Carbon accounting challenges:
Are you ready?
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New challenges in carbon accounting

The development of carbon markets worldwide has created a host of challenges for companies — and of these challenges, accounting is perhaps one of the least understood. After all, even Europe (a four-year veteran of carbon trading) still has not come to consensus on how to account for emission allowances. Carbon traders in the United States have only begun to grapple with the accounting issues of an already complex and unfamiliar market. Moreover, as carbon markets evolve and incorporate new elements, additional accounting challenges will continue to emerge.

There is currently no authoritative accounting literature from either the Financial Accounting Standards Board (FASB) or the International Accounting Standards Board (IASB) on accounting for emission allowances, although both U.S. and international accounting standard setters have previously attempted to address the issue:

• In 2003, the Emerging Issues Task Force (EITF) contemplated emission accounting questions in EITF 03-14, but the item was removed from its agenda in short order.
• In 2004, the International Financial Reporting Interpretations Committee (IFRIC) issued IFRIC 3 to address emission accounting issues, but the interpretation was withdrawn six months later, in part due to criticism about potential income matching issues.

The FASB and IASB are currently working on a joint project to address emissions accounting, but both boards have been discussing the project since 2007 and final guidance is not expected until 2011.1 In the meantime, there are numerous companies currently impacted by carbon emissions (and likely many more in the near future) that have developed their own accounting policies in the absence of explicit authoritative guidance.

This paper seeks to address some of the common accounting questions that companies will need to address as carbon legislation impacts their operations. Specifically, this paper discusses accounting for the following topics:

1. Emission allowances
2. Obligations
3. Presentation of allowances and obligations
4. Forward emission contracts

Lastly, we provide an example that demonstrates the different accounting results that can exist as companies individually develop accounting policies in the absence of explicit and authoritative literature. For discussion purposes, the concepts included in this paper assume a “cap-and-trade”2 type program that may include free allocation of allowances, auctioning of allowances, or a combination of both.


1 Based on the joint FASB/IASB project calendar on the FASB website (http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1218220137074).
2 A “cap-and-trade” program is a system whereby the regulatory body determines the total amount of permitted emissions for each compliance period and issues that number of allowances to the marketplace. The total emissions are typically decreased each period to achieve a specific decrease in total emissions from a baseline year. Participants emitting in each compliance year are forced to (1) use allowances to offset the emissions, (2) reduce their emissions, or (3) potentially face regulatory penalties and/or fines.
Emission allowances

Emission allowances give the holder the right to produce a certain amount of emissions; i.e., one ton of carbon per credit. These allowances may be:

- Obtained through an allocation from a regulatory body at no cost or a cost that is less than fair value
- Purchased from a regulatory body in an auction process
- Purchased from another market participant or through an exchange

Regardless of the acquisition method, there appears to be consistency in practice, in previously effective or contemplated accounting literature, and in comments made by the FASB, IASB, and U.S. Securities and Exchange Commission (SEC) that allowances held are assets. However, diversity and differences in opinion arise in the "asset type" and the applicable "accounting value."

**Asset type** – The majority of companies classify emission allowances currently held as either "inventory" or "intangible assets." In the initial draft of EITF 03-14, other options were entertained, such as a financial asset, but the predominate view is the previous two and will be the subject of this discussion. As further described below, both classifications have some basis, are widely used, and therefore we currently do not see any reason to expect any convergence in practice without prescriptive guidance from standard setters.

**Inventory** – Both U.S. GAAP and IFRS have similar definitions of inventory, which are generically assets that are either (1) ready for sale in ordinary business, (2) in the process of production, or (3) consumed in the process of production. Proponents of the inventory classification of emissions note that they are a key cost in the production process (for refiners, fractionators, generators, etc.) and are operationally viewed no different than other key inputs (which happen to be inventory). For example, take a power producer - in determining whether to run its coal-fired generation, the owner might look at the price of coal and emissions allowances in relation to the price of power to determine if running the asset would be a gross margin contributor. Similar to the coal, the producer considers emissions a major ingredient that is consumed in the generation process.

This approach is supported by some legacy accounting guidance from the Federal Energy Regulatory Commission (FERC) regarding the treatment of acid rain emissions. Additionally, and more recently, the SEC commented that they would not object to the inventory treatment of emissions allowances if applied consistently. From a practice perspective, we believe that the inventory treatment is currently a common classification under both U.S. GAAP and IFRS.

**Intangible** – Intangible assets are identifiable nonfinancial assets that lack physical substance. From a definitional perspective, emission allowances appear to align more closely to intangibles than inventory, although some traditional intangible accounting practices may not be a precise fit for the allowances. For one, intangibles with a finite life are typically amortized over the period based on a unit-of-production approach (or straight line if the previous method is difficult to identify). However, an amortization methodology may not make sense, as the allowances aren’t used until the end of a compliance period when they are relinquished to the regulatory body to satisfy the company’s obligations related to actual carbon emissions over the period. Use of the intangible accounting model for emission

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3 As defined in SFAS 140/ASC 860-10-20 under US Generally Accepted Accounting Principles (US GAAP) and IAS 39 under International Financial Reporting Standards (IFRS).
5 As defined in SFAS 142/ASC 350-10-20 (US GAAP) and IAS 38 (IFRS).
allowances was supported by IFRIC 3 (prior to withdrawal), and the IASB has noted that the concepts in IFRIC 3 are an applicable interpretation of the IFRS standards in place at that time. Additionally, through a formal inquiry conducted by Deloitte and PricewaterhouseCoopers, the FASB staff commented that emission allowances appear to be intangible assets. Similar to the inventory model, we believe that the intangible model is widely used under both U.S. GAAP and IFRS.

**Accounting value** – The initial recording of emission allowances is also widely debated, in part due to the common practice of regulatory agencies freely allocating (or allocating at a below-market cost) many allowances to regulated entities. The two possible accounting value models for initial recognition are “cost” and “fair value.”

**Cost** – Under both the intangible and inventory models, assets acquired through purchase are commonly recorded at cost. Many entities have both allowances which were allocated at no cost and some that have been separately purchased through the marketplace. In these instances, many entities have applied a methodical approach (such as weighted average or first-in-first-out) in determining which allowances are used or sold. The cost method was the prescribed method in the previously mentioned FERC guidance, and we believe it to be commonly used under both U.S. GAAP and IFRS.

There are some operational accounting complexities involved with the cost method, as different inventory cost pools would be needed for different “vintages” and regulatory markets. Adding to the complexity, some vintages may be able to be “banked or borrowed,” and some products may be able to be used in various regulatory markets (often at specified conversion ratios), and therefore some decisions may need to be made in regard to which inventory cost pools to place certain allowances.

**Fair value** – Despite general guidelines that purchased intangibles or inventory be measured at cost, there is debate over whether allocated allowances are “purchased,” and there are not many other analogous instances where an asset with a verifiable value is received for free. Furthermore, IFRIC 3 (prior to withdrawal) supported a fair value approach (albeit with concomitant recognition of an offsetting governmental grant). We believe that there are entities under IFRS applying this approach (and the rest of IFRIC 3), but do not believe it to be a common practice under U.S. GAAP. The reason is that IFRS has prescriptive guidance for how to record the offset to the asset’s fair value (Government Grant under IAS 20, which results in deferred revenue that is systematically allocated to income over the compliance period), but there is no similar U.S. GAAP literature (and few would be comfortable with a day-one income impact for the fair value of allowances received at no cost). U.S. GAAP does, however, allow the use of other accounting literature (including IFRS) when there is no applicable guidance within the U.S. GAAP hierarchy (as defined in SFAS 162/ASC 105-10-05), so there may be some merit to using an IAS 20 Government Grant framework in the U.S.

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6 Allowances may have specified vintages, which dictate the primary compliance period in which they may be used.

7 “Banking and borrowing” refers to saving allowances post-compliance period for future periods or using allowances intended for future periods early. These options may not be available in all regulatory environments.

8 As an alternative option to recording the government grant at fair value, IAS 20 does allow the grant to be measured at nominal amount (often zero).
In determining whether emission allowances held are inventory or intangibles, many entities consider how they have historically used the allowances, their prospective intent, and the accounting ramifications of each accounting model. In fact, some companies that have used allowances for different purposes have treated groups of allowances differently based on the business intent. For example, a fully diversified utility that purchases and uses allowances for its power generation business unit and buys and sells allowances in its trading operations might want to utilize different accounting models for the different groups of emission allowances, treating allowances held for compliance purposes as intangibles and those held for trading classified as inventory. Supporters of this hybrid approach might point to other situations where items classified as held for trading are treated differently from those held for normal business purposes. Additionally, IFRS intangible guidance (IAS 38) is explicit that intangible assets held for sale in the ordinary course of business (i.e., trading and marketing) are to be recorded as inventory in accordance with IAS 2; thus an IFRS reporting entity that classified allowances held for use as intangibles would be required to record any allowances held for trading as inventory. Further evaluation may be necessary to determine when hybrid approaches are warranted for emission allowances, including consideration of whether (1) the business units are managed separately, (2) it is clear which transactions are for each respective business unit, and (3) the policies are consistently applied.
Obligations

As entities actually emit carbon, they incur a future obligation to relinquish an allowance to a regulator or incur penalties (typically a fine based on the quantity of carbon emitted above the surrendered allowance amount). This obligation appears to meet the definition of a liability under both U.S. GAAP and IFRS, and needs to be periodically measured and recorded. The classification of this obligation as a liability was supported by IFRIC 3 (prior to withdrawal). The accounting questions surrounding the obligation are around the various challenges implicit in the estimation and measurement process. Depending upon the company’s industry and applicable emissions regulations, the obligation may be a material item on the financial statements. We will discuss several methodologies that we think are either used in practice or potentially supportable.

**Present obligation estimate** – At any point in time, an entity should have a liability recognized for the total to-date physically emitted carbon within the established compliance period. The cost assigned to that liability should be based on the entity’s best estimate of how it would satisfy that obligation, which would consider the cost basis of any allowances currently held (assuming they would be used to satisfy the obligation) and the current spot market price of any allowances that would need to be purchased. An exception to using the current spot price may need to be considered if the company has agreements in place to acquire allowances at a different price.

**Present obligation fair value** – Similar to the above methodology, the obligation is based on the total volume of emitted carbon at a point in time within the compliance period, but the obligation is recorded at spot market prices (as opposed to the “cost” basis of allowances held). This is the methodology that was described in IFRIC 3 (prior to withdrawal). This approach completely delinks the obligation from any held allowances and recognizes the discrete nature of the obligation (see discussion of gross vs. net presentation that follows).

**Compliance period obligation estimate** – An alternative methodology to the previous two point-in-time measures that may be supported by analogy to EITF 98-9 (ASC 840-10-25), would be to estimate the total anticipated physical emissions throughout a compliance period which exceed currently held allowances, and record a current period accrual for the portion of the overall expected deficit estimated to have been created by emission activity through the reporting date. This is in addition to the obligation recorded for the present obligation under the first methodology.

This methodology might result in the most appropriate matching of revenues and expenses in situations where expected emissions exceed current allowances held. Under the first method described above, an entity might recognize little obligation in the first few periods, and then much higher obligations towards the end of the compliance period (after the low cost basis allowances have been exhausted in previous obligation accruals).

While this third methodology could solve this problem, it is a more difficult and judgmental approach since it would require companies to be able to accurately forecast total emissions over a future compliance period. Additionally there are still unanswered questions about this methodology that might result in more diversity if applied today.

Examples:

- Should the period incremental accrual for the respective portion of the total compliance deficit be measured at current spot price or the current forward price in the period that the deficient allowances are expected to be purchased?
- As prices and the estimated deficit change (due to both changes in estimated emissions and purchases/sales of allowances), what is the most appropriate method and timing of potential adjustments?
- To the extent the entity has forward obligations or options to acquire or sell allowances, how would that impact the estimated deficit, and would there be different impacts depending on the accounting nature of the obligation/option (e.g., derivative, firm commitment, executory contract)?
Presentation of allowances and obligations

After entities have made policy decisions around allowances and obligations, the next question is whether the asset (allowances held) and liability (obligation) should be presented “net” or “gross.” We are certainly aware of both methodologies being employed, but it is difficult to determine the prevailing industry practice as many of these items are not disclosed as individual line items, and accounting policy disclosures on this topic have been limited. Our suspicion is that more often than not, companies are making policy decisions to net (resulting in a liability when they are in a net short allowance position), although the arguments for gross might appear more supportable.

Net – The case for net presentation of the allowances and associated obligations is that general netting guidelines dictate that netting is appropriate (or required under IFRS) if the right of setoff exists and the intent is to net. Proponents note that the holder of an allowance has the right to transfer the asset to the regulatory body in exchange for being relieved of the obligation and typically has the intent to do so.

Gross – There are several arguments for gross presentation of the asset and liability starting with an argument against the “net” approach. The general netting principles briefly mentioned above are applicable when both parties owe each other determinable amounts. That does not appear to be the case in many cap-and-trade markets as the regulator is not a debtor to the allowance holder. Additionally, netting (if allowable) occurs in situations when the asset and liability are of similar nature (e.g., derivatives or accounts payable/receivable). In this scenario, the two items (inventory/intangible and the emission obligation) do not appear to be of similar nature.

Gross presentation may also make sense as the two items appear to be independent in that they have rights and responsibilities that are not clearly linked. The asset may be held and used, sold, exchanged for another asset without regard as to whether the entity has or does not have a current emission obligation. Similarly, despite the existence of a current obligation resulting from past emissions, the regulatory body has no control over which allowances will be used to satisfy the obligation (or whether allowances will be used at all).
Forward emission contracts

Some markets have developed for forward instruments on emission allowances. Those instruments, including exchange transactions and over-the-counter (OTC) transactions, can be financially settled or result in actual transfer of an allowance, and can be forwards or options. As carbon markets continue to develop, many more forward instruments will likely be available in the marketplace, and questions have arisen as to the appropriate accounting for these types of contracts.

We believe that those resulting in financial settlement have been consistently and appropriately classified as derivatives in the industry, but some diversity is likely to exist for transactions resulting in the actual transfer of an allowance. For the avoidance of doubt, we are talking about a contract that results in the future transfer of an allowance for cash (e.g., in 2010) and not a transaction to immediately transfer a 2010 allowance. These transactions also may be derivatives, but further analysis is necessary, and factors external to the contract such as the specific market liquidity, the entity’s historical practices, and intent should be considered.

Under IFRS, these transactions would otherwise meet the generic derivative definition, but may be scoped out under the “own use” exception depending on the entity’s intent and historical practices. Under U.S. GAAP, the principal question is whether the underlying allowance is “readily convertible to cash” (this discussion assumes there is no market mechanism to facilitate net settlement). There could be differing answers to this question based on factors such as the market in question and type of allowance. The period of time that one is considering to determine if sufficient trading exists could also result in entities reaching different conclusions as carbon markets have historically encountered periods with little trading volume (often the period leading up to an auction).

Regardless, there are some important questions to consider when performing a readily convertible to cash analysis for emission markets:

**Vintage year specificity** – In performing an analysis, one looks at the level of activity in the current spot market. If there is a sufficiently liquid current spot market, there is an underlying presumption that there will also be a liquid spot market in the future when the contract delivers.

In transferring that logic to emission allowances, you run into questions about whether different vintage year (or compliance period) allowances should be included together or separately in evaluating the liquidity of the market. There are clearly arguments for considering each vintage year separately as they have different rights and are truly different instruments. However, that view may lead to some unintended results. Let’s assume that a certain regulatory body has currently allocated vintage allowances to participants through 2012 (e.g., 2009, 2010, 2011, 2012), and assume that a current spot market exists for the transfer of all of those respective allowances (regardless of whether each vintage is evaluated separately or collectively). Furthermore, participants have a good idea of their future allocations (2013 and beyond) and have entered into forward transactions to purchase/sell deficient/excess 2013 allowances. Since the regulator has not allocated any 2013 allowances yet, there is no current spot market (for 2013 allowances) even though an active OTC forward market may exist, and thus there appears to be a supportable argument for non-derivative treatment for these forward contracts even though there is no reason to believe a spot market will not exist when 2013 allowances are distributed. As this analysis is ongoing, when a spot market does develop for 2013 allowances, this contract could be deemed a derivative at a later date, resulting in a current period adjustment for the entire accumulated fair value.
Some participants have expressed an alternative view that if the current vintage year’s spot market was considered readily convertible to cash, the presumption would be that all future vintage years will be as well. An exception could arise if the market was not liquid for the current period vintage year allowance (e.g., 2009), but was liquid for the next year, which is very possible based on historical transacting patterns we have seen.

Spot market size – Another important aspect of the readily convertible to cash analysis is evaluating whether the size of the spot market is sufficient to absorb the contract quantities scheduled for any one delivery period. “Spot market” may have different meanings for different commodities, but let’s discuss a natural gas example. Many companies probably define the daily gas market as the spot market, and will evaluate the amount of gas received (under the forward contract in question) in any one day relative to the size of the daily market at that location. If the contract quantity is sufficiently large that it would significantly change the market price at that location (if sold), the contract commodity is not readily convertible to cash.

The gas might be able to be sold over a period of days, but that would not change the readily convertible to cash conclusion as the holder is not indifferent between selling today and selling over a period of days because he has additional costs and risks in the later example (risks of loss and cost of storage). Emissions allowances are distinct from other commodities as they do not appear to have the same ownership risks and costs, and therefore the question exists as to whether they should have the same readily convertible to cash analysis.

If a forward emission contract meets the definition of a derivative under either U.S. GAAP or IFRS, it may be eligible for hedge accounting. As previously noted, it appears the contract could qualify as “own use” under IFRS, but there may be divergence in views regarding the applicability of the Normal Purchase and Normal Sale (NPNS) exception under U.S. GAAP. The reason for the potential difference is that IFRS is explicit that “physical delivery” is not a condition of the exemption, while the similar NPNS exception tends to focus on physical delivery of an item. Applying the NPNS exception when allowances have been classified as intangibles, which by definition “lack physical substance,” would require careful consideration.
The above accounting considerations are just some of the more common questions we have encountered. There are certainly other important accounting questions around “offset credits”\(^9\) “term offsets,”\(^10\) “banking and borrowing,” and there are additional questions on some of the discussed topics – some of which may be more critical to certain entities than those questions discussed herein. The potential materiality of these items also necessitates the need to design controls around the measurement and estimation process that are sufficient for financial reporting. We have been, and will continue, discussing important carbon accounting questions with our clients as they consider their own policy decisions, control framework, and prepare for the opportunity to formally provide the FASB and IASB with comments.

As previously mentioned, convergence in practice is not likely to occur without additional guidance from standard setters. Additionally, even if these questions are addressed in new accounting guidance, carbon markets will continue to grow, regulations will change, and new accounting complexities will arise, challenging accountants in the carbon markets to maintain a watchful eye on the horizon.

We leave you with this example of the potential impacts of entities adopting some of the different policy decisions discussed in this paper...

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\(^9\) Entities participating in the funding of projects that reduce carbon emissions such as various types of renewable energy may receive offsets that can be used in place of allowances. Some regulators have caps on total offsets allowed and/or a ratio of offsets to allowances that can be used.

\(^10\) “Term offsets” are a concept from the draft Waxman-Markey bill that would result in temporary compliance for a period of time, but would result in an obligation at a later date.
**Example - Impact of entities adopting different policy decisions**

**Background:**
- Company X is subject to carbon regulation that spans four accounting periods
- Company X expects to emit 100,000 tons over the compliance period
- Company X receives 60,000 allowances from the regulator at the beginning of accounting period 1
- The following are X’s actual emissions, the price of emissions at the end of each accounting period, and the allowance purchase activity during the period:

<table>
<thead>
<tr>
<th>Period</th>
<th>Tons</th>
<th>Spot Price</th>
<th>Period Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>$8</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20,000</td>
<td>$8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5,000</td>
<td>$5</td>
<td>Buy 10,000 @ $7</td>
</tr>
<tr>
<td>3</td>
<td>60,000</td>
<td>$10</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15,000</td>
<td>$14</td>
<td>Buy 30,000 @ $11.5</td>
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**Key policies:**

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<thead>
<tr>
<th>Asset type</th>
<th>#1*</th>
<th>#2*</th>
<th>#3*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial allowance value</td>
<td>Inventory</td>
<td>Inventory</td>
<td>Intangible&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Obligation</td>
<td>Cost</td>
<td>Cost</td>
<td>Market w/Government grant&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Presentation</td>
<td>Present estimate</td>
<td>Compliance period estimate</td>
<td>Present fair value</td>
</tr>
<tr>
<td></td>
<td>Net</td>
<td>Gross</td>
<td>Gross</td>
</tr>
</tbody>
</table>

<sup>a</sup> All three methods utilize spot prices for measurement of market based emissions when applicable, and all obligations are cumulative over the compliance period, resulting in current period true-ups for changes in prices, estimates, allowances held, and allowances cost basis.

<sup>b</sup> Company X reclassifies the deferred income from its government grant on a unit of production basis.

<sup>c</sup> Company X has not elected the intangible revaluation model for subsequent measurement of allowances.

### Method 1

**Method 1 Calculation Notes**

*Cumulative Obligation Accrual* = Cumulative Emissions Volume (for Emissions covered by currently held Allowances) X Allowance Weighted-Average-Cost (WAC) and/or Cumulative Emissions Volume (for Emissions in excess of currently held Allowances) X Current Period Market Price
### Method 2

<table>
<thead>
<tr>
<th>Period</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Period End Balance Sheet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowances</td>
<td></td>
<td>70,000</td>
<td>70,000</td>
<td>415,000</td>
</tr>
<tr>
<td>Assets</td>
<td>0</td>
<td>70,000</td>
<td>70,000</td>
<td>415,000</td>
</tr>
<tr>
<td>Obligation</td>
<td>64,000</td>
<td>62,500</td>
<td>347,500</td>
<td>415,000</td>
</tr>
<tr>
<td>Deferred Revenue</td>
<td>64,000</td>
<td>62,500</td>
<td>347,500</td>
<td>415,000</td>
</tr>
<tr>
<td>Liabilities</td>
<td>64,000</td>
<td>62,500</td>
<td>347,500</td>
<td>415,000</td>
</tr>
<tr>
<td>QTD Net Income (Loss):</td>
<td>(64,000)</td>
<td>1,500</td>
<td>(285,000)</td>
<td>(67,500)</td>
</tr>
<tr>
<td>YTD Net Income (Loss):</td>
<td>(64,000)</td>
<td>(62,500)</td>
<td>(347,500)</td>
<td>(415,000)</td>
</tr>
</tbody>
</table>

**Method #2 Calculation Notes**

- **Total Obligation Accrual** = Cumulative Obligation Accrual + Compliance Period Shortfall Accrual
- **Cumulative Obligation Accrual** = Cumulative Emissions Volume (for Emissions covered by currently held Allowances) \(\times\) Allowance WAC and/or Cumulative Emissions Volume (for Emissions in excess of currently held Allowances) \(\times\) Current Period Market Price
- **Compliance Period Shortfall Accrual** = Expected Emissions Shortfall Volume/Total Expected Emissions Volume \(\times\) Cumulative Emissions Volume \(\times\) Current Period Market Price
- **Expected Emissions Shortfall Volume** = Total Expected Emissions Volume – Higher of Held Allowances or Cumulative Emissions Volume

### Method 3

<table>
<thead>
<tr>
<th>Period</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Period End Balance Sheet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowances</td>
<td>480,000</td>
<td>550,000</td>
<td>550,000</td>
<td>895,000</td>
</tr>
<tr>
<td>Assets</td>
<td>480,000</td>
<td>550,000</td>
<td>550,000</td>
<td>895,000</td>
</tr>
<tr>
<td>Obligation</td>
<td>160,000</td>
<td>125,000</td>
<td>850,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Deferred Revenue</td>
<td>320,000</td>
<td>280,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liabilities</td>
<td>480,000</td>
<td>405,000</td>
<td>850,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td>QTD Net Income (Loss):</td>
<td>0</td>
<td>75,000</td>
<td>(445,000)</td>
<td>(550,000)</td>
</tr>
<tr>
<td>YTD Net Income (Loss):</td>
<td>0</td>
<td>75,000</td>
<td>(370,000)</td>
<td>(920,000)</td>
</tr>
</tbody>
</table>

**Method #3 Calculation Notes**

- **Total Obligation Accrual** = Cumulative Emissions Volume \(\times\) Current Period Market Price
- **Deferred Revenue** = Granted Allowance Inception Fair Value – Cumulative Amortization
- **Cumulative Amortization** = Cumulative Emissions Volume (up to Granted Allowance Volume)/Granted Allowances Volume \(\times\) Granted Allowance Inception Fair Value
- **Granted Allowance Inception Fair Value** = Granted Allowances Volume \(\times\) Market Price at Grant Date

| Total Income Summary - Obligation is settled with Allowances in Year 2 |
|--------------------------|--------------------------|--------------------------|
|                          | Method 1                 | Method 2                 | Method 3                 |
| Year 1 P&L               | $(415,000)               | $(415,000)               | $(920,000)               |
| Year 2 P&L               | $ -                      | $ -                      | $505,000                 |
| Total 2 P&L              | $(415,000)               | $(415,000)               | $(415,000)               |

All three of the methods presented would ultimately result in the same earnings impact across all periods (after the remaining assets are extinguished), but the timing of the recognition is significantly different.
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