

## Canada's Li-Cycle Holdings Corporation: Innovative Technology and Innovative Accounting for Off-Take Agreements

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### The Industry and the Company

There is considerable pressure in the United States and other countries to eliminate fossil fuels to counteract climate change. This pressure results in the movement towards all-electric vehicles (EVs) which require a battery pack. An average EV battery uses about ten kilograms (or 22.05 pounds) of lithium, requiring about 5.3 tons of lithium carbonate ore to yield one ton of lithium. Lithium is not a rare earth element (REE), but an electric automobile also contains almost two pounds of other REEs. China controls around 30 percent of the world's supply of REEs, and U.S. only about 1.2 percent.

A Tesla EV battery pack weighs almost a ton and contains a cathode, an electrode, and a separator. The primary materials used in the electrode include different types of toxic lithium and other REEs. Lithium-ion batteries can burn or explode when crushed, but they can be recycled if dismantled carefully. The cost to replace a Tesla battery is around \$15,000 (Johnson, 2022). There will be an estimated 3.5 million battery packs manufactured by 2025. When a battery in an EV must be replaced, the battery can cost more than the value of the vehicle. If batteries are dumped into a landfill, the materials emit toxic fumes, may cause fires for years, and toxics can flow into waterways and drinking water. Mining rare minerals also requires dangerous chemicals (e.g., diesel and mercury) which can be extremely detrimental to miners and the environment (Redding, 2022).

The supply chain of EVs is rapidly growing, so is the production of cathodes, electrodes, battery manufacturing, and used battery recycling. Canada is the major country in the Western Hemisphere that has all the critical minerals to manufacture EV batteries. One key element in the supply chain is the handling/recycling of the REEs, especially the critical component in lithium-ion batteries—lithium. Five countries have the largest lithium reserves in the world (Garside, 2023):

- Chile, 9.3 million tons
- Australia, 6.2 million tons
- Argentina, 2.7 million tons
- China, 2.0 million tons
- United States, 1.0 million tons

However, China controls 80 percent of the world's cell capacity and 60 percent of the world's component manufacturing. Lithium batteries also require nickel, manganese, cobalt, aluminum, copper, and graphite. Batteries consume as much as one-half of the global production of cobalt and lithium (Miller and Moors, 2019). About 70 percent of cobalt comes from the Democratic Republic of Congo (120,000 metric tons), but China controls 15 of the 19 mines (Search, et al. 2021). Russia, Australia, and the Philippines have much smaller amounts of production. The interest of the Western Countries should be to reduce the dependency on unfriendly countries.

Disposal of EV batteries are environmentally challenging because they release toxic fumes, heavy metals, and create fires that are difficult to extinguish. EVs exposed to salt water can cause high-voltage electrical battery fires, as was discovered in the aftermath of Hurricane Ian in Florida. Recycling batteries must be the way in the future, but it can be a hazardous occupation because cutting too deep into a battery cell, or in the wrong place, can cause a short-circuit, combustion, and release toxic fumes. Connecticut Department of Transportation started using electrical buses in January 2022 but withdrew their entire fleet in June 2022 because of a massive bus fire in a Hamden parking lot (Nolan, 2022).

One Canadian company is attempting to solve the disposal problem with the EV car batteries. Li-Cycle Holding Corporation (NYSE: LICY), purportedly the industry leader with innovative technology in lithium-ion batteries recycling, suggests on their website that by 2025, 414,000 tons of lithium-ion batteries will reach the end of their life in North America and 307,000 tons in Europe; they are promoting that they have the technology know-how and is rapidly building up capacities to solve the battery recycling problem. This Canadian company, headquartered in Toronto, Canada, recovers critical materials from lithium-ion batteries and reintroduces them back into the supply chain. Aside from New York, they have three other spokes in development in North America: Phoenix, Arizona, Tuscaloosa, Alabama, and Warren, Ohio; and two spokes in development in Europe: Norway and Germany.

On August 10, 2021, Li-Cycle consummated the merger transaction with Peridot Acquisition Corporation (Peridot), a special purpose acquisition company also known as a blank check company.<sup>1</sup> As the result of the merger, LICY was listed on the NYSE on August 11, 2021. On their February 16, 2021, Merger Announcement Press Release, Li-cycle claimed:

Li-Cycle utilizes a breakthrough, commercial process for sustainably recovering critical high-grade materials from battery manufacturing scrap and end-of-life batteries, creating a closed-loop, domestically sourced lithium-ion battery supply chain. Li-Cycle patented technology enables a shift away from legacy thermal recycling technologies, which can emit harmful emissions and result in lower recovery rates.

According to Li-Cycle's 2021 Annual Report, public offering in 2021 raised \$629 million capital for this newly listed company (another \$21 million raised through private placement in 2021). Apparently, Li-Cycle is offering the battery-recycling solution that the market is looking for and has successfully created the market momentum for itself. Their press release disclosed that Li-Cycle was expecting to receive \$615 million in gross transaction proceeds, to enable the company to fully fund its planned global expansion.

A subsequent press release about Li-Cycle opening a new lithium-ion battery recycling facility in Tuscaloosa, Alabama, states that Li-Cycle has a patented and environmentally friendly technology to recycle and directly process full EV battery packs without any dismantling through a submerged shredding process. Also, their full pack processing system improves efficiency and can process the growing variety of EV battery architecture, including cell-to-pack formats that have limited options for dismantling (Azmi, 2022). Li-Cycle has a recycling plant in Rochester, New York, and plans to construct centralized, large-scale lithium-ion battery recycling facilities, known as Hubs, throughout North America. In February 2023, Li-Cycle secured a \$375 million conditional loan from the Department of Energy to develop a recycling facility in Rochester.

On November 3, 2022, Li-Cycle announced a global strategic partnership with Vines, a battery and cell pack manufacture and a member company of Ingroup, the largest private conglomerate in Vietnam.

### **Litigation Against Li-Cycle**

The problem started for Li-Cycle when a short sellers' report was issued on March 24, 2022, by Blue Orca Capital. This damning report indicated that Li-Cycle was "a near fatal combination of stock promotion, laughable governance, a broken business hemorrhaging cash, and highly questionable Enron-like mark-to-model accounting gimmick, and the company "diverted \$529,000 investor capital to the family of the founder through a series of highly questionable related party payments." Allegedly, "despite hemorrhaging cash and likely requiring multiple near-term infusions of capital," the company "diverted half-a-million in investor capital to the family entourage of its founders ..." (Heffernan, 2022). Since Blue Orca Capital is a short-seller group with a vested interest in the outcome, their assertions may not be supported by the facts.

A mark-to-model valuation is an asset valuation practice that is based upon financial models rather than observable market prices to estimate values. The financial crisis of 2008 was largely based upon using mark-to-model to value the securitized mortgages. The Financial Accounting Standards Board (FASB) issued Statement No. 157 in November 2006,

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<sup>1</sup> Code of Federal Regulations, CFR §230.419 *Offerings by blank check companies*. The SEC regulation indicates that a special purpose acquisition company is created to pool funds to finance a merger or acquisition opportunity within a certain timeframe. The regulation defines a blank check company as "a development stage company that has no specific business plan or purpose or has indicated that its business plan is to engage in a merger or acquisition with an unidentified company or companies, or other entity or person; and is issuing "penny stock," as defined in CFR §240.3a51-1, under the Securities Exchange Act of 1934."

requiring companies to disclose assets that rely on mark-to-model valuations (e.g., Level 3 fair value measurement). However, many companies use the mark-to-market accounting model, and mark-to-market accounting is required in IFRS 13. Li-Cycle uses Level 2 externally observed inputs such as prices of lithium and cobalt. Keep in mind Enron's inputs were unobservable Level 3 inputs.

On April 19, 2022, A.K. Burnish and other Li-Cycle investors introduced a class-action complaint for violation of Federal Securities Laws in the U.S. District Court Eastern District of New York (A.K. Burnish, 2022) against Li-Cycle and other individual defendants. The plaintiffs alleged damages because of Li-Cycle's materially false and/or misleading statements on their February 16, 2021, *Merger Announcement Press Release*. The lawsuit is against Li-Cycle Holding Corporation, Peridot Acquisition Corporation, Ajay Kochhar (President and CEO), and Bruce MacGinnis (CFO during the class action period).

Once a class action lawsuit is filed, a federal court determines if the complaint can move forward, and if so, selects a Lead Plaintiff. The plaintiff then must show that they suffered an economic loss that was caused by the defendant (*Dura Pharmaceuticals v. Brood*, 2005). Event studies often are used to show the association or causation between any misrepresentation and post-transaction price movement (Cheng and Crumley, 2016). Li-Cycle's stock dropped around 9 percent on the day after the report, but after three market days Li-Cycle's stock recovered. Since loss causation did not occur, the judge may not allow the dispute to move forward. Thus, loss causation did not occur, which indicates that the company's accounting is acceptable to the market agents.

On their February 16, 2021, *Merger Announcement Press Release*, Li-cycle mentioned more than forty commercial contracts with blue chip suppliers and off-take agreements through 2030, resulting in a cumulative forecasted EBITDA between 2021 and 2025 of \$985 million. More than \$300 million annual revenue is expected from contracted off-take agreements with Trays (Trays North America LLC), an investor and a strategic partner with Li-Cycle. Yet, in their fiscal year 2021 annual report (20-F filed with the SEC on January 31, 2022, with fiscal year ended on October 31, 2021), the operation result is a \$226 million comprehensive loss, including \$31 million loss from operations. Given the \$629 million capital raised by the public offering, plus another \$21 million through private placement, by fiscal year end 2021, about 80 days after the initial public offering, shareholders' equity totaled \$433 million.

Among other complaints about Li-Cycle's overall business operations, the plaintiffs alleged several materially false and misleading statements concerning Li-Cycle's accounting practice:

1. Regarding the off-take agreement with Trays, it is alleged that Li-Cycle's largest customer, Trays, is not actually a customer, but merely a broker providing working capital financing to the Company while Trays tries to sell Li-Cycle's product to end customers.
2. The Company's mark-to-model accounting is vulnerable to abuse and gave a false impression of growth.
3. A significant portion of the Company's reported revenues were derived from simply marking up receivables on products that had not been sold.

At the core of the accounting controversy is the off-take agreement with Trays and the accounting treatment of products delivered under such an agreement. Is Trays a customer or merely a broker for Li-Cycle? Are products delivered to Trays considered sold or not? Should there be revenues recognized upon delivery to Trays? If so, what is the point of sale, and what is the selling price?

### **What is an Off-Take Agreement**

An off-take agreement is a binding contract where one party, the off-take, agrees to "absorb" or to "take up" the other party, the vendor's, production outputs. While this term is commonly used in business negotiations, in press releases, and even in formal legal documents, there is no authoritative definition given by any regulations or standards. Given that a contractual relationship can be entered into by any arm's length, willing parties, this lack of authoritative definition is not surprising. Each business contract has its unique clauses; it is difficult and no need to define what is or is not an off-take agreement (Segal 2021). And the way to "absorb" the production outputs is unique in each contract. They range from bona fide purchase for consumption (the typical example is the Power Purchase Agreements, PPAs, for energy (Hunt, et al. 2021), to purchase for resale, to merely a marketing agreement.

Off-take agreements can be a critical tool for project financing (Hunt, et al. 2021, Mizrachi 2006). Particularly when a project calls for debt financing at the initial stage, an off-take agreement can enhance the capital-seeker’s creditworthiness if there is an established market or channels to reach the end users for the outputs. Often, the potential lender wants to see an off-take agreement between the vendor/capital-seeker and an off-take to make sure whatever production outputs will have an established outlet market later on (Gupta and Verma 2020). In Li-Cycle’s case, they specifically mentioned off-take agreements in their press releases, not to raise debt but to raise equity capital. Apparently, this publicity worked. The mentioning of off-take agreements successfully helped Li-Cycle to raise capital.

Given the loose definition of off-take agreements, many business financing and marketing agreements carry the characteristic of off-taking arrangements. Major types of off-take agreements are summarized in Table 1. Notice that this categorization is by no means definitive and exhaustive.

**Table 1: Major Types of Off-Take Agreements**

Type	Unique features	Creditworthiness enhancement for the vendor/capital-seeker
Take-and-Pay Agreement	The off-takes must take/purchase the output goods or services, similar to a binding purchase contract. Most Power Purchase Agreements (PPAs) are structured as Take-and-Pay. Nichols, 2008	Strong
Take-or-Pay Agreement	The off-takes have the options to either take/purchase the outputs or to pay a predetermined amount to buy themselves out of the obligation. Detailed clauses are needed to delineate the predetermined amount and any limits that an off-take can buy himself out. Wright, 2017	Moderate to strong
Take-or-Pay Agreement with the hell-or-high-water provision	Like the Take-or-Pay agreement except for that the off-take is obligated to make the payments even if the vendor/capital-seeker cannot produce and fail to deliver the output. Often, the failure is due to natural disasters or any other force majeure events. This type of agreement is not popular and is more of a project-financing arrangement than a product-marketing arrangement.	Strongest
Long-term Sales Agreement	The off-takes agree to purchase a certain quantity of the outputs within a specific time period. Unlike the Take-and-Pay agreement where the off-take is often obligated to take the entire capacity, or a certain percentage of total outputs, the Long-term Sales agreement gives the off-take more discretion as to the timing and amount of intake, as long as the total intake	Moderate

	adds up to the agreed amount. within the contracted time frame.	
Marketing Agreement	The off-takes agree to market the outputs for the vendor/capital-seeker, but do not purchase or consume the outputs. The market-demand risks and the price risks are loaded on the vendor/capital-seeker.	Weak

This variety of agreements imposes quite a challenge for accountants. There is not a uniform, standard accounting treatment that can cover all these different types of off-take agreements. The accounting for these types of agreements have to be contract-specific, depending on the terms set out in each contract. See the discussion of revenue recognition guidelines below.

**Li-Cycle’s Off-Take Agreement with Traxys**

Li-Cycle must understand the creditworthiness enhancement effect of off-take agreements for them to explicitly mention such agreements in their February 16, 2021, press release. Specifically, the agreement with Traxys, one of their major business partners, is included in their 2021 annual report and in the 20-F filed with the SEC. However, this agreement, and the accounting under this agreement, turn out to be the focal point for the lawsuit against Li-Cycle. The complaint is that “Traxys, is not actually a customer, but merely a broker providing working capital financial to the Company while Traxys tries to sell Li-Cycle’s product to end customers.” There is a need to take a closer look at the agreement.

At the very onset, the Agreement begins with the following statements:

- “(Traxys) entered into a refined products marketing, logistics and working capital agreement with Li-Cycle Corp.” and,
- “Traxys North America LLC (“Traxys”) shall buy from Li-Cycle Americas Corp. (“Seller.” “Li-Cycle”), 100 percent of Seller's annual production of Nickel Sulfate, Cobalt Sulfate, Lithium Carbonate, Manganese Carbonate and Graphite Concentrate (each, a “Material” and collectively the “Materials”) ..., which Materials shall be on-sold by us to our third-party end customers...”

At first glance, this agreement looks like a Take-and-Pay agreement where Traxys is obligated to buy 100 percent of Li-Cycle’s output materials. Additional provisions describe details such as the quantity and quality of materials. Provision 4.11 “Traxys shall be the off-taker and pay and take title to the Material as principal and sell the Material to Customers as principal. The payment collections and credit risk shall remain with Traxys.” The language made it clear, the intention for this agreement is “Take and Pay.” To that end, it seems, Traxys is more than merely a broker. One key word used in this Provision is “Principal.” If Traxys is selling the materials to customers as principal. The Principal-Agent relationship is clearly delineated; when dealing with third-party Customers, Traxys is the principal and Li-Cycle is, at most, the agent, if Li-Cycle is still involved in the transportation and other logistic arrangements. More discussion of the Principal-Agent relationship in the Accounting Standard section below.

The focal point of the lawsuit, however, is not just the status of Traxys, but rather Li-Cycle’s questionable accounting, particularly regarding accounting receivables valuation. The dispute alleges that “a significant portion of the Company’s reported revenues were derived from simply marking up receivables on products that had not been sold.” Two issues need clarification. First, is the product sold? If so, when does the sale take place? And, secondly, what is the selling price.

In the off-take agreement, Provision 6 addresses the Delivery and Shipment of products. “(materials) shall be delivered by Seller to Buyer EXW.”<sup>2</sup> In Li-Cycle’s 2021 IFRS Annual Report, Notes to the consolidated financial statement, Note 2. Significant Accounting Policies, Item (Q): “Revenue is measured based on the consideration to which

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<sup>2</sup> “EXW” is one of the 11 current Incoterms (International Commercial Terms) defined by the International Chamber of Commerce. “Ex Works” (EXW) means that the seller delivers when it places the goods at the disposal of the buyer at the seller’s premises or at another named place. Those standard Incoterms help to delineate the point of sale, and the responsibilities of both parties thereafter.

the Company expects to be entitled to in a contract with a customer. The Company recognizes revenue when it transfers control of a product or service to a customer.” Those relatively standardized terms describe if and when sales took place and when revenues can be recognized. Under the term EXW (Ex Works), as long as the products are placed at the disposal of the buyer, it is considered to have been delivered. The financial statements are audited by Deloitte and received the unqualified opinion. It seems there is not much room for dispute on product sales.

The remaining issue is about receivable valuation. In the off-take agreement, Price is addressed in Provision 7, and pricing is benchmarked, based on some public commodity index. Provision 7 addressed the Provisional Price and the Final Price.

- Provisional Price: (among other details), if the Customer Final Price for the shipment for sale to the Customer is unknown at the time of delivery to the Buyer, then the provisional price to the Seller for such Material will be the estimated Customer Final Price, as determined by the Buyer using all relevant formulas in the Customer Contract.
- Final Price: Final pricing for the Material shall be the price (the “Customer Final Price”) specified in the on-sale agreement between Traxys and the Customer for the relevant Materials (the “Customer Contract”).

This step is where the “mark to model valuations” and “marking up receivables” complaints kick in. If Li-Cycle can recognize revenues upon delivery of products and estimate the receivables when the final price is unknown, does that give Li-Cycle an unjustifiable blank check to report their operation results?

### **Accounting Standards Relevant to This Dispute**

Revenue recognition from contracts with customers, such as Li-Cycle’s off-take agreement with Traxys, is becoming more complicated these days. Specific accounting guidance are needed to address issues such as the principal-agent relationship, the point of sale, and revenue recognition and subsequent valuation. In this section, the plaintiffs’ complaints alleged in the Li-Cycle lawsuit are addressed from the accounting standards’ viewpoint. Other than the allegation of questionable business practices such as related party transactions and cash management issues, this section focuses on what the accounting standards have to address on those accounting-related allegations, specifically: 1. Traxys is merely a broker; 2. Mark-to-model for revenue recognition; and 3. Subsequent adjustments to receivables.

Li-Cycle is a Canadian company listed in the NYSE with financial statements prepared in accordance with the International Financial Reporting Standards (IFRS). Li-Cycle files the 20-F Form with the SEC, instead of the 10-K Form that U.S. firms must file with financial statements prepared in accordance with the U.S. General Accepted Accounting Principles (U.S. GAAPs). However, on customer contract-related revenue recognition issues, there is a convergence between the IFRS and the U.S. GAAP. While Li-Cycle’s accounting is following the IFRS, the revenue recognition principles are totally applicable in the U.S. In fact, in Li-Cycle’s 2021 annual report, in the notes to financial statements, in explaining their revenue recognition accounting principles, they quoted, word-for-word, the U.S. standards issued by the FASB’s Accounting Standard Updates (ASUs), instead of the IFRS’s language. To this extent, this article mainly follows the FASB standards (U.S. GAAP) to closely exam the language used, with cross-reference to the IFRS’ mirror paragraphs.

### Overall Guidance on Revenue Recognition from Contract with Customers

In May 2014, the International Accounting Standard Board (IASB) issued IFRS 15, *Revenue from Contracts with Customers*, concurrent with the FASB’s issuing of Accounting Standards Update (ASU) No. 2014-09 (*Topic 606*) of the same title. Not only the two standards are issued at the same time, but also the accounting treatments are consistent with each other, with some paragraphs using word-for-word identical language. To that extent, the two sets of standards are totally converged on this particular topic. Those standards introduced a brand new, five-step approach to address revenue recognition issues involving more complicated contracts where there are third-party customers involved.

Following ASU No. 2014-09, (Topic 606) Paragraphs 606-10-05-3 and 606-10-05-4 are updated as:

Paragraph 606-10-05-3: The core principle of this Topic is that an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

Paragraph 606-10-05-4: An entity recognizes revenue in accordance with that core principle by applying the following steps:

- a. Step 1: Identify the contract(s) with a customer.
- b. Step 2: Identify the performance obligations in the contract.
- c. Step 3: Determine the transaction price.
- d. Step 4: Allocate the transaction price to the performance obligations in the contract.
- e. Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

Similar steps are outlined in IFRS 15, paragraphs 9 to 90. Detailed implementation guidance is given in Subtopic 606-10-55: *Implementation Guidance and Illustrations*, introduced by ASU No. 2014-09. In IFRS 15, Appendix B gives the *Application Guidance*. Some of the guidance share identical language. Some of the guidance specifically address the situation that Li-Cycle is facing.

#### Principal-Agent Relationship

Given the complication that customer contracts often involve a third party external/final user, it is necessary to delineate the internal relationship between the two signing parties of a customer contract, and to clarify each of their position when dealing with the external third-party final user who is not a signer in the customer contract. This situation is exactly what Li-Cycle and Traxys are facing. For the first time in accounting standards, the Principal-Agent relationship is clearly defined and regulated. A Subsection in Topic 606 (U.S. GAAP) Implementation Guidance is titled: *Principal versus Agent Considerations*. (IFRS 15, Appendix B, Subsection with identical title.)

Paragraph 606-10-55-36: When another party is involved in providing goods or services to a customer, the entity should determine whether the nature of its promise is a performance obligation to provide the specified goods or services itself (that is, the entity is a principal) or to arrange for those goods or services to be provided by the other party (that is, the entity is an agent)

(word-for-word identical language with IFRS 15 Paragraph B34)

Paragraph 606-10-55-37: An entity is a principal if it controls the specified good or service before that good or service is transferred to a customer. However, an entity does not necessarily control a specified good if the entity obtains legal title to that good only momentarily before legal title is transferred to a customer.

(word-for-word identical language with IFRS 15 Paragraph B35)

Paragraph 606-10-55-38: An entity is an agent if the entity's performance obligation is to arrange for the provision of the specified good or service by another party. An entity that is an agent does not control the specified good or service provided by another party before that good or service is transferred to the customers. When an entity that is an agent satisfies a performance obligation, the entity recognizes revenue in the amount of any fee or commission to which it expects to be entitled in exchange for arranging for the specified goods or services to be provided by the other party.

(word-for-word identical language with IFRS 15 Paragraph B36)

According to the implementation guidance, after Li-Cycle releases control of the products to Traxys, if there are any further arrangements to transport the goods to the third-party customers, Li-Cycle is the agent in the three-way relationship. In the off-take agreement, it is made clear that Traxys shall take title to the Material as principal and sell the Material to Customers as principal. It seems, according to the standards, there is not much room to argue that Traxys is merely a broker. When facing the third-party customer, Li-Cycle is the agent. It further clarifies that sales had happened when the control of products is released to Traxys.

#### Mark-to-Model Revenue Recognition

Another complaint alleged in the case is the mark-to-model revenue recognition. When there are third-party customers involved, sometimes the selling price between the two signing parties of the contract is not determined until the products are sold to the third-party customers, such as the case in Ly-Cycle's off-take agreement. In that case, how should Li-Cycle recognize revenues upon sales? Detailed concerns on pricing and on revenue recognition involving estimates are given in Topic 606-10-05-4, c. Step 3.

Step 3: The transaction price is the amount of consideration in a contract to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer. The transaction price can be

a fixed amount of customer consideration, but it may sometimes include variable consideration or consideration in a form other than cash. The transaction price also is adjusted for the effects of the time value of money if the contract includes a significant financing component and for any consideration payable to the customer. If the consideration is variable, an entity estimates the amount of consideration to which it will be entitled in exchange for the promised goods or services. The estimated amount of variable consideration will be included in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

This standard is ground-breaking in that it explicitly acknowledges that there are the fixed portion versus the variable portion in product pricing. Also, the consideration exchanged can be cash or a financing component in a form other than cash. It is made clear that "... the estimated amount of variable consideration will be included in the transaction price ..." In other words, when there are variable considerations involved, estimation in the transaction price is inevitable.

According to Li-Cycle’s off-take agreement, the prices of different materials are based on publicly available commodity index. There are the provisional prices and the final prices. The final prices are not determined until the products are sold to the third-party customers. Following the accounting standards, this uncertainty in pricing does not prevent the seller (Li-Cycle) from recognizing revenue. However, estimated elements due to the variable portion of the consideration is inevitable. In the implementation guidance, Topic 606, Paragraphs 606-10-55-208 to -212 give an illustration of revenue recognition with estimates. The scenario is similar to Li-Cycle’s off-take agreement but, of course, with different considerations.

**Table 2: FASB’s Illustration of Revenue Estimates with Variable Consideration**

Paragraph	
606-10-55-208 (facts in the illustration)	An entity signs a contract with a customer, a distributor, on December 1, 20x7. The entity transfers 1,000 products at contract inception for a price stated in the contract of \$100 per product (total consideration is \$100,000) Payment from the customer is due when the customer sells the products to the end customers. The entity’s customer generally sells the products within 90 days of obtaining them, control of the products transfers to the customer on December 1, 20x7.
606-10-55-209 (facts in the illustration)	... the entity anticipates granting a price concession to its customer because this will enable the customer to discount the product ... Consequently, the consideration in the contract is variable.
606-10-55-210 (facts in the illustration)	... the observable data indicate that historically the entity grants a price concession of approximately 20 percent of the sales price for these produces. Current market information suggests that a 20 percent reduction in price will be sufficient to move the products through the distribution chain.
606-10-55-211 (accounting treatment with estimates)	... using the expected value method, the entity estimates the transaction price to be \$80,000 (\$80 x 1,000 products)
606-10-55-212 (accounting treatment with estimates, ruling out the uncertainty)	... despite some uncertainty resulting from factors outside its influence, based on its current market estimates, the entity expects the price to be resolved within a short time frame. Thus, the entity concludes that it is probable that a significant reversal in the cumulative amount of revenue recognized (that is, \$80,000) will not occur when the uncertainty is resolved. .... Consequently, the entity recognizes \$80,000 as revenue when the products are transferred on December 1, 20x7.

Following the Illustration given in the standard, variable consideration in pricing does not prevent the seller of products from recognizing revenue. Estimates are inevitable elements involved in revenue recognition. To that point, the compliant about mark-to-model is not justifiable.

Subsequent Adjustments to Receivables



Another complaint in the lawsuit is about the subsequent mark up of receivables. In a sense, strictly looking from the accounting standards' viewpoint, this is the most questionable accounting practice on Li-Cycle's side. Receivables are measured at the net realizable value. Usually, receivable holders are concerned about credit losses and bad debts. Issues about receivable impairments and bad debts estimates are addressed in FASB's Accounting Standard Codification Topic 310. But there is almost no guidance for receivables write up. Receivables are not measured at fair value; the net realizable value is from the face value writing down, but never writing up. The question is: is it appropriate to subsequently write-up receivables?

Given the guidance from Topic 606 and IFRS 15, it is not inappropriate for Li-Cycle to recognize revenue upon delivery of the products. However, the following sentence is included in Topic 606-10-05-4, c. Step 3 "... The estimated amount of variable consideration will be included in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur ...". In other words, if mark-to-model is inevitable, the reporting entity should practice accounting conservatism and only to include in revenue the portion that is not likely to reverse. Subsequent write-down of recognized revenue can be problematic. In the Illustration given by the standard, in Topic 606-10-55-212, the illustration specifically checks the conditions to rule out the uncertainty of having to reverse revenue. But how about the possibility of subsequent upward adjustment?

The possibility of reassessment of variable consideration is addressed in Topic 606-10-32-14, which is word-for-word identical with IFRS 15, paragraph 59.

Paragraph 606-10-32-14: At the end of each reporting period, an entity shall update the estimated transaction price (including updating its assessment of whether an estimate of variable consideration is constrained) to represent faithfully the circumstances present at the end of the reporting period and the changes in circumstances during the reporting period. The entity shall account for changes in the transaction price in accordance with paragraphs 606-10-32-42 through 32-45. (paragraph 87 to 89, for IFRS 15). (Word-for-word identical language).

Paragraph 606-10-32-43: An entity shall allocate to the performance obligations in the contract any subsequent changes in the transaction price on the same basis as at contract inception. Consequently, an entity shall not reallocate the transaction price to reflect changes in stand-alone selling prices after contract inception. Amounts allocated to a satisfied performance obligation shall be recognized as revenue, or as a reduction of revenue, in the period in which the transaction price changes.

(word-for-word identical language with IFRS 15, paragraph 88)

Following Topic 606-10-32-14, the reassessment of variable consideration is allowed and the changes shall be recognized as revenue, or a reduction of revenue in the current period. While at first glance, it looks like this accounting is deviating from the usual accounting for receivables, it really is not a receivable reassessment. It is a revenue reassessment for variable considerations. The key concept is faithful representation of the circumstances present at the end of the reporting period. In Li-Cycle's case, if by the end of the fiscal year, due to changes of market index of the underlying materials which impact the final price between Li-Cycle and Traxys' agreement, there is no reason not to faithfully represent the changes in market conditions. If the final payments had not been made by Traxys, and Li-Cycle can be expecting the upward adjusted receivables, according to Topic 606-10-32-14, the upward adjustments are not inappropriate. Again, note that the upward adjustments are not adjustments to receivables (Topic 310); the item is an adjustment of variable considerations recognized as revenue under Topic 606. While the item looks like Li-Cycle marks up their receivables from year to year, this subsequent reassessment of variable considerations is not a violation of accounting standards considering that the commodity index is adjusting upward during those years.

## **Conclusion**

Li-Cycle's 2021 annual report was audited, and unqualified, by Deloitte. But Deloitte dropped this public-listed client after fiscal year 2021. What prompted a well-reputable public accounting firm to drop a publicly listed client? Is there any innovative accounting pushing to the edge in this situation?

This A. K. Barnish lawsuit is a class action court case, but not a SEC enforcement case, at least not yet. There are other complaints against the defendants such as Li-Cycle's inappropriate related party transaction. Are there any unethical practices. Are there any unlawful practices other than accounting? The outcome of this case remains to be determined. But

in terms of innovative accounting, Li-Cycle has pushed towards the edge, but not over the edge. Hopefully, Li-Cycle learned its lesson in the first year of public listing: creativity and innovation are good for technology but not for accounting!

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