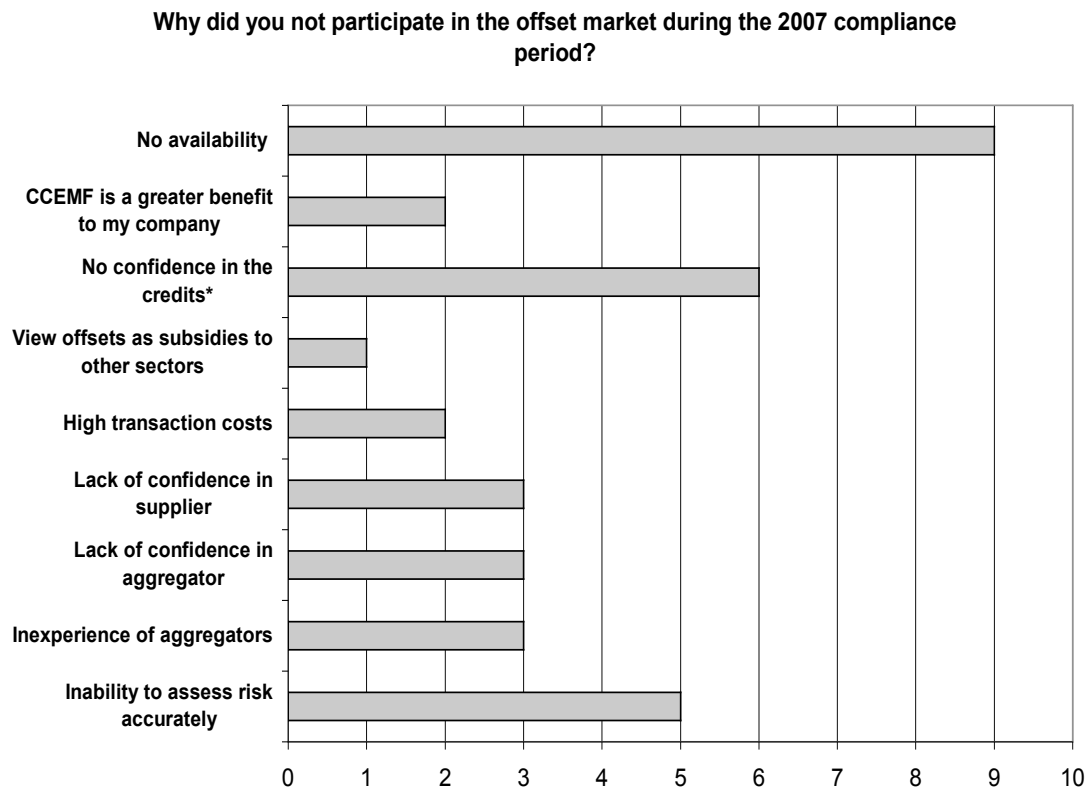
- The majority of respondents (60%) support a cost recovery fee for the offset registry
- According to 60% of respondents Alberta Environment has allowed adequate opportunity for input throughout the development and implementation of the offset system
- When asked to list three things to enhance and three things that should be changed about the Alberta offset system, the following summary of all responses were obtained:
  - Certification/government approval of offsets/creation of a central certification body
  - Allow non-Alberta offsets for compliance
  - Registry recommendations – make it more user friendly – compliance only - more secure platform – compatible with other registries
  - Revisit grandfathering option for those who started early to improve (before 2002)
  - More communication on where and how to purchase offsets, and what qualifies as an offset project
  - Standardization of reports required to be submitted to AENV: verification requirements and proof of ownership
  - Streamlined protocol review & approval process
  - Certainty that credits will have value after Jan 1, 2010
  - More protocols
  - Timing issues: Institute one year timing delay on reporting, allow regulated entities to calculate their offset needs earlier in the year
  - Protocol guidance document dealing with issues of additionality and surplus
  - Align fund prices and contribution eligibility to the federal scheme (increasing price, decreasing access)

- Performance benchmarks for all aggregators
- Merit-based accreditation of verifiers
- Planned phase out or reduction in tech fund %
- Commitment to increasing intensity based reduction and/or to move to absolute reductions
- Price discovery

#### 4.6 Buyer Specific Results

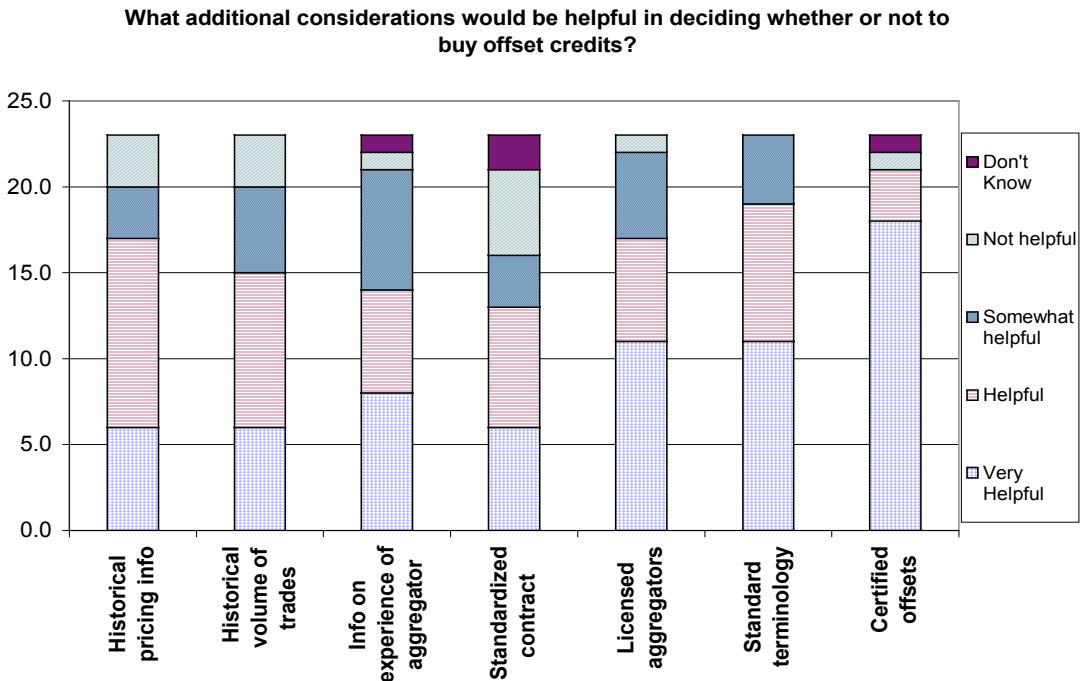
- Most buyers surveyed (68%) did not purchase offsets for the first compliance period
  - Why not? No availability is cited the most frequently (see Figure 3 below)

**Figure 3**



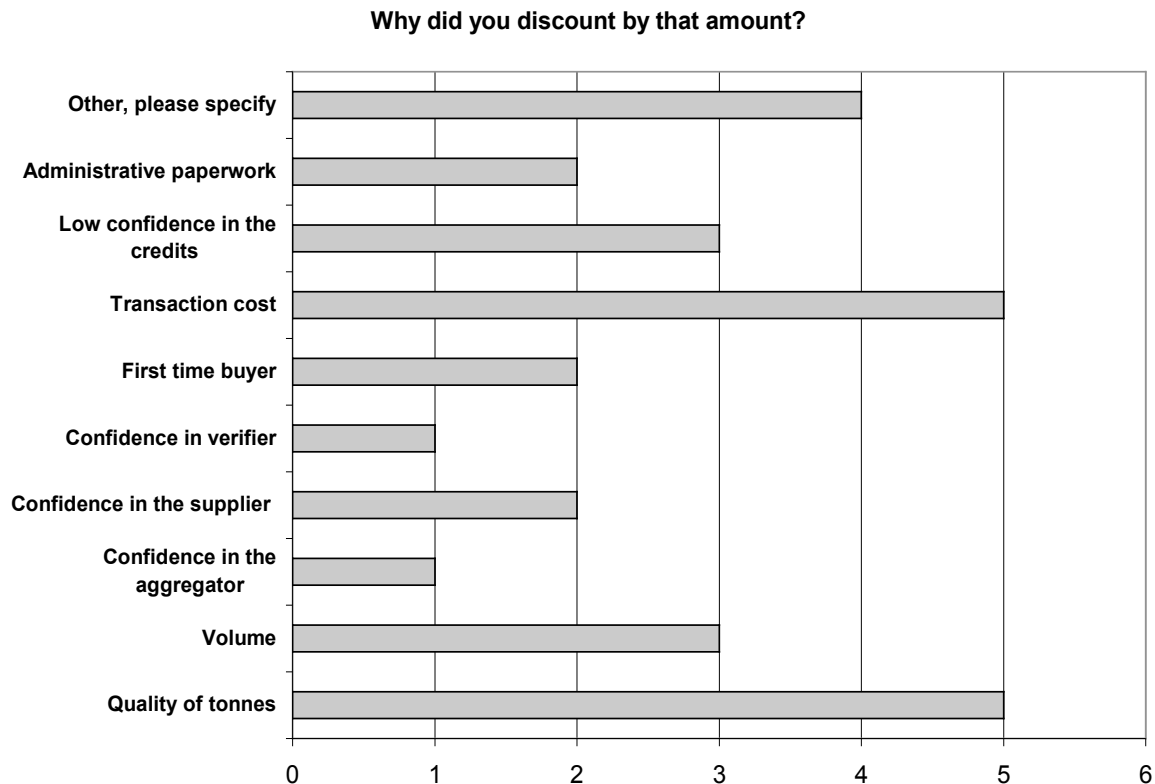
- \* No confidence in credits referred to the fact that respondents are nervous about 2002-08 tonnes being accepted federally
- More buyers (43%) than aggregators/project developers (21%) did not have enough information to participate in the offset market than did aggregators/project developers
- Certified offsets was cited as the most helpful consideration in whether or not to buy offset credits (see Figure 4 below)

**Figure 4**



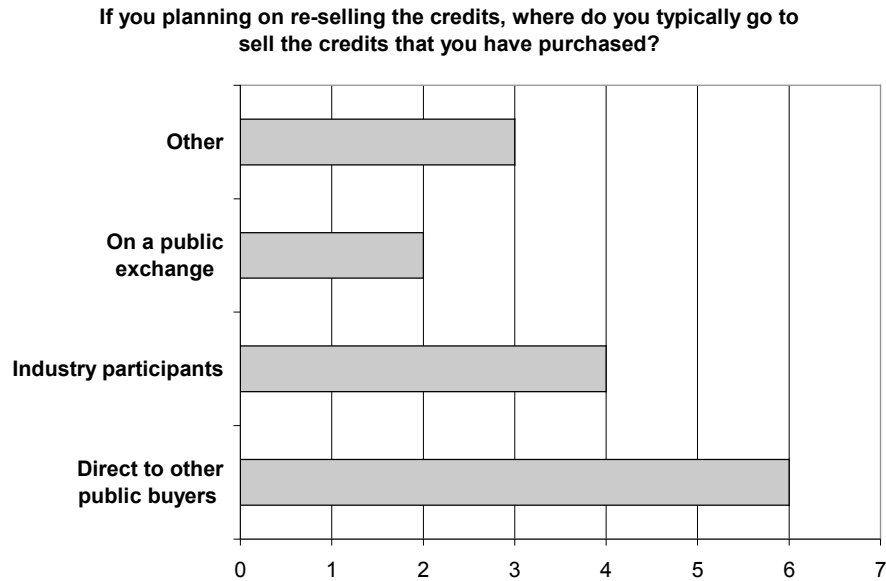
- (While only four buyers responded to the question) buyers stated offsets were discounted from 25-75%. For reasons for discounting (see Figure 5 below):

**Figure 5**



- 75% of responding buyers thought a registration/clearing system of all recorded transactions would be beneficial
- If buyers resell offset credits, they plan on selling at (see Figure 6 below):

**Figure 6**



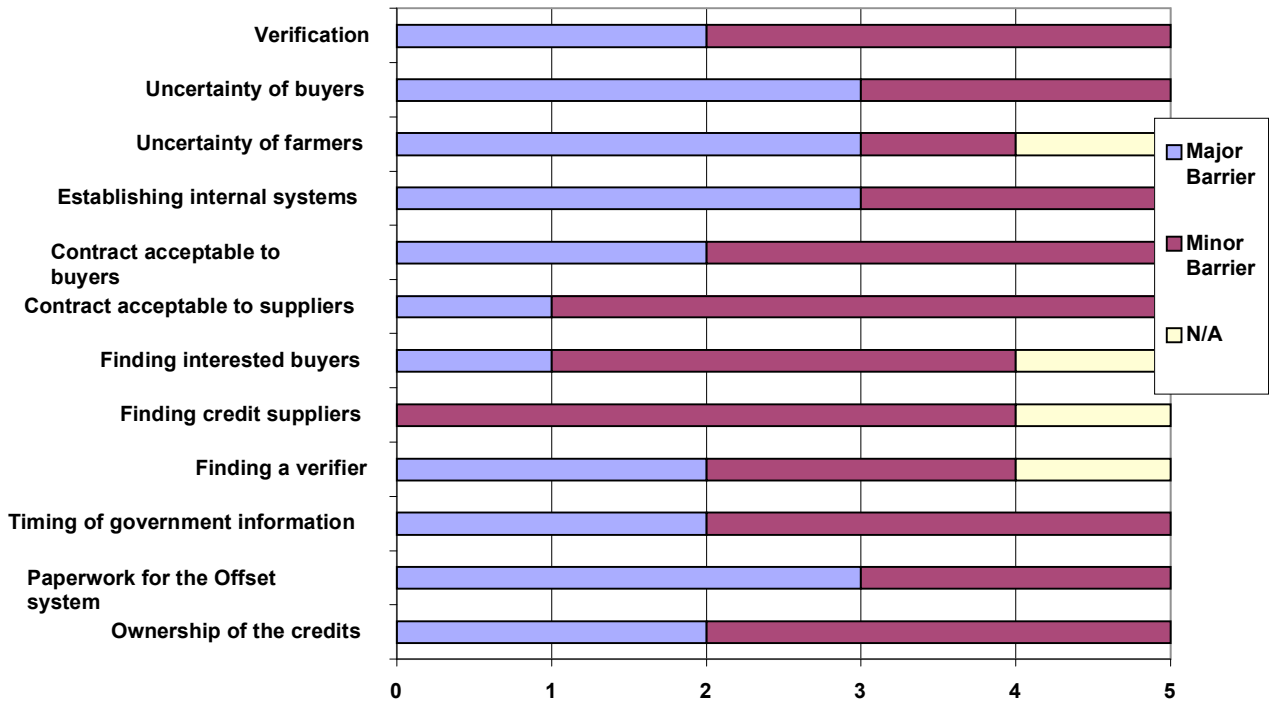
- If re-selling in the OTC market, responding buyers found it very easy (22%), easy (22%), moderate (44%), and difficult (11%) to locate a buyer
- The length of time it typically takes between the time the original credits are bought until a buyer is found = presold (22%), less than a month (67%), one to four months (11%) or greater than four months (11%)

**4.7 Aggregators/ Project Developers Specific Results**

- Multiple barriers were cited in getting credits to market (see Figure 7 below)

**Figure 7**

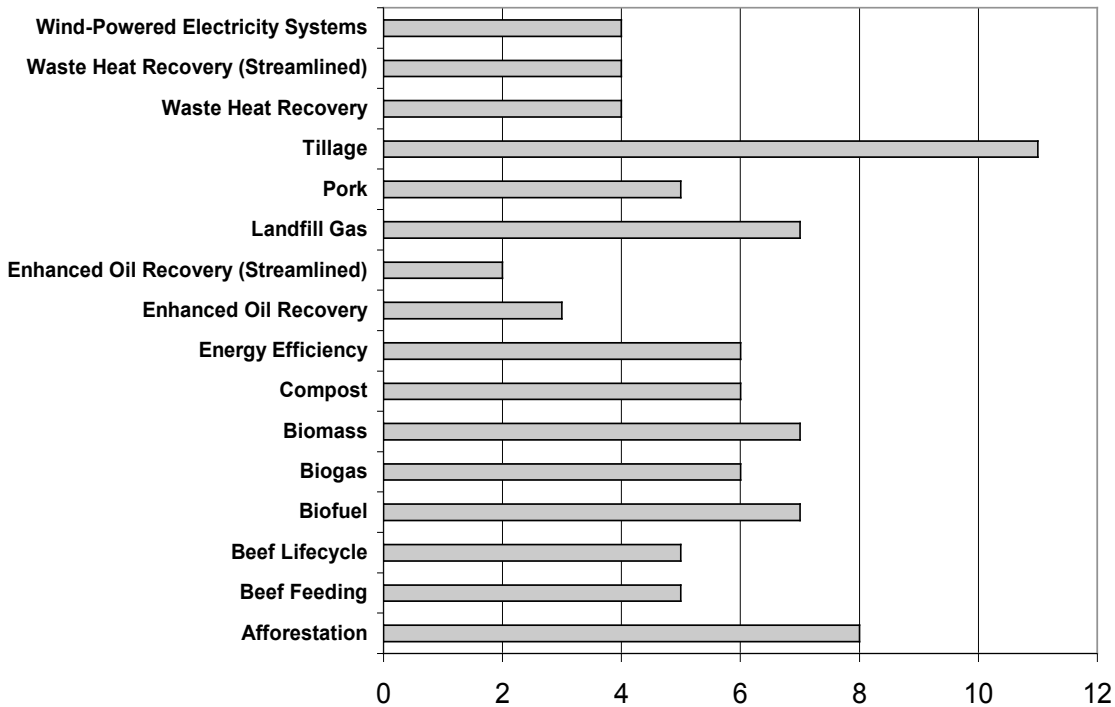
What were the barriers in trying to get credits to market in the first compliance period?



- Half the responding aggregator/ project developers encountered difficulties with Alberta’s offset protocols. Problems listed include:
  - Low soils coefficients from regional discounting
  - AGI approval
  - Custom protocols are first allowed in September then not allowed
- It appears that multiple projects are being contemplated in the future (see Figure 8 below)

**Figure 8**

**What type of projects are you thinking of undertaking in the future?**



- Other potential projects being contemplated include:
  - Acid Gas Injection
  - Landfill bioreactors, road rehabilitation, non-incineration waste management
  - N<sub>2</sub>O Abatement
  - Raising Organic matter in soils
  - Summerfallow, Crop Residue, Perennial Forage
  - Avoided deforestation
  
- Aggregator/ project developers listed the following as their biggest costs and recommendations for reducing them:
  - Data collection and management required for contracts, land location, and verification - related to ownership resolution
  - Verification - AENV verifier and industry education and better supporting guidance documentation
  - Project development and documentation - time will bring up level of understanding and thus shorten timelines and reduce costs
  - Potentially registration in the future depending on what costs will be - suggest keeping the nominal fee of \$0.001/tonne
  - Custom Protocol Development
  - Marketing to buyers)
  - Transactional costs incurred in finalizing deal as parties are very wary of perceived risk and uncertainty - need clear retirement of credits and finalization of company's reduction obligations

- 82% of responding aggregator/ project developers would find templates for project documentation (offset project plan, project report) helpful.
  - Why? To ensure all required information has been included; for consistency in all projects; to make requirements more clear, and buyers have commercially specific requirements like credit worthiness, insurance and double verification or audit requirements.
  - Some qualifiers were given such as it should be on a guidance and disclosure basis.

## **5.0 Stakeholder Feedback**

TBD

In this Section the July 3<sup>rd</sup> workshop results will be incorporated and summarized as recommendations to Alberta Environment.

## 6.0 Food for Thought – Go Forward Suggestions

As stakeholders develop proposals for change to this new market, what is critical is that agreement be reached as to what are the key elements that will guide the decisions along with a vision of the desired end state for the market, i..e. what do stakeholders ultimately desire the structure of the market to look like in the long term.

The following 'food for thought' is offered to help stimulate thought and discussion:

- A public trading exchange
  - Internet auction conducted once per month or quarter.
  - Satellite
- Promote the use (or mandate it) of standardized contract elements
  - Protocol usage
  - Impact of change in protocol during contract period
  - Volume
  - Years of credits included in transaction
  - Timing of delivery of offset credits
  - Recourse
  - Expiry date
  - Termination clauses
  - Price
  - Fees / costs
- Floating price cap based on X% above the moving average of X months of trades based on the weighted average price of transactions.
  - If publicly traded then could establish a contract size of X tonnes to minimize risk of outlier trades influencing the floating price cap.
- Central trading registry to record transactions.
  - Ensures offset credits are unique to the buyer
- Reporting of consolidated market results for a specified period.
  - Eg: monthly, quarterly, semi-annual
  - Price
  - Volume
- Develop a recommended contract to be used in transactions.
  - Standardized terms
  - Standardized clauses
  - Balance of contract clauses discretionary
- Dispute resolution body.
  - Industry peers combined with government representation
- Validating and approving projects
- Certifying and issuing offset credits

## **7.0 Appendix A – The Reduced Tillage Offset Protocol in Alberta**

### **7.1 Veracity of the Protocol:**

The Alberta Tillage System Management protocol is based on scientifically derived models of carbon sequestration to calculate regional coefficients – the same methods used in Canada’s National Inventory Reporting (NIR) procedures. The CENTURY model, used in the NIR quantification methodology, has been peer-reviewed and is well documented in the scientific literature (over 1000 citations), and represents a stable set of algorithms with which to calculate Canada’s Inventory as well as regional-coefficient based Protocols.

The CENTURY model has been validated under Canadian conditions, against relevant long-term site data and performs well in predicting Carbon change in Canadian conditions. Given the nature of the Century simulations, and the myriad of farming practices across Canada’s 250,000 farms, the results reflect a considerable range of combinations of soil organic carbon (SOC) content and cropland management. Invariably, there is a wide range in simulated SOC differences with and without a practice between soil components.

Each result refers to an exact management history and SOC state. The results were averaged across larger reporting zones, assuming that the average represents the best and conservative value for use for greenhouse gas quantification on a regional basis. These would not necessarily be representative of the expected C change for a specific area of land. Averaging over larger zones was done by weighting of each result by the area of agricultural land represented by each soil component-landscape unit combination.

There are advantages to calculating GHG emissions/removals on analytical landscape units that are at more detailed scales than the reporting units. The increased detail is important for those activities from which GHG emissions/removals are highly influenced by land attributes (e.g. soils, landform, climate). This increases the accuracy in representing average conditions through aggregation, as described above.

The coefficients calculated for Dry Prairie and Parkland Reporting Areas of the National Inventory are the basis for the Tillage System Management protocol developed in Alberta – this ensures a systematic, transparent, reproducible set of emission factors consistent for the whole country. Canada is leading the world in this approach.

(for more details see  
[http://www3.gov.ab.ca/env/climate/docs/Carbon\\_Custom\\_Guidance.pdf](http://www3.gov.ab.ca/env/climate/docs/Carbon_Custom_Guidance.pdf)).

## **7.2 Meeting Additionality and Permanence Concerns with Bio-Sequestration Protocols**

The Alberta Tillage System Management Protocol uses unique approaches to meet additionality and permanence criteria.

### **Additionality:**

- The quantification science uses a discounted or 'adjusted baseline' to subtract out carbon accrued to date (2002 start year) from current adoption rates of zero or reduced tillage from a region. In this manner, only the additional or incremental carbon going forward from 2002 onwards, counts as an offset credit. The adjusted baseline, is only applied to activities that sequester carbon on a go-forward basis. The coefficients in some regions are nearly zero due to high rates of adoption, or discounted by 40 to 60% in others.
- This approach was adopted by the Federal Government's cross-ministry Working Group on Offsets in December 2006 as a fair and equitable approach for activity-based projects where practices that create sinks could be reversed quite easily. It was recognized that maintenance of the sink is as important as the creation of a larger sink by farmers from their tillage practices on the prairies.

### **Permanence:**

Alberta has applied an Assurance Factor to biological sink projects to assure permanence of the stored carbon. This approach relies on a risk-based approach where **discounting** coefficients or credits for a region is used to account for the probability of a reversal occurring over a set period of time, based on historical evidence/expert opinion. The Alberta prairies have over 20 years of experience with reduced tillage management and experts who do not have a market interest (government and not for profit extension staff), were consulted to derive the assurance factor.

In essence, each coefficient is discounted by the risk percentage attributed to a certain region (e.g., 10% discount on every verified tonne creates a set aside, resulting in 0.1 tCO<sub>2</sub>e collected by the government) and set aside. This pool of carbon is used to cover the risk of a reversal. This reserve essentially belongs to the 'atmosphere' and assures against carbon lost to the atmosphere via reversals in the future – it functions as a reserve holdback that is operationalized through government policy. Project developers need to disclose when a sink practice is reversed, and they do not create credits for that year.

Alberta has found that this approach allows for more flexibility in management and contracting; since a discounted approach to address liability, annual contracts can be used.

## 8.0 Appendix B: Description of Key Market Elements and Alberta Policy Focus

Element	Description	Alberta Policy Focus
1. Market liquidity	<p>Market liquidity is a function of several factors, including:</p> <ul style="list-style-type: none"> <li>• Timeframe for the response to bids and offers;</li> <li>• Number of contracts readily available for trading;</li> <li>• Volume of trading activity.</li> </ul>	<p>While liquidity is important, in the early days as people get used to the system, it will likely be lacking; protocols and tools to trade with are in place.</p>
2. Efficient market offset systems	<p>Efficient market offset systems are primarily functions of contracts having unique identifiers, and market liquidity, where:</p> <ul style="list-style-type: none"> <li>• Outstanding contracts can be readily and accurately referenced in a trading registry;</li> <li>• Outstanding contracts can be promptly reversed through an equal and opposite trade, i.e. a “buying” / “selling” contract is cancelled when the holder sells/buys an equal quantity; and,</li> <li>• There is minimal price movement within the current trading window when contracts are reversed through the trading process.</li> </ul>	<p>Government has built a Project Registry; if a trading registry needs to be established – this is the role of the private sector, they do it better.</p>
3. Administrative efficiency	<p>Administrative efficiency is measured by:</p> <ul style="list-style-type: none"> <li>• Least cost transaction fees;</li> <li>• Ease of trading/doing business; and,</li> <li>• Minimal levels of bureaucracy or “red tape”.</li> </ul>	<p>Alberta Offset System is built to be administratively more flexible than CDM, or current proposals federally; protocols help seed the market.</p> <p>Guidance Documents exist.</p>
4. Pricing transparency	<p>Pricing transparency refers to the relative ease of peeling back the layers of the contract prices in order to determine the value of the individual factors that add up to the total price of the contract, which include such things as:</p> <ul style="list-style-type: none"> <li>• Availability of supplies;</li> <li>• Competing demand for available</li> </ul>	<p>Bilateral or OTC nature of the Alberta market is likely to stay for some time, until volumes increase and availability of supply grows.</p>

Element	Description	Alberta Policy Focus
	<p>supplies;</p> <ul style="list-style-type: none"> <li>• Ease of access to available supplies;</li> <li>• Supply and demand of alternative products that could be used for the same purpose;</li> <li>• Interest costs for product from transaction date to the conclusion of the contracting term (i.e. costs of having money tied up in the contract);</li> <li>• Transaction/trading costs; and,</li> <li>• Impact of trading volumes on prices (i.e. trading in an illiquid market - volatile price swings impacting bids/offers to complete a transaction);</li> <li>• Availability and accuracy of current bids/offers, as well as historical prices of traded contracts, to determine the appropriate prices related to the product value;</li> <li>• Impact of substitutable alternatives to purchasing the product (eg: Tech Fund).</li> </ul>	
<p>5. Clearly defined, long-term protocols for generating carbon credits</p>	<p>Clearly defined, long-term protocols for generating carbon credits parameters will necessarily:</p> <ul style="list-style-type: none"> <li>• Include only words and concepts that cannot have variable interpretations;</li> <li>• Not prejudice buyers and sellers of offset credits traded under existing protocols if future revisions are made to the protocols; and,</li> <li>• Will ideally span more than one or more contracting periods.</li> </ul>	<p>Alberta will update protocols if science improvements are made. Have given an 8 year plus possible 5 credit duration period; longer for sequestration projects.</p>
<p>6. Carbon trading markets that mirror existing commercial trading practices</p>	<p>Carbon trading markets that mirror existing commercial trading practices should:</p> <ul style="list-style-type: none"> <li>• Firstly outline the existing trading protocols in the commercial market; and then,</li> <li>• Capture the essence of the existing practices in a formalized set of trading rules and protocols in similar types of markets (e.g. over-the-counter).</li> </ul>	<p>Additional rules may be required; as volumes go up this will emerge.</p>
<p>7. Effective contract</p>	<p>Effective contract design incorporating the commitments agreed to by the</p>	<p>Contracts are a private sector function.</p>

Element	Description	Alberta Policy Focus
design	contracting parties under the terms of the written contracts needs to be: <ul style="list-style-type: none"> <li>• Comprehensive;</li> <li>• Clearly understandable;</li> <li>• Standardized in terminology;</li> <li>• Accurate in representing the regulatory framework (e.g. accurate interpretation of the deadlines);</li> <li>• Unquestionably enforceable; and,</li> <li>• Subject to pre-agreed remedies in the event of failure to perform.</li> </ul>	
8. Registration of trades	Completed trades need to be registered through a formal process of being assigned to the individuals / entities that entered into the contracts and then recorded in an official registry, including having a unique identifier for each contract that indicates; <ul style="list-style-type: none"> <li>• Date of trade;</li> <li>• Price of contract;</li> <li>• Term/duration of contract;</li> <li>• Description of the commodity;</li> <li>• Location of the commodity;</li> <li>• Obligations of the seller;</li> <li>• Obligations of the buyer;</li> <li>• Place of transfer of title; and,</li> <li>• Current ownership.</li> </ul>	Project Registry is in place. Compliance Unit tracking database housed in Alberta Environment.  Volumes need to increase to be viable.
9. Clearing system to reconcile trades and provide performance assurance	Clearing system functions include: <ul style="list-style-type: none"> <li>• A reconciliation of updated values of contractual commitments that is achieved by adding or subtracting the current market value from the originally contracted price and then transferring the difference between the registered buyers and sellers. This occurs where the value of the contracts is dynamic vs. static, as is the case with futures contracts. This would not pertain to cash or cash-forward contracts where the value of the contract is static throughout the contracts' life span.</li> <li>• Obtaining financial performance guarantees from both parties to all transactions. In the event of non-performance, the clearing house will draw on those guarantees to</li> </ul>	A trading registry is better implemented by the private sector.

Element	Description	Alberta Policy Focus
	financially remedy the aggrieved party.	
10. Arbitration of trading disputes	Arbitration is a non-court procedure using one or more neutral third parties to resolve disputes. The arbitration panel uses rules of evidence and procedures that are less formal than those involving trial courts, which usually leads to a faster, less-expensive resolution. The third parties are typically industry peers having the technical capacity to get to the root of the matter and are thus able to offer a reasonable resolution in a timely and agreeable manner.	Not a government function. Contracts are a party to party matter.
11. Effective market regulation	<p>Effective market regulation can be achieved by developing trading rules and codes of conduct that are accepted in advance. To be effective, these rules and codes of conduct need to:</p> <ul style="list-style-type: none"> <li>• Have an impartial authoritative body with an in depth knowledge of the those rules and codes of conduct;</li> <li>• Be applied equitably under the circumstances;</li> <li>• Be applied consistently across all transactions and trading parties;</li> <li>• Include appropriate sanctions that are enforceable;</li> <li>• Be seen to modify the behaviours of transgressors.</li> </ul>	Alberta Environment will continue to visit and refine the guidance, to assess the needs of the market players.
12. Stable and reliable trading environment	<p>To be considered as a stable and reliable trading environment, the market place that hosts the exchange of contractual commitments needs to earn a reputation as:</p> <ul style="list-style-type: none"> <li>• A good place to do business which in essence captures all of the previous market elements above;</li> <li>• A market where all commitments will be honoured;</li> <li>• A market that publishes accurate and reliable results of trading activities;</li> </ul> <p>and,</p>	This is a work in progress. AENV will strive for policy certainty, within reasonable timeframes, and as details become available from the federal government.

<b>Element</b>	<b>Description</b>	<b>Alberta Policy Focus</b>
	<ul style="list-style-type: none"><li data-bbox="418 264 1000 365">• A market that will be available for business throughout the life span of all existing contracts.</li></ul>	

## **9.0 Appendix C: Distribution and Respondents for Offsets Consultation Survey**

### **Sellers**

- Emails invites – 31
- Respondents – 8 complete surveys returned, and 2 partially complete surveys

### **Verifiers**

- Emails invites – 18
- Respondents – 3 completed, and 5 partial

### **Buyers**

- Emails invites – 146
- Respondents – 23 completed, and 8 partials

### **Aggregators/ Project Developers**

- Emails invites – 96
- Respondents – 17 completed, and 4 partials