

Carbon Credits Research

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Background

- The AcSB staff conducted research on potential approaches to account for carbon credits and other environmental credits.
- These slides provide an overview of the AcSB staff's findings, including feedback from users and other national standard-setters on the different approaches.

What is a carbon credit?

- A carbon credit represents one tonne of carbon dioxide (or equivalent greenhouse gases) reduced, avoided or removed from the atmosphere.
- An entity can obtain carbon credits and “retire” them to claim the underlying emissions reduction against its own emissions.
- There are two types of markets for carbon credits:

Compliance

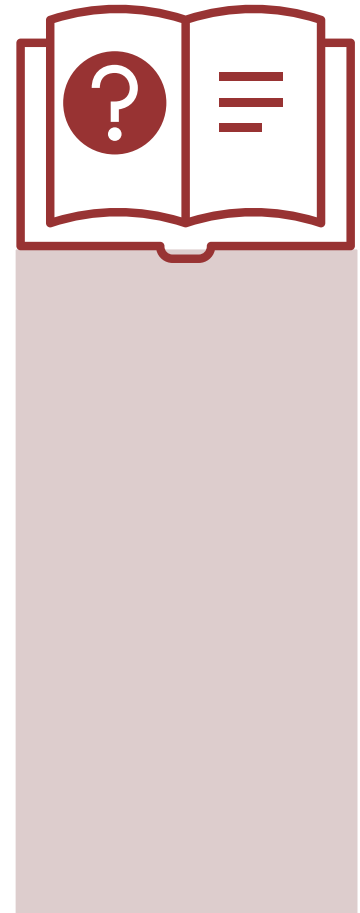
- For a regulated entity that has legal obligations related to its emissions (e.g., high emitters like oil & gas entities subject to cap-and-trade schemes)
- The entity may have an emissions liability with the government

Voluntary

- For any entity to voluntarily offset its carbon emissions (e.g., entities that make net-zero commitments)
- The entity may recognize a provision related to its net-zero commitment in limited circumstances only

Lack of accounting guidance

- There is currently no specific guidance on the accounting for carbon credits under IFRS Accounting Standards, so different approaches are emerging and there is a lack of consensus.
- The IASB's project on Pollutant Pricing Mechanisms is currently inactive. We understand that the IASB is conducting research to see if it now needs to be prioritized.
- We encourage the IASB to prioritize this project. The lack of guidance and resulting diversity is becoming more pronounced as entities increasingly look to use carbon credits to meet their carbon reduction targets, and as more entities start generating credits themselves.
- Since carbon credits are not material for many entities yet, there are limited real-life examples in financial statements (sometimes only disclosed in the management commentary or sustainability reports at this stage).
- These slides explore potential accounting approaches and then look at a few examples.



Voluntary Carbon Market (VCM)

Lifecycle of a voluntary carbon credit

1. A project developer establishes a project to reduce, remove, or avoid greenhouse gas emissions (e.g., deferring the harvest of trees). They register the project with a carbon registry. The emissions reduction is measured using a specified methodology.
2. The project developer implements the project and maintains records of how much emissions were reduced.
3. An independent third party verifies the records and certifies the credits. The carbon registry issues certified credits to the project developer's account on the registry (like a bank account).
4. The credit may be traded between entities (i.e., sellers and buyers) on the registry.
5. The end user retires the credits. Retirements are recorded on the registry to ensure those credits cannot be used again.

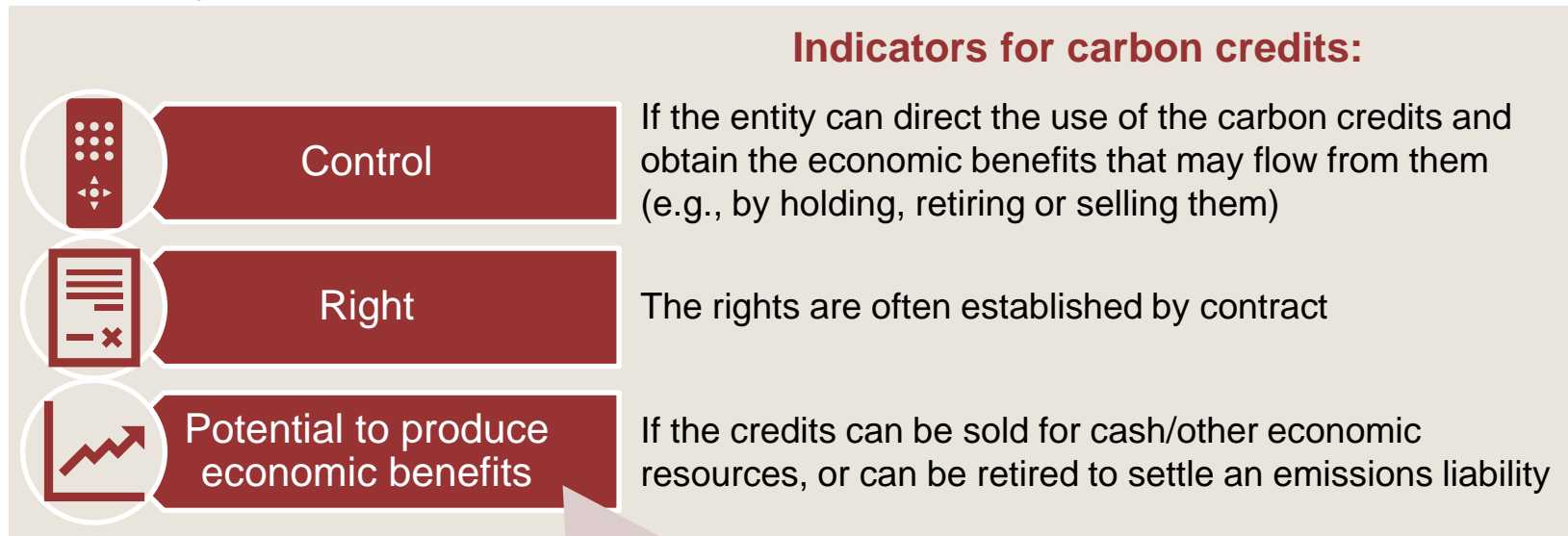
What are the accounting implications if the claimed emissions reductions are not actually achieved?

Should the credits be recognized as an asset or expense? If asset, what type? How should they be measured?

What disclosures would be useful in the financial statements of the project developer, trading entities, and end user of the credits?

Carbon credits: an asset?

- Do carbon credits meet the definition of an asset?
 - An asset is defined as a present economic resource **controlled** by the entity as a result of past events
 - An economic resource is a **right** that has the **potential to produce economic benefits**
- Three key aspects to the definition:



We found this to be the aspect where the most judgment is needed

Carbon credits: an expense?

- Carbon credit markets are still developing – there could be circumstances under which some credits do not meet the definition of an asset.

Example

An entity holds carbon credits in a voluntary market which cannot be sold or traded. The entity does not have an emissions liability for the credits to offset. These factors indicate that the credits may not meet the definition of an asset. But this is not a black-and-white assessment: we need to consider all facts and circumstances.

Sometimes, it can be difficult to determine whether a fact indicates that the credits:

- a) have the potential to produce economic benefits (pointing to asset treatment); or
- b) are simply a marketing expense.

For instance, if customers are only willing to purchase the entity's products because of the entity's carbon reduction initiatives, does that indicate (a) or (b) above?

- In the US, the FASB tentatively decided that:
 - a carbon credit would be recognized as an asset when it is probable that it will be used to settle a compliance-type obligation, sold or traded; and
 - costs to obtain all other credits would be expensed when incurred.

This means an entity would expense voluntary credits that are purchased solely to be retired

IFRS vs. US GAAP

- Under IFRS, an entity may recognize a provision for its climate-related commitment if it creates a constructive obligation and the IAS 37 provision recognition criteria are met. The IFRS Interpretations Committee addresses this in its agenda decision, [Climate-related Commitments \(IAS 37\)](#).
 - US GAAP does not have the same notion of constructive obligations as IFRS.
 - Thus, the entity may record such a provision under IFRS but not US GAAP.
- If an entity purchases **voluntary carbon credits solely for retiring**, then:
 - Under FASB’s tentative decisions, these would be expensed (per previous slide).
 - Under IFRS, these may meet the definition of an asset. If the entity recognizes a provision for its commitment, then the credits may have the “potential to produce economic benefits” if they can be used to settle that provision.

	US GAAP	IFRS
Provision?	No	Possible – if recognition criteria are met
Asset?	No – expense under FASB’s tentative decisions	Possible – if there is a provision to offset

Recognition: what we heard

- What is done under IFRS in practice? How might this change over time?

Provision:

Entities are generally not recognizing provisions for climate-related commitments at this stage



This could change as commitments evolve and entities digest the IFRIC agenda decision

Asset/
expense:

Carbon credits are often not yet material enough to be presented as a separate asset or expense





Could become more material in the future, and/or start to be recognized as provisions are recognized

- Thus, the question of how to account for carbon credits is largely theoretical at this stage. Carbon credits that can be sold or traded would likely meet the definition of an asset. For voluntary credits purchased solely for retiring:
 - **Users** we spoke to seemed to favour immediate expense recognition, viewing them similar to a marketing expense.
 - **IFASS* members** we spoke to thought these could be recognized as an asset once a provision has been recognized.
- These views do not necessarily conflict. If there is no provision to offset (as is often the case in practice), the credits may be expensed under both.

Asset classification

- If carbon credits are recognized as an asset, how would they be classified?
- Two main approaches:

Indicators for carbon credits:

	Inventory (IAS 2)	<ul style="list-style-type: none">• If held for sale in the ordinary course of business; or• If considered supplies to be consumed in the production process (e.g., to produce carbon-neutral products)
	Intangible assets (IAS 38)	<ul style="list-style-type: none">• If it is probable the expected future economic benefits will flow to the entity and costs can be measured reliably (e.g., if can resell, or if generated for own use to retire)• Excludes credits that meet the inventory definition

- Other guidance:
 - Government grants (IAS 20): for compliance (covered later in these slides)
 - Financial instruments (IFRS 9): for instruments built around carbon credits, like carbon funds or carbon streaming arrangements (explored later in these slides)

Asset measurement

- If carbon credits are recognized as inventory or intangible assets, how should they be measured?

Inventory

- Lower of cost and net realizable value (NRV)
- Commodity broker-traders can choose fair value less costs to sell (FVLCTS) instead, if the credits are considered a commodity
- If considered a by-product and immaterial, may measure at NRV and deduct this from the cost of the main product

Intangible Assets

- Cost model
- If traded in an active market, can choose revaluation model instead (based on FV at revaluation date)
- In both cases, amount is net of accumulated amortization (likely nil since benefits are generally consumed at derecognition instead of over time) and impairment losses

- There can be significant judgment involved in applying these requirements.
 - The next two slides provide a sample of the accounting issues.

A sample of the accounting issues

Carbon credits as a commodity

As outlined in the previous slide, commodity broker-traders can choose to measure carbon credits at FVLCTS when they are considered a commodity. However, there is a lack of guidance as to what constitutes a commodity, so judgment is required (e.g., may consider factors such as whether the particular type of credit is fungible and traded in an active market).

Carbon credits as a by-product

An entity may generate carbon credits at the same time it produces other products. Judgment is required in allocating costs between the products, and in determining if they are joint products, or if one is a by-product of the other (as a different measurement approach may apply per the prior slide). Judgment may also be required in determining if credits are considered agricultural produce (similar to fruit from trees), which may be initially measured at FVLCTS under IAS 41.

Determining if there is an active market

As outlined in the previous slide, an entity can choose to measure carbon credits using the revaluation model under IAS 38 when they are traded in an active market. There are no pre-defined thresholds for what transaction frequencies/volumes constitute an active market. Judgment is required, especially as carbon credit markets are not mature.

A sample of the accounting issues

Internally generated intangibles

For carbon credits classified as internally generated intangible assets, any costs incurred before recognition cannot be capitalized. Generally, an entity recognizes voluntary credits only once they have been verified. Judgment is required in determining whether any costs can be capitalized earlier (e.g., based on the likelihood of the credits being verified).

Ex-ante carbon credits

Carbon credits may be issued for emissions reductions that have already taken place (“ex-post credits”), or that will take place in the future (“ex-ante credits”). With ex-ante credits, there is a risk the project will fail to achieve the emissions reductions that the purchaser paid for. Judgment is required in determining when the entity can recognize an asset for these credits and whether future “failures” indicate impairment.

Quality concerns

Many carbon crediting programs have been criticized for issuing credits that do not achieve their claimed emissions reductions. As this is not a mature space, quality concerns may be quite real. Judgment is required in determining how to reflect these risks in measuring the asset.

More on the accounting issues

- Some of the accounting issues on the previous two slides were discussed by the AcSB's [IFRS® Accounting Standards Discussion Group](#) in 2023.
- Please refer to the meeting reports linked below for more information:

Meeting	Topic
May 2023	<u>Accounting for the development of carbon credits that will ultimately be sold</u>
September 2023	<u>Accounting for the development of carbon credits by a renewable energy generator</u>
December 2023	<u>Revenue recognition for carbon credits</u>

Classification & measurement: what we heard

- We heard from users that it may be useful for **classification/measurement to be driven by the intended use**. We think IFRS may sufficiently provide for this. Broadly speaking:
 - intended use drives classification as either inventory or intangible asset; and
 - the resulting asset is largely measured based on cost, unless certain exceptions are met that support a fair value-based measurement.
- We heard from users that a **fair value measurement may not be useful for voluntary credits unless they are Level 1** (quoted prices in active markets). Voluntary markets are not yet mature, and the value of carbon credits can vary significantly (e.g., based on project location or verification methodology). We think that if the credits qualify to be measured at fair value, this value may often be Level 1 because:
 - as inventory, FVLCTS is only applicable if the credits are a commodity (and commodities are often traded in active markets); and
 - as intangibles, the revaluation model is only applicable if the credits are traded in an active market.

Summary of accounting treatment

Voluntary carbon credits

Recognition	<p>If have the potential to produce economic benefits (and other asset definition/recognition criteria are met): Recognize as an asset</p>		<p>Otherwise: Expense</p>		
Classification	<p>If held for sale: Classify as inventory</p>	<p>If held for own use: Classify as intangibles</p>			
Measurement	<p>If commodity broker-trader exception met: Measure at FVLCTS or lower of cost and NRV</p>	<p>If considered a by-product and immaterial: Measure at NRV and deduct this from cost of main product</p>	<p>Otherwise: Measure at lower of cost and NRV</p>	<p>If traded in an active market: Measure using either revaluation or cost model</p>	<p>Otherwise: Measure using cost model</p>

Food for thought

- As outlined in the previous slides, there is a way to navigate IFRS to develop an accounting approach for carbon credits. But do these approaches provide the most useful information? Or is a unique approach warranted for carbon credits?
- Voluntary credits purchased solely for retiring may only qualify for recognition as an asset (specifically, an intangible) to the extent they can be used to offset a related provision. Does that make them different enough from other intangibles to warrant a different accounting treatment?
- Given the areas of judgment and risk highlighted in the sample of accounting issues slides, is any additional guidance warranted beyond what IFRS currently contains (e.g., guidance on measuring credits that are internally-generated intangibles, additional disclosures for ex-ante credits)?
- Would expensing voluntary credits inappropriately disincentivize entities that are trying to make a positive impact on climate?

These are some of the questions the IASB could explore when undertaking a standard-setting project on carbon credits.

Compliance Carbon Market (CCM)

Compliance systems in Canada

The compliance carbon market provides flexibility for Canadian provinces to build a carbon pricing scheme that is tailored to market and geographic considerations. The two systems in Canada are described below.

Explicit price-based system:

- Carbon levy on fossil fuels – i.e., fee on carbon on purchased fuel.
- Output-based pricing system (OBPS) – i.e., fee on emissions above a certain limit or receive a surplus credit for emitting below their threshold that can be used, traded, or banked for future use (up to 5 years).
 - Organizations must register if they emit 50,000+ tonnes of CO₂e.

Cap and trade system:

- The government sets a limit (cap) on the overall level of emissions (measured in tonnes) allowed each year with the cap decreasing annually.
- The government then distributes quotas to entities participating in the system via an auction or free allocation.

CCM by Canadian province

Carbon Pollution Pricing Across Canada



Carbon pricing schemes vary by province depending on industry, sector, geographical, and other considerations

Accounting considerations

- Many of the accounting considerations in the VCM also apply to the CCM.
- However, some unique considerations apply in the CCM based on how credits are granted and then used to settle a compliance obligation.
- The award of compliance credits generally represents a government grant. Under IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*, an entity can initially recognize such non-monetary grants at either:
 - a nominal amount; or
 - fair value.

Common accounting approaches

- There are two common accounting approaches for compliance credits:

Net Liability Approach

- Granted credits are initially recognized at a nominal amount (cost).
- Liability is recognized only once actual emissions exceed credits held, consistent with IAS 37.

Government Grant Approach

- Granted credits are initially recognized at fair value.
- Liability is recognized as emissions are incurred (the timing of which can vary by scheme).
- Liability is measured based on the credits that will be used to settle the liability (carrying amount if already held, fair value if need to purchase)

- Another approach sometimes discussed is that in IFRC 3 *Emissions Rights*
 - However, this guidance was withdrawn because many thought the accounting mismatches it created were not appropriate

Renewable Energy Credits (RECs)

What is a REC?

- A renewable energy certificate (REC) represents one megawatt hour of clean, renewable electricity (about what an average home uses in one month)
- Typically, green energy cannot be distinguished on the grid.
- A REC enables an entity to confirm that the renewable electricity came from a green source (e.g., wind or hydro energy).
- Some specialization does exist:
 - Solar renewable energy certificates (SREC) – the source of the renewable energy is derived from the sun or solar energy. These are sold separately from a traditional REC.
- The sale and use of RECs are directed by where the energy (electricity) is generated, flows to and consumed.

Lifecycle and accounting of a REC

- Once the renewable energy is linked to the certificate, an electronic tag is attached.
- The REC is now ready for sale or use and retire.
- Unlike a carbon credit, there can be a supply limit of RECs as they are directly derived from the sourced, renewable energy

Accounting for RECs:

During conversations with financial statement preparers, we found that the accounting for RECs substantially aligns with the potential approaches for accounting for carbon credits (i.e., inventory or intangible asset from a compliance/voluntary perspectives or from a voluntary perspective, may also be expensed).

Examples – Carbon Credits in Practice

Introduction to Examples

- During the research phase, the AcSB discovered examples, from Canadian-domiciled entities, of financial reporting and disclosure in the financial statements, and other reports, for carbon and other environmental credits.
 - Other reports included: Management Discussion and Analysis, Annual Information Form, introductory section of an entity's annual report and voluntary sustainability reporting.
 - Examples found in the research included a mix of quantitative and qualitative disclosures.
- We were interested in understanding where, in practice, entities are with carbon credits and other environmental credits from a financial reporting perspective.
- The following three generic examples highlight what we found thus far.

Example 1 – Carbon Credits – Seller/Generator (IAS 2, 41)

Background of Fact Pattern:

- During the year, the entity (a timberland owner and product supplier) sequestered a portion of their timberland acreage for a forest conservation easement project.
- This allowed the entity to generate and register voluntary carbon credits.
- The carbon credits project's goal was to generate and sell the credits.
- The entity sold a portion of the carbon credits in the year they were generated.

Application:

- Initially, the value of the timber associated with the carbon credits was recorded at fair value as part of the timber asset balance, per *IAS 41 Agriculture*
- Once the credits were certified and verified (post-registration), the timber amount attributable to the carbon credits was reclassified to inventory at fair value, and subsequently measured at the lower of cost and net realizable value (IAS 2.9)

Example 2 – Carbon Credit Streaming – Seller/Generator (IFRS 9, 13)

Background of Fact Pattern:

- The entity (a carbon credit streaming generator) creates value through acquisition and sale of carbon credits.
- The entity provides capital to other third-party generators for voluntary carbon projects. In return for the capital injection, the entity receives future rights to the carbon credits generated.
- The lifecycle of a project can range from 10 years to 50+ years.
- Once the carbon credit project is completed and the credits are registered, the entity sells the carbon credits it co-developed with its investee and generates cash inflows.

Application:

- This arrangement is classified as a financial instrument (asset) on the balance sheet and initially and subsequently measured at fair value through profit and loss (IFRS 9, 5.3.1(c))
- The asset is valued through unobservable inputs (i.e., level 3 inputs IFRS 13.86). Model inputs include carbon credit pricing assumptions, changes in interest and inflation rates, and changes in transition risks (e.g. legal, regulatory).

Example 3 – Carbon Credit Buyer (IAS 1)

Background of Fact Pattern:

- The entity (a large financial institution) purchases carbon credits as part of their overall net-zero strategy.
- The entity qualitatively discloses the purchase of carbon credits in both their voluntary sustainability report and the introduction to their annual report (outside the financial statements).

Application:

- This entity, while qualitatively disclosing the purchase and use of carbon credits, does not specifically report the amount of carbon credits on the balance sheet or on the income statement or disclosure the nature of the transaction.
- IAS 1.31 indicates that an entity does not need to provide a specific disclosure if the information is not material, and the entity believes that existing financial reporting and disclosure is sufficient to ensure user understandability.
- The purchase of carbon credits, while an important step for the entity's climate strategy, is not material for financial reporting purposes.

Overall Observations

Observations

Observations:

- Materiality provides context for why it was challenging to locate buyers vs. sellers (generators) during our research.
- Market is still in its infancy but growing substantially due to carbon credits/RECs being a critical part of an entity's net-zero/carbon reduction strategy.
- The seller (generator) financial arrangements are often more complex in nature for carbon credits.
- Carbon credits are more portable, whereas RECs follow the renewable energy source
 - For RECs, from the two Canadian utility entities we spoke with, RECs originating in Canada were sold to U.S. markets to meet their renewable energy requirements.
- During our research, we found that examples for RECs show consistent approach to that of carbon credits from a seller and buyer perspective.
- From a measurement perspective, possibly challenging to validate fair value inputs for carbon credits (i.e., level 3 inputs).

Questions

