



The Engine Driving Zero-Emissions

LOOP ENERGY INC.

Management's Discussion and Analysis

FOR THE THREE MONTHS AND YEAR ENDED DECEMBER 31, 2021

(in Canadian dollars, amounts expressed in thousands except number of shares, per share amounts and number of units)

DATED MARCH 22, 2022

Loop Energy Inc. ("Loop", "Company", "we", "us" or "our") has prepared the following management's discussion and analysis ("MD&A") for the three months and year ended December 31, 2021 as of March 22, 2022. This MD&A has been prepared in accordance with National Instrument 51-102F1 and should be read in conjunction with the audited consolidated financial statements of the Company and the notes thereto for the year ended December 31, 2021, which have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS") and have been filed with the securities regulatory authorities on SEDAR at www.sedar.com. All references to "\$" are references to Canadian dollars, unless otherwise stated. The functional currency of certain of the Company's subsidiaries is the Renminbi and all balances have been translated to the presentation currency of the Company, the Canadian dollar.

Additional information relating to the Company, including our Annual Information Form for the year ended December 31, 2021, is available on SEDAR at www.sedar.com and is also available on our website at www.loopenergy.com. The Company's common shares trade on the Toronto Stock Exchange ("TSX") under the symbol "LPEN".

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1. OVERVIEW AND HIGHLIGHTS

1.1 Loop Energy

Loop designs, manufactures, installs, and maintains hydrogen fuel cells and the systems which integrate them into the applications accelerating humanity towards a mature hydrogen economy. With our current focus on medium to heavy-duty commercial vehicles, we are contributing to quicken global decarbonization efforts by extending the range, power, and efficiency of fleets of return-to-base electric buses, trucks and coaches. Once we have demonstrated our competitive advantage within this segment, which we believe has a US\$1 billion total assessable market (TAM) today, Our goal is to eventually become a leader across the entire fuel cell market, moving to adjacent market applications such as other transport applications - including marine, rail and mining - and beyond into stationary power. We believe these applications and our current target market can provide the Company with a future estimated TAM of US\$50 billion¹ by 2030.

The Company was incorporated under the laws of British Columbia, Canada on June 21, 2000 where we are still based - with our head office and a manufacturing facility in Burnaby, British Columbia. We also have a manufacturing facility under construction in Shanghai, China.

1.1.1 Our eFlow™ Technology

A fuel cell is an environmentally clean electrochemical device that combines hydrogen fuel with oxygen to produce electricity. There are around 20 manufacturers in the market today. However, only Loop's products feature its patented eFlow™² technology. Using a tapered, rather than rectangular, channel we can better control the flows of hydrogen, oxygen and coolant in the fuel stack. We believe this maintains optimal performance temperatures and increases the unit's efficiency, peak power and operational longevity. Our testing indicates our proprietary eFlow™ tech offers 10x density uniformity of current, increased flow velocity and robust water removal³.

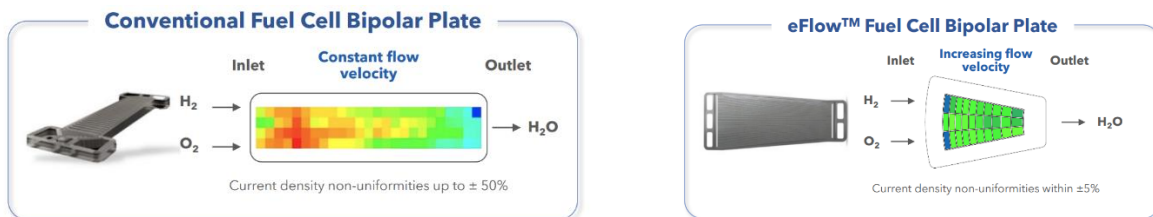


Figure 1: Conventional vs. eFlow Fuel Cell Bipolar Plate

1.1.2 Commercial Strategy

Given our technology advantage we believe, Loop's rate of market penetration will be driven by the total cost of ownership ("TCO") we deliver for customers, both in absolute terms and relative to competitors.

We expect that the combination of decreasing TCO and accelerating demand will create an ongoing feedback loop allowing us to leverage Wright's Law, which provides a reliable framework for cost reduction as a function of cumulative production. We plan to continue to scale production, which we expect will decrease our average unit cost,

¹ Source: Company estimates, OICA survey, IEA Global EV Outlook 2019, H2FC SUPERGEN, Global Market Insights, Fueling the Future of Mobility, Hydrogen Council Reports, and publicly available information.

² This trademark is protected under applicable intellectual property laws and is the Company's property. The Company's trademark may appear without the ™ symbol in this MD&A, but such absence is not intended to indicate, in any way, that the Company will not assert, to the fullest extent under applicable law, the Company's rights to this trademark. All other trademarks and trade names used in this MD&A are the property of their respective owners.

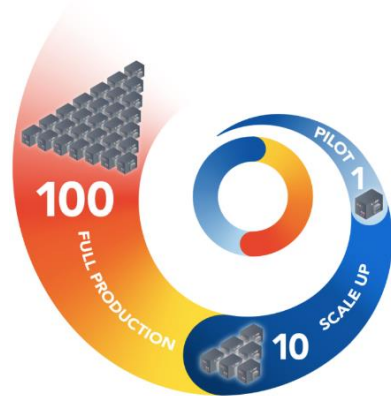
³ Source: Transport in PEMFC Stacks summary presentation for US Department of Energy, H2 Program. Based on Loop's internal testing and comparisons of published studies of the performance of fuel cells from other manufacturers and competitors. In order to quantify the benefit of eFlow™ technology directly, Loop purchased commercially available materials from a top competitor, built them into a Loop eFlow™ fuel cell stack, and then operated this stack at Loop's best estimate of the competitor's operating conditions using publicly available information.

in turn ratcheting the closed loop of greater demand, production scale and lower costs until market saturation is reached.

Loop believes it is uniquely positioned to lead this market development.

We believe that our eFlow™ technology’s uniform current distribution prevents hotspots and makes our products inherently durable, reducing lifetime service and maintenance costs for customers. Now that primary R&D has been completed, the primary focus is on further decreases in TCO.

As R&D evolution has continued, our fuel cell products are now far easier to install in electric vehicles - times are measured in days not weeks, even for new vehicle platforms. We also anticipate that the high-quality components used in our production will pay back for customers - via the cumulative uptime, efficiency, power uniformity and longevity that we expect our stacks will deliver over years of constant use.



Our mission to be local in the key geographical markets in which we operate will enable us to provide on-the-ground support for our customers. We believe that this will not only lower TCO while enhancing customer experience and retention, it will also increase our market visibility.

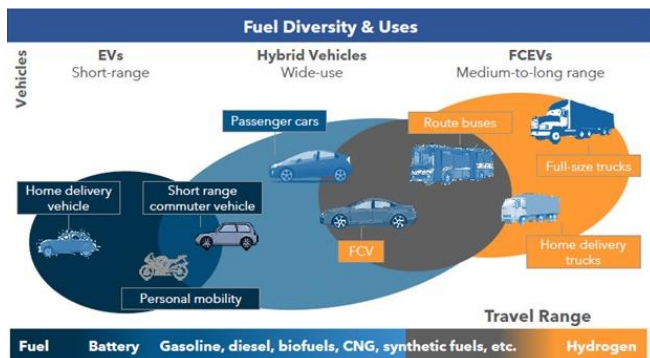
Which is why, in reaction to a strong market pull from Asia and Europe, we have begun to invest in a new China facility for manufacturing, service and support - and we also have plans for a physical presence in Europe for integration support, fleet maintenance and service.

Figure 2: Customer Adoption Cycle (CAC)

To ensure the full benefits of these initiatives are realized, Loop manages sales, account development and retention via a tight customer adoption cycle (see figure 2). To qualify for our CAC, every customer must place at least one purchase order and have an articulated plan to scale to full production (“Pilot Phase”).

Every customer that enters the CAC starts with a single unit for technical evaluation. Once the technical evaluation is complete, they enter into the scale up phase, which often means testing a number of units in a fleet (“Scale-Up Phase”). The final step is full production at commercial levels.

Having met our 2021 targets, we believe that our performance in 2022 will prove our competitive advantage to the market and drive significant demand for our products in the medium to heavy vehicle market.



Material handling vehicles such as forklifts and yard trucks present a tertiary application for our fuel cell systems whilst stationary power applications also offer multiple commercial opportunities in the medium to long term. Some of the most promising applications include diesel generator replacement in market verticals such as construction sites, back-up power and off-grid power applications.

Figure 3: Fuel Diversity & Uses

1.1.3 Underlying Market Drivers

The decarbonization of transportation via electrification and fuel switching has the potential to greatly impact emissions. The movement towards electrification has grown as countries take action to achieve commitments made in the Paris Agreement. These actions include the banning of diesel vehicles in major city centers and the progressive phasing out of internal combustion engine vehicles (“ICEVs”).

This movement is apparent in the recent growth in the number of electric vehicles (“EVs”), most commonly battery-powered (“BEVs”). Several governments around the world are combining regulatory changes with financial support for the transition to zero emission vehicle technologies. With expanding e-commerce freight demands, we believe that zero emission vehicles are one of the only viable options for a sustainable future. Commercial vehicles powered solely by lithium-ion batteries are a part of the solution.

However, fully battery-powered commercial vehicles are unable to economically meet many of the critical functional characteristics required for mass-market adoption. In commercial EVs, medium and heavy-duty BEVs currently suffer from reduced operating performance as the substantial weight and dimensions of battery packs limit range, reduce payload capacity and necessitate long re-charging times - all increasing TCO.

We believe hydrogen fuel cells combined with lithium-ion batteries (“FCEV”) are the optimal solution. In this hybrid, hydrogen fuel cells act as on-board chargers and address these BEVs shortcomings. While smaller deployments of FCEVs and hydrogen refueling infrastructure are costlier, benefits are compounded when fleets are deployed at

scale. We believe that when FCEV fleet sizes increase, hydrogen infrastructure becomes less costly per vehicle than BEV recharging infrastructure.



Given our level of enquiries, we believe that major fleet operators of commercial vehicles are beginning to recognize this.

Figure 4: BEV Increase payload capacity with FC Range Extender

1.2 Recent Developments

The following highlights the significant corporate, financial events and announcements of the Company:

- Reported revenues for the fourth quarter and year ended 2021 of \$0.1 million and \$1.4 million, respectively. Including Q122 purchase orders of 22 units (Mar 2022).
- Loop fuel cell to power buildings in Europe through agreement with Innotest AG (Mar 2022)
- Launch of Loop Powered Mobility & innovation H2Bus in Slovakia (Mar 2022).
- Appointment of Damian Towns as its new Chief Financial Officer (Nov 2021).
- First shipment of a 30kW (S300) fuel cell module (Sep 2021)
- First instance of supplying its products for use in a rail transport application (Sept 2021).
- Appointment of Peter Johansson to its Board of Directors and the appointment of Wendy Bach as its General Counsel and Corporate Secretary (Sept 2021).
- A commercial agreement with NGVI, a Korean manufacturer of hydrogen fuel systems for transit and coach bus applications (Aug 2021) and subsequent shipment of its first 60kW (T600) fuel cell module under this agreement (Dec 2021).
- Incorporated a wholly-owned subsidiary, Loop Energy Technologies (Shanghai) Co. Ltd (“Loop Shanghai”). (Jun 2021). Loop Shanghai is currently procuring the equipment necessary for fuel cell stack assembly and fuel cell system production, for which we expect manufacturing will commence in the second quarter of 2022.
- Fulfillment of an order for ten fuel cell modules from Beijing IN-Power for integration by Skywell New Energy Vehicles Group (“Skywell”) in Nanjing, China (Apr 2021)
- Joint market development agreement for the deployment of hydrogen vehicles and hydrogen fueling infrastructure with Bayotech (Apr 2021)
- Shipment of its first fuel cell module under an agreement with ECUBES, a developer of hydrogen electric systems for stationary power applications based in Slovenia, Europe (Mar 2021).

- Completed its initial public offering (“IPO” or the “Offering”) of an aggregate of 6,250,000 common shares of Loop at a price of \$16.00 per common share, for gross proceeds of \$100m (Feb 2021)

1.3 Outlook

Growth and Go to Market Strategy (“GTMS”)

In 2021 we successfully focused on building our foundation and surpassed our goal by having ten customers in the Pilot Phase and one customer in the Scale-Up Phase of our Customer Adoption Cycle (“CAC”). We plan to accelerate this effort into 2022.

We believe that the success of our GTMS is best measured by the number of purchase orders we have received. In 2021, we had purchase orders for 19 of our fuel cell units and we are targeting to triple this in 2022, to 60 units. We are pleased to report that, as of the middle of March, we had received purchase orders for 22 of our fuel cell units for 2022. Almost all of these purchase orders have all come from outside of China, which we believe further diversifies our geopolitical risk exposure. Due to build times and logistics, not all purchase orders will necessary be converted into revenue during the period as our revenue is only recognized once the product is in the hands of the customer. We continue to increase our capacity and enhance our supply chain to reduce the time between purchase and receipt by the end customer.

The Company had previously used product back-log⁴ as a measure of the success of its GTMS. In our view this is not a particularly substantive measure and therefore lacks comparability. The order profile of individual customers and the rate of conversion may also vary significantly which complicates the use of this measure. We believe that the receipt of physical purchase orders is a better measure. Notwithstanding, the Company’s product back-log had increased to \$53 million as at December 31, 2021 from \$45 million as at October 31, 2021. (See 5.7 Non-IFRS Financial Measures)

Although sales drive our bottom-line, our customer-centric approach drives the Company, and we are striving to increase the number of our fuel cell units successfully deployed in the field. By the end of February 2022, we had approximately 400,000 experience kilometers with an uptime efficiency of over 97% and are targeting 750,000 experience kilometers by the end of the 2022.

Our CAC remains a key element to ensure that we are working with customers that have a trajectory and desire to scale to full production. To enter the Pilot Phase of our CAC, a customer has to have at least a purchase order for one fuel cell unit and a documented path to full production and future orders, which includes conditional purchase orders, due to the stage of the market development. We believe that our success is measured by the number of fuel cells ordered from our customers, which as noted above, as of the date of this MD&A, the orders received for 2022 has already surpassed the total orders received for all of 2021.

We intend to expand our exposure in our key markets in 2022, targeting a 20-fold increase in our viewership at trade shows year over year.

Product Solutions and Cost Out

We remain very focused on our core applications of commercial mobility (medium and heavy duty trucks and buses) but understand that our products offer compelling solutions for adjacent markets such as heavy materials handling, generators, charging stations and specialty vehicles. Our current customer portfolio consists of our 30kW, 50kW and 60kW modules and we expect to introduce our larger 120kW module during the second half of 2022. Our 120kW module will be built off our new larger e-flow plate which we believe will result in a significant cost reduction across our entire product range. We expect that the larger offering will also increase our TAM while reducing our average cost per kW produced.

Our cost out strategy will also be aided by our increased volumes as we start to be able capture some of the discounts available from scale purchasing of components for our products. We are also working on integrating certain of our upstream activities to drive further cost out.

⁴ Refer to section 5.7 “Non-IFRS Financial Measures” for more information on risks related to the use of product back-log.

Capacity

In early-2022 we received our Environment Protection Bureau (EPB) approval to manufacture stacks and modules at our Shanghai facility. We expect to be able to open this facility in the second quarter of 2022. The lease agreement provides us with an option to triple our production space in Shanghai, should we require it. We continue to grow both our engineering capability and production capacity in Burnaby, British Columbia with a stated objective of being able to demonstrate the ability to produce 200 fuel cell units per annum on a single-shift basis by the end of 2022. As part of our customer centric approach, we also plan to establish a services and integration support site in Europe in 2022.

We believe we have the focus and discipline to make 2022 another strong year for Loop and make progress towards our objective to eventually become a leader in the commercial mobility space.

2. DECEMBER 2021 FINANCIAL PERFORMANCE OVERVIEW

The following table highlights key financial information for the three months and year ended December 31, 2021 as compared to the prior comparative periods.

Table 1: Selected Financial information	Three months ended				Year ended			
	December 31,		Variance		December 31,		Variance	
	2021	2020	\$	%	2021	2020	\$	%
Revenues	\$ 128	\$ 193	(65)	(34)	\$ 1,424	\$ 546	878	161
Cost of sales								
Cost of goods sold	767	-	767	100	4,145	-	4,145	100
Warranty provision	22	-	22	100	305	-	305	100
Inventory write-down allowance	988	-	988	100	1,800	-	1,800	100
Gross margin	(1,649)	193	(1,842)	(954)	(4,826)	546	(5,372)	(984)
Expenses:	5,777	2,916	2,861	98	21,819	10,215	11,604	114
Less cost recoveries:	(33)	(130)	97	(75)	(1,944)	(1,461)	(483)	33
Operating expenses	5,744	2,786	2,958	106	19,875	8,754	11,121	127
Loss before the undernoted	(7,393)	(2,593)	(4,800)	185	(24,701)	(8,208)	(16,493)	201
Other expenses	(64)	(192)	128	(67)	(319)	(713)	394	(55)
Net loss	(7,457)	(2,785)	(4,672)	168	(25,020)	(8,921)	(16,099)	180
Other comprehensive income	67	-	67	100	86	-	86	100
Total comprehensive loss	(7,390)	(2,785)	(4,605)	165	(24,934)	(8,921)	(16,013)	179
Loss per common share - basic and diluted	(0.22)	(0.15)	(0.07)	48	(0.80)	(0.50)	(0.30)	60

2.1 Revenues and Cost of Sales

Table 2: Revenues and Cost of Sales	Three months ended				Year ended			
	December 31,		Variance		December 31,		Variance	
	2021	2020	\$	%	2021	2020	\$	%
Revenues	\$ 128	\$ 193	(65)	(34)	\$ 1,424	\$ 546	878	161
Units sold	1	2	(1)	(50)	14	5	9	180
Cost of sales								
Cost of goods sold	767	-	767	100	4,145	-	4,145	100
Warranty provision	22	-	22	100	305	-	305	100
Inventory write-down allowance	988	-	988	100	1,800	-	1,800	100
Gross margin	(1,649)	193	(1,842)	(954)	(4,826)	546	(5,372)	(984)

The Company's primary source of revenues is the sale of its fuel cell systems. As the Company is in the earlier stages of commercializing its fuel cell units, it is expected that revenue will vary from period to period and could significantly vary period over period. Revenue also includes parts and components, other than the underlying fuel cell units themselves, for integration into the electrified platforms, which can lead to variability.

Revenues decreased to \$0.1 million for the three months ended December 31, 2021, compared to \$0.2 million for the same period last year, primarily due to the sale of one fuel cell unit during the three months ended December 31, 2021, compared to two fuel cell units for the same period last year.

Revenues increased to \$1.4 million for the year ended December 31, 2021, compared to \$0.5 million last year, primarily due to the sale of 14 fuel cell units during 2021, compared to four during 2020. This significant increase was due to the fulfillment of an order for ten fuel cell modules for integration by Skywell.

The Company's revenues by geographical region based on the location of the Company's customers were as follows:

Table 3: Revenues by region	Three months ended				Year ended			
	December 31,		Variance		December 31,		Variance	
	2021	2020	\$	%	2021	2020	\$	%
China	\$ 45	\$ (96)	141	(147)	\$ 1,098	\$ 121	977	807
United States	-	197	(197)	(100)	-	333	(333)	(100)
Other	83	92	(9)	(10)	326	92	234	254
Total revenues	128	193	(65)	(34)	1,424	546	878	161

Cost of sales includes the cost of materials, direct and indirect labour and overheads incurred in the manufacturing of our products, in addition to a warranty provision for products sold, inventory write-downs as required, and the cost of parts and components sold as part of the integration process as follows:

Table 4: Cost of sales	Three months ended				Year ended			
	December 31,		Variance		December 31,		Variance	
	2021	2020	\$	%	2021	2020	\$	%
Cost of goods sold	\$ 767	\$ -	767	100	\$ 4,145	\$ -	4,145	100
Warranty provision	22	-	22	100	305	-	305	100
Inventory write-down allowance	988	-	988	100	1,800	-	1,800	100
Cost of sales	1,777	-	1,777	100	6,250	-	6,250	100

Cost of sales increased to \$1.8 million and \$6.3 million for the three months and year ended December 31, 2021, respectively, compared to \$nil for the same periods last year, primarily due to the cost of the fuel cell units and equipment sold during the three months and year ended December 31, 2021. During the year ended December 31, 2020, revenues related to sales associated with pilot projects arising from engineering and product development activities and, as such, no separate cost of sales was presented.

A warranty provision, dependant upon the warranty period, is recorded for each applicable fuel cell unit sold. As the Company is in the earlier stages of commercializing its fuel cell units, and does not have a detailed warranty history, the warranty provision is a significant accounting estimate.

Due to the Company's current scale of production, and the start-up nature of our manufacturing operations, our cost per unit exceeds our selling price, and as a result we have a negative gross margin. As a result, at the end of each accounting period we not only write down our finished goods to their net realizable value (estimated selling price less the estimated cost of completion and selling costs), but also record a provision against our raw materials on hand.

The inventory write-down allowance above represents the write-down of raw materials and finished goods on hand at period end. As this is based on the amount of inventory on hand at period end, this amount can vary significantly period over period. We expect that as we increase our scale of production and can approach a breakeven point, the write-down of inventory will decrease or will no longer be required.

2.2 Operating Expenses

Table 5: Operating expenses	Three months ended				Year ended			
	December 31,		Variance		December 31,		Variance	
	2021	2020	\$	%	2021	2020	\$	%
General and administrative	\$ 2,600	\$ 1,447	1,153	80	\$ 10,077	\$ 3,668	6,409	175
Engineering	2,194	1,224	970	79	8,085	6,057	2,028	33
Business development	688	180	508	282	2,601	362	2,239	619
Technology development	295	65	230	354	1,056	128	928	725
Cost recoveries	(33)	(130)	97	(75)	(1,944)	(1,461)	(483)	33
Operating expenses	5,744	2,786	3,012	108	19,875	8,754	11,121	127

Operating expenses have increased across all functions as the Company is currently in a growth phase and at the beginning of building its foundation to deliver against its expected growth profile.

General and Administration (G&A) expenses

In February 2021, the Company completed its IPO, which has resulted in a significant increase in its G&A expenses associated with being a public company including governance, compliance and risk management expenses.

G&A expenses were \$2.6 million and \$10.1 million for the three months and year ended December 31, 2021, respectively, compared to \$1.4 million and \$3.7 million, respectively, for the same periods last year. The increase in G&A expenses is primarily due to:

- Increases in employee benefit expense of \$0.6 million and \$1.8 million, for the three months and year ended December 31, 2021 respectively, primarily due to increased headcount, and associated stock-based compensation, to service the increased corporate activities;
- Increases in administration and professional fees of \$0.5 million and \$2.9 million, for the three months and year ended December 31, 2021, respectively, primarily due to increased insurance expenses relating to insurance coverage for the Company's directors and officers and an increase in expenses as a direct result of the IPO including an increase in legal fees, audit fees, human resource fees, accounting fees, investor relations fees, general consulting fees, and compliance fees; and
- An increase of \$1.7 million for the year ended December 31, 2021 relating to the Company granting special advisor warrants and recognizing a non-cash share-based compensation expense of \$1.7 million during the first quarter of 2021.

Engineering (formerly Product Development) expenses

Engineering expenses were \$2.2 million and \$8.1 million for the three months and year ended December 31, 2021, respectively, compared to \$1.2 million and \$6.1 million for the same periods last year, respectively. The increase in Engineering expenses for the three months and year ended December 31, 2021, was primarily related to product design supporting the Company's growth strategy including expanding the Company's product lines and the evolution of the Company's fuel stack technology and is summarized as follows:

- Employee benefit expense increased by \$0.4 million and \$2.2 million, for the three months and year ended December 31, 2021, respectively, primarily due to an increase in headcount to facilitate our increased development activities following the IPO in early-2021; and
- An increase in supplies of \$0.5 million and \$nil, for the three months and year ended December 31, 2021 respectively, primarily due to increased purchases relating to product design for the Company's new product lines, development of the Company's fuel stack technology and testing.

Business Development (BD) expenses

During the three months and year ended December 31, 2021, the Company invested in various BD initiatives mainly related to early-market development activities in Europe. BD costs increased to \$0.7 million and \$2.6 million for the three months and year ended December 31, 2021, respectively, compared to \$0.2 million and \$0.4 million in the same periods last year, respectively, primarily due to increased headcount, and communications and consultancy fees to support these initiatives.

Technology Development (Tech Dev) expenses

During the three months and year ended December 31, 2021, the Company engaged in new initiatives related to early-stage technology research and new material development. Tech Dev costs increased to \$0.3 million and \$1.0 million for the three months and year ended December 31, 2021, respectively, compared to \$0.1 million in the same periods last year, primarily due to an increase in headcount and consulting fees to support these initiatives.

Cost recoveries

Expenses for the three months and year ended December 31, 2021, were offset by cost recoveries of \$nil and \$1.9 million, respectively (three months and year ended December 31, 2020 - \$0.1 million and \$1.5 million, respectively).

During the year ended December 31, 2021, we recognized higher recoveries of Sustainable Development Technology Canada ("SDTC") credits, which are generated from the Company's capability in completing and delivering certain milestones. During the three-months ended March 31, 2021, the Company achieved the second milestone of its SDTC project. As at December 31, 2021, the Company has recorded deferred recoveries of \$2.4 million relating to SDTC credits, which it expects to realize in future periods. The Company is working towards completing the third milestone and anticipates its completion during 2022.

During the year ended December 31, 2020, the Company recognized a recovery of \$1.2 million under the government of Canada's Scientific Research and Experimental Development ("SR&ED") tax credits program.

Net loss

Net loss increased by \$4.7 million and \$16.1 million for the three months and year ended December 31, 2021, compared to the same periods last year, mainly due to the increase of cost of sales primarily relating to the write-down of inventory, and G&A, PD, BD and Technology Development expenses as the Company continues to increase headcount and invest in new product offerings and development activities, as discussed above.

3. REVIEW OF QUARTERLY PERFORMANCE

The following tables highlights key financial performance for the last eight quarters and last three years. Certain comparative figures have been reclassified to conform to current presentation:

3.1 Revenues and Cost of Sales

Table 6: Quarterly and Annual Revenue and Cost of Sales

	Quarter								Annual		
	Q421	Q321	Q221	Q121	Q420	Q320	Q220	Q120	2021	2020	2019
Revenues	\$ 128	\$ 206	\$ 1,090	\$ -	\$ 193	\$ 353	\$ -	\$ -	\$ 1,424	\$ 546	\$ 468
Units sold	1	2	11	-	2	3	-	-	14	5	4
Cost of sales											
Cost of goods sold	767	587	2,791	-	-	-	-	-	4,145	-	-
Warranty provision	22	33	250	-	-	-	-	-	305	-	-
Inventory write-down allowance	988	910	(931)	833	-	-	-	-	1,800	-	-
Cost of sales	1,777	1,530	2,110	833	-	-	-	-	6,250	-	-
Gross margin	(1,649)	(1,324)	(1,020)	(833)	193	353	-	-	(4,826)	546	468

The Company's primary source of revenues is the sale of its fuel cell systems. As the Company is in the earlier stages of commercializing its fuel cell units, it is expected that revenue will vary from period to period and could significantly

vary period over period. Revenue also includes parts and components, other than the underlying fuel cell units themselves, for integration into the electrified platforms, which can lead to variability.

Due to the Company's current scale of production, and the start-up nature of our manufacturing operations, our cost per unit exceeds our selling price, and as a result we have a negative gross margin. As a result, at the end of each accounting period we not only write down our finished goods to their net realizable value (estimated selling price less the estimated cost of completion and selling costs), but also record a provision against our raw materials on hand.

The inventory write-down allowance above represents the movement in the write-down of raw materials and finished goods on hand during the period. As this is based on the amount of inventory on hand at period end, this amount can vary significantly period over period. We expect that as we increase our scale of production and can approach a breakeven point, the write-down of inventory will decrease or will no longer be required. The credit recorded in Q221 reflects that the previously written down inventory was sold during the period and presented as cost of goods sold, to reflect the actual cost of inventory used.

During Q421, the Company changed the presentation of the change in the inventory write-down allowance for 2021 to be entirely included in cost of sales. Previously a portion of this amount was included engineering (formerly product development) expenses. The historical quarters in 2021 have been adjusted, as applicable, to reflect this change in presentation and cost of sales increased, with an offsetting decrease in engineering (formerly product development) expenses (included in the table on the previous page), by \$0.7 million, \$0.3 million and \$0.8 million for Q321, Q221 and Q121, respectively.

During the year ended December 31, 2020, revenues related to sales associated with pilot projects arising from engineering and product development activities and, as such, no separate cost of sales was presented, and therefore this change in presentation was not applied to the historical periods in 2020.

Revenues

The significant increase in revenues during Q221 was primarily due to the fulfillment of an order for ten fuel cell units for the Skywell integration. Prior to Q221, the Company had only recognized insignificant revenues as the Company was primarily engaged in product development and testing. The revenues recognized during Q320 related to the sale of a total of three fuel cell units to two separate customers.

Cost of sales

Cost of sales includes the cost of goods sold, which is comprised of the carrying value of inventory, direct and indirect labour, and direct and indirect overhead expenses, a warranty provision, and the movement in the write-down allowance of inventory. The Company started recognizing cost of sales during 2021, as prior to this, costs were incidental to the revenue recognition process. Cost of sales is primarily driven by the number of units sold in addition to the write-down of inventory recorded at each reporting period. Cost of sales for Q121, is comprised solely of a write-down of inventory. The increase in cost of sales for Q221 is primarily due to the fulfillment of an order for ten fuel cell modules for the Skywell integration and cost of sales for Q421 and Q321 is primarily related to the write-down of inventory, which has increased as the Company continues growing its manufacturing capability, which is intended to enable Loop to take maximum advantage of the projected growth of the fuel cell industry and expand its revenues by increasing the Company's ability to continue to meet the growing demand of its customers.

3.2 Operating Expenses

Table 7: Quarterly and Annual Operating Expenses

	Quarter								Annual		
	Q421	Q321	Q221	Q121	Q420	Q320	Q220	Q120	2021	2020	2019
G&A	\$ 2,600	\$ 2,015	\$ 1,976	\$ 3,487	\$ 1,447	\$ 735	\$ 742	\$ 745	\$ 10,077	\$ 3,668	\$ 2,102
Engineering	2,194	1,891	2,238	1,762	1,224	2,208	1,175	1,450	8,085	6,057	4,750
BD	688	912	616	384	180	159	(45)	67	2,601	362	12
Tech Dev	295	412	214	135	65	44	19	-	1,056	128	-
Cost recoveries	(33)	(33)	(38)	(1,839)	(130)	(545)	(287)	(499)	(1,944)	(1,461)	(2,568)
Operating expenses	5,744	5,197	5,006	3,929	2,786	2,601	1,604	1,763	19,875	8,754	4,296

G&A expenses are comprised of corporate (which includes insurance, certain utilities and certain rental expenditures), legal, accounting, human resource, investor relations and information technology expenses. In February 2021, the Company completed its IPO, which has resulted in a significant increase in its G&A expenses associated with being a public company, from Q420, including governance, compliance, and risk management expenses. Q121 includes a share-based compensation expense of \$1.7 million relating to special advisor warrants, and Q421 includes costs associated with the changes to the Company's executive management team.

Engineering expenses (formerly product development) are comprised of expenses associated with the expansion of the Company's product lines and the evolution of the Company's fuel stack technology. Engineering expenses remained relatively consistent, with fluctuations attributable to changes in headcount and supply costs to support these initiatives. The increase in Q421 and Q320 is primarily due to costs associated with the expansion of the Company's products and the increase in Q221 is attributable to the timing of payments to employees.

BD (Business Development) expenses are comprised of our sales and marketing team that is supporting our go-to-market strategy. The Company invested in various BD initiatives during 2021 mainly related to early-market development activities in Europe. BD costs have increased during the year ended December 31, 2021, primarily due to increased headcount, and communications and consultancy fees to support these initiatives. The increase in Q321 is primarily due to the timing of recognition of certain employee benefit expense.

Tech Dev (Technical Development) expenses are comprised of the Company's advanced development research. During 2021, the Company engaged in new initiatives related to early-stage technology research and new material development. Technology Development costs increased to \$0.3 million and \$1.0 million for the three months and year ended December 31, 2021, respectively, compared to \$0.1 million in the same periods last year, primarily due to an increase in headcount and consulting fees to support these initiatives. The increase in Q321 is primarily due to the timing of recognition of certain employee benefit expense.

Cost recoveries primarily relates to SR&ED tax credits offered by the Canadian government to support Canadian business and SDTC credits, which are recognized when there is reasonable certainty as to their collectability. The SR&ED tax credits only relate to the periods prior to the Company becoming a public company, which occurred during Q121 and during this period the Company has recognized estimated SR&ED tax credits of \$0.2 million. The cost recoveries prior to Q121 primarily relate to SR&ED tax credits. During Q121, the Company also recognized \$1.6 million of cost recoveries related to SDTC credits due to the Company achieving the second milestone of its SDTC project.

3.3 Net Loss

Table 8: Quarterly and Annual Net Loss

	Quarter								Annual		
	Q421	Q321	Q221	Q121	Q420	Q320	Q220	Q120	2021	2020	2019
Net loss	\$(7,457)	\$(6,540)	\$(6,152)	\$(4,872)	\$(2,785)	\$(2,438)	\$(1,768)	\$(1,930)	\$(25,020)	\$(8,921)	\$(4,290)
Loss per common share - basic and diluted	(0.22)	(0.19)	(0.18)	(0.20)	(0.15)	(0.14)	(0.10)	(0.11)	(0.80)	(0.50)	(0.25)

Net loss has generally been increasing during the trailing eight quarters and three years primarily due to the expansion of the Company's operations, as discussed in the analysis above. In Q121, the Company completed its IPO, which resulted in the issuance of a total of 15,594,444 common shares, and as a result, the net loss per share is increasing at a lower rate than the net loss.

4. FINANCIAL POSITION

The following tables summarize the financial position for the Company for the last six quarters. The Company has only provided information for the last six quarters as the Company has not been required to publicly report its quarterly financial position prior to Q320.

4.1 Assets

	Q421	Q321	Q221	Q121	Q420	Q320
Cash and cash equivalents	\$ 67,030	\$ 77,810	\$ 84,439	\$ 91,486	\$ 3,201	\$ 6,337
Accounts receivable	2,066	1,671	1,356	566	543	566
Tax credit receivable	1,416	1,416	1,416	1,416	1,207	1,110
Inventory	1,280	1,195	828	1,463	1,142	-
Prepaid expenses and advances	6,564	3,256	2,322	2,997	831	998
Total current assets	78,356	85,348	90,361	97,928	6,924	9,011
Accounts receivable	477	529	-	-	-	-
Equity-accounted investment	-	-	141	186	231	245
Property, plant and equipment	5,260	5,179	4,110	3,511	2,597	2,458
Deferred financing costs	-	-	-	-	500	-
Total non-current assets	5,737	5,708	4,251	3,697	3,328	2,703
Total assets	84,093	91,056	94,612	101,625	10,252	11,714

The increase in cash and cash equivalents was primarily due to the Company IPO's in Q121, which is discussed in more detail below. The following table summarizes the net cash flow from operating, investing and financing activities:

	Q421	Q321	Q221	Q121	Q420
Net operating cash flow	\$ (6,113)	\$ (5,883)	\$ (4,789)	\$ (3,556)	\$ (2,613)
Net investing cash flow	(3,993)	(628)	(714)	(1,327)	(390)
Net financing cash flow	(677)	(97)	(1,562)	93,168	(133)
Foreign exchange	3	(21)	18	-	-
Net change in cash and cash equivalents	(10,780)	(6,629)	(7,047)	88,285	(3,136)

The change in the net operating cash outflow is generally consistent with the change in the net loss for the period as discussed above in section 3.3. The change in net operating cash outflow for Q121 was lower than the change in net loss primarily due to the Company granting special advisor warrants and recognizing a non-cash share-based compensation expense of \$1.7 million during Q121. The change in net operating cash outflow for Q321 was higher than the change in the net loss primary due to the timing of inventory purchases. The change in net operating cash flow for Q421 was lower than the net loss primarily due to the timing of payments.

Cash used in investing activities relates entirely to investments in equipment and leasehold improvements. The expenditures subsequent to the IPO in February 2021 were primarily related to the purchase of additional equipment to expand the Company's testing and manufacturing capabilities.

The Company is in the process of purchasing capital assets to continue growing its manufacturing capability and its product development, testing and prototyping capabilities, through the addition of testing equipment and personnel. As at December 31, 2021, we have outstanding commitments of \$7.8 million related to purchases of property, plant, and equipment. Capital expenditures are expected to be funded through existing cash and cash equivalents on hand.

Cash provided by financing activities in Q121 was primarily a result of the issuance of 6,250,000 common shares for gross proceeds of \$100 million (refer to section 4.4). The net financing cash outflow for Q221 and Q4 21 primarily relates to the payment of share issuance costs related to the Company's IPO.

Accounts receivable increased in Q221, primarily due to the sale of ten fuel cell modules for the Skywell integration, for which extended repayment terms were subsequently offered and these amounts remain outstanding as of the date of this MD&A. Subsequent increases during Q321 and Q421 are primarily due to the timing of collection of GST receivable.

The tax credit receivable relates to the Company's estimated SR&ED tax credits up to the date of the Company's IPO in February 2021, which amounts are payable in cash. As a public company, the Company's SR&ED tax credits are not refunded in cash. The Company is in the process of completing and submitting these filings.

Inventory increased in Q121 to support the forecasted sale for ten fuel cell modules for the Skywell integration and decreased in Q221 when the fuel cell modules were received by the customer. The following quarters have increased as the Company continued to build its inventory balance to meet the growing demand of its customers. The amounts recorded in the Company's statement of financial position are the estimated net realizable value of inventory.

Prepaid expenses and advances are comprised of deposits for property, plant and equipment, inventory, software and corporate G&A expenses. The increase in prepaid expenses and advances in Q121 primarily relates to prepaid insurance and property, plant and equipment deposits following the Company's IPO in February 2021. Subsequent increases in Q321 and Q421 are due to increases in refundable deposits made for inventory and property, plant and equipment, as the Company continues to expand its manufacturing capabilities to continue to meet customer demands.

Non-current accounts receivable relates to the amounts reimbursable by a government entity to the Company relating to a lease entered into by Loop Shanghai on July 1, 2021.

Property, plant and equipment has increased following the IPO on February 25, 2021, to expand the Company's testing and manufacturing capabilities, as well as during Q121 the Company entering into a new office lease in Canada and during Q321 entering into a new facility lease by Loop Shanghai.

4.2 Liabilities

Table 10: Liabilities

	Q421	Q321	Q221	Q121	Q420	Q320
Accounts payable and accrued liabilities	\$ 2,846	\$ 2,886	\$ 1,555	\$ 2,731	\$ 2,521	\$ 1,258
Current portion of lease liabilities	715	659	492	499	160	191
Current portion of long-term debt	175	175	165	515	515	515
Deferred revenue and recoveries	2,479	2,358	2,577	2,664	2,214	2,204
Convertible debentures	-	-	-	-	3,577	3,564
Warranty provision	112	103	60	-	-	-
Total current liabilities	6,327	6,181	4,849	6,409	8,987	7,732
Lease liabilities	1,350	1,476	753	838	290	295
Long-term debt	219	242	275	296	317	316
Deferred revenues and recoveries	849	873	-	-	-	-
Warranty provision	193	181	188	-	-	-
Total non-current liabilities	2,611	2,772	1,216	1,134	607	611
Total liabilities	8,938	8,953	6,065	7,543	9,594	8,343

Lease liabilities increased in Q321 due to a new facility lease entered into by Loop Shanghai and in Q121 due to a new office lease entered into in Canada.

Long-term debt decreased in Q221 primarily due to a \$0.4 million repayment of unsecured promissory notes.

Deferred revenues and recoveries includes SDTC credits received for which milestones to recognize the cost recoveries are still yet to be achieved, deposits received from contracts with customers and a deferred government grant recovery associated with a reimbursement of lease costs relating to a new facility lease entered into by Loop Shanghai in Q321. In Q121, SDTC providing additional funding of \$2.0 million, of which \$0.3 million was recognized as a cost recovery during the same period, and recognized a further \$1.4 million cost recovery relating to the completion of the second milestone of the SDTC project. The increase in the non-current portion of deferred

revenues and recoveries during Q321 is primarily due to a government grant associated with the new facility lease entered into by Loop Shanghai and all other movements are due to the timing of customer deposits and the recognition of revenues.

During Q121, the outstanding convertible debentures were converted to 2,399,999 common shares of the Company.

Commencing in Q221, the Company recorded a warranty provision for the estimated costs of replacement and associated services costs that will be incurred by the Company with respect to the products sold.

The table below outlines the contractual maturities (including interest) of our financial obligations as at December 31, 2021:

Table 11: Obligations	Carrying amount	Contractual cash flows	Within 1 year	1-3 years	4-6 years
Accounts payable and accrued liabilities	\$ 2,846	\$ 2,846	\$ 2,846	\$ -	\$ -
Lease liabilities	2,065	2,509	748	1,105	656
Long-term debt	394	479	175	304	-
	\$ 5,305	\$ 5,834	\$ 3,769	\$ 1,409	\$ 656

In addition, as at December 31, 2021, the Company had committed to the following obligations that were not recognized as liabilities:

Table 11.1: Commitments	Contractual cash flows	Within 1 year	1 to 3 years	4 to 5 years
Property, plant and equipment	\$ 7,768	\$ 7,768	-	-
Inventory	7,654	7,654	-	-
Other	1,578	1,578	-	-
	\$ 17,000	\$ 17,000	-	-

4.3 Liquidity and Working Capital

Table 12: Liquidity and Working Capital	Q421	Q321	Q221	Q121	Q420	Q320
Cash and cash equivalents	\$ 67,030	\$ 77,810	\$ 84,439	\$ 91,486	\$ 3,201	\$ 6,337
Working capital (deficiency)	72,029	79,167	85,512	91,519	(2,063)	566

The Company's working capital position, being its current assets less its current liabilities, improved with the successful IPO transaction in Q121 and continues to have a strong working capital balance.

We consider our capital to consist of shareholders' equity and total debt, net of cash. The Company's objective when managing capital is to maintain adequate levels of funding to support the development of its business and maintain the necessary corporate and administrative functions to facilitate these activities. This is done primarily through debt and equity financing and is supplemented by applying for government grant programs, where available. Future financings are dependent on market conditions and the ability to identify sources of investment. There can be no assurance the Company will be able to raise funds in the future.

4.4 Shareholders' Equity

	Q421	Q321	Q221	Q121	Q420	Q320
Common shares	\$ 126,310	\$ 126,306	\$ 126,677	\$ 126,708	\$ 15,675	\$ 15,675
Preferred shares	-	-	-	-	14,990	14,990
Share-based payments reserve	6,556	6,119	5,671	5,023	2,770	2,698
Accumulated deficit	(57,797)	(50,341)	(43,801)	(37,649)	(32,777)	(29,992)
Foreign currency reserve	86	19	-	-	-	-
Total shareholders' equity	75,155	82,103	88,547	94,082	658	3,371

In Q121, the Company completed its IPO of 6,250,000 common shares at a price of \$16.00 per share for aggregate gross proceeds of \$100 million. In connection with the Offering, the Company paid a cash commission of \$6.0 million and incurred additional share issuance costs of \$2.2 million during 2021, of which \$0.5 million were included in deferred financing costs as at December 31, 2020.

In conjunction with the IPO, the Company implemented a reorganization which:

- amalgamated the Company with two Venture Capital Corporations, each of which had no business operations or liabilities and whose sole assets were common shares of the Company;
- converted all of the Company's issued and outstanding preferred shares into common shares and amended the Company's authorized capital such that all of the existing classes of preferred shares were deleted and the Company's authorized capital is comprised of an unlimited number of common shares;
- consolidated all of the Company's outstanding common shares on the basis of one new common share for every three pre-consolidation common shares; and
- converted all of the issued and outstanding convertible debentures into 2,399,999 common shares

As of the date of this MD&A, the following equity instruments were outstanding:

Table 14: Equity Instruments

Common shares	33,982,648
Stock options	2,447,021
Warrants	66,667
Restricted Share Units	196,561

During Q121, the Company completed the IPO. The Company intends to use the net proceeds from the Offering for product and technology development, sales, general and administration expenses and capital assets. The Company's product and technology development, sales and general and administration expenses are working capital in nature. The use of net proceeds were as follows:

	Shares	Price (per share)	Net Proceeds	Intended use	Actual use
Feb 21 - Share issuance	6,250,000	\$16.00	\$91,801	Product and technology development, sales, general and administration expenses and capital assets	\$24,771 ⁽¹⁾

- As at December 31, 2021, the Company had spent \$6.3 million of the proceeds from the Offering on capital assets and the remainder on product and technology development, sales, general and administration expenses. Based on our internal projects we expect to use a greater portion of the proceeds on product and technology development rather than capital assets.

4.5 Related Party Transactions

The Company has related party relationships, as defined by IFRS, with its key management personnel, which includes the members of the Board of Directors and the officers of the Company. In addition to their salaries, key management personnel also participate in the Company's share-based compensation plan. Related party transactions with key management personnel were as follows:

	Q421	Q321	Q221	Q121	Q420	Q320	Q220	Q120
Salaries and benefits	\$ 737	\$ 542	\$ 352	\$ 376	\$ 375	\$ 243	\$ 221	\$ 178
Share-based payments	278	301	410	555	-	78	13	133
Director fees	38	31	31	31	-	-	-	-
	1,053	874	793	962	375	321	234	311

The increase in related party expenses with key management personnel is primarily due to stock-based compensation issued at the time of the Company's IPO and costs associated with the departure of the Company's previous Chief Financial Officer in Q421.

As at December 31, 2021, the Company had \$0.5 million (2020 - \$0.3m) in accounts receivable and an insignificant amount (2020 - \$0.3m) in accounts payable and accrued liabilities, and for the year ended December 31, 2021, the Company recorded \$0.4 million in revenues (2020 - \$0.1 million), from transactions with a joint venture. The transactions were carried out in the normal course of operations and have been measured at their exchange value, being the amount agreed between the parties.

Related party transactions and balances are disclosed in note 21 of the audited consolidated financial statements for the year ended December 31, 2021.

4.6 Off Balance Sheet Arrangements

As of the date of this MD&A, the Company does not have any off-balance sheet arrangements.

4.7 Selected Annual Financial Information

Information	As at December 31,			Variance	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
				%	%
Cash and cash equivalents	\$ 67,030	\$ 3,201	\$ 2,168	1,994	48
Total assets	84,093	10,252	6,818	720	50
Total non-current financial liabilities	1,569	606	1,427	158	(57)

Cash and cash equivalents increased to \$67.0 million as at December 31, 2021, compared to \$3.2 million as at December 31, 2020 and \$2.2 million as at December 31, 2019. The increase in cash as at December 31, 2021 is primarily due to the total net proceeds of \$91.9 million from the IPO. This was partially offset by \$20.3 million used in operating activities and a \$6.7 million investment in equipment which was primarily capital costs associated with the build of our test lab and expanding our manufacturing capabilities.

The increase in cash and cash equivalents, as described above, and investment in capital assets to facilitate product development and development in the underlying technology, has led to the increase in total assets as at December 31, 2021, relative to prior periods.

5. CRITICAL ACCOUNTING ESTIMATES, POLICIES AND RISK MATTERS

The Company's management uses its judgement when applying the Company's accounting policies in the preparation of its audited consolidated financial statements. The preparation of financial information requires management to make assumptions and estimates of the effects of uncertain future events on the carrying amounts of the Company's assets and liabilities at the end of the reporting period and on the reported amounts of revenue and expenses during the reporting period. Actual results may differ from those estimates as the estimation process is inherently uncertain. Estimates are reviewed on an ongoing basis based on historical experience and other factors that are considered to be relevant in the circumstances. Revisions to estimates and the resulting effects on the carrying amounts of the Company's assets and liabilities are accounted for prospectively.

5.1 Key Sources of Estimation Uncertainty

The following are key assumptions concerning the future and other key sources of estimation uncertainty that have a significant risk of resulting in a material adjustment to the reported amount of assets, liabilities, revenues and expenses within the next financial year.

Warranty provision

A provision for warranty costs is recognized when the underlying products are sold. In establishing the warranty provision, the Company estimates the likelihood that products sold will experience warranty claims and the estimated cost to resolve claims received, taking into account the nature of the contract and past and projected experience with the products, and applying a weighting of possible outcomes against the associated probabilities that the product will experience warranty claims. In making such determinations, the Company uses estimates based on the nature of the contract and past and projected experience with the products. Should these estimates prove to be incorrect, the Company may incur costs different from those provided for in the warranty provision, which would impact cost of sales in the Company's consolidated statements of loss and comprehensive loss. The Company reviews the warranty assumptions and adjusts the provision at each reporting date based on the latest information available, including the expiry of contractual obligations.

During the year ended December 31, 2021, the Company recorded a warranty provision of \$0.3 million, which is included in cost of sales.

Determination of the carrying value of inventory:

In determining the lower of cost and net realizable value of inventory, the Company estimates the likelihood that inventory carrying values will be affected by changes in market pricing or demand for the products and by changes in technology or design which could make inventory on hand recoverable at less than the recorded value. The Company performs regular reviews to assess the impact of changes in technology and design, sales pricing and other changes on the carrying value of inventory. Where it is determined that such changes have occurred and will have a negative impact on the value of inventory on hand, an appropriate write-down is made.

If there is a subsequent increase in the value of inventory on hand, reversals of previous write-downs to net realizable value are made. Unforeseen changes in these factors could result in additional inventory write-downs, or reversals of previous write-downs being required. During the year ended December 31, 2021, the Company recorded a \$4.0 million write down of its inventory to its net realizable value (December 31, 2020 - \$0.8 million).

Impairment of financial assets

In determining the expected credit loss on the Company's trade receivables, the Company has elected to measure loss allowances for trade receivables using a provision matrix which specifies fixed provision rates depending on the number of days that a trade receivable is past due, using reference to past default experience of the debtor and an analysis of the debtor's current financial position, which also forms a basis for the Company's future expectations for potential defaults of the debtor. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment and including forward-looking information.

As at December 31, 2021, the Company has recorded an allowance for an expected credit loss of \$0.1 million (December 31, 2020 - \$nil)

Share-based payments:

The Company uses the Black-Scholes option pricing model. This inherently requires management to make various estimates and assumptions in relation to the expected life of the award, expected volatility, risk-free rate and forfeiture rates. Changes in any of these inputs could cause a significant change in the share-based compensation expense charged in the statements of loss and comprehensive loss and to share-based payment reserves in a given period.

The Company recognized share-based payments expense for options granted and vesting, net of recoveries on cancellations of unvested options, during the year ended December 31, 2021 and 2020 with allocations to functional expense as follows:

Table 18: Stock Option Share-Based Payments	Year ended December 31,	
	2021	2020
	\$	\$
Product development	588	97
General and administrative	1,160	371
Business development	424	-
Technology development	32	-
	<u>2,204</u>	<u>468</u>

The following weighted average assumptions were used for the Black-Scholes option pricing model valuation of stock options granted:

Table 19: Black-Scholes assumptions	2021	2020
Risk-free interest rate	1.25%	0.81%
Expected life of options	7.9 years	10 years
Expected annualized volatility	74%	71%
Dividend	0%	0%
Forfeiture rate	0%	0%

The valuation of the warrants was calculated using the Black-Scholes method of valuation using the following assumptions:

Table 20: Black-Scholes assumptions	
Risk-free interest rate	0.32%
Expected life of options	1 year
Expected annualized volatility	85%
Dividend	0%

Expected annualized volatility was determined through the comparison of historical share price volatilities used by similar publicly listed companies in similar industries.

5.2 Changes in Accounting Policies and Recent Accounting Pronouncements

The Company's material accounting policies are detailed in Note 3 to the Company's annual financial statements for the year ended December 31, 2021. There were no changes in previously adopted accounting policies during the year ended December 31, 2021.

Effective January 1, 2021, we have adopted *Disclosure of Accounting Policies - Amendments to IAS 1 and IFRS Practice Statement 2*. The effect of applying amendment did not have a material impact on our financial statements. The Company has reviewed future accounting pronouncements and determined that there are no significant accounting pronouncements which are anticipated to impact the Company's financial reporting.

During the year ended December 31, 2021, the Company adopted the following accounting policies as a result of new circumstances or transactions:

Warranty provision:

As a result of increased revenues recorded during the year ended December 31, 2021, relative to prior periods, the Company determined that a warranty provision was required. A provision for warranties is recognized when the underlying products are sold. In establishing the warranty provision, the Company estimates the likelihood that products sold will experience warranty claims and the estimated cost to resolve claims received, taking into account the nature of the contract and past and projected experience with the products, and applying a weighting of possible outcomes against the associated probabilities that the product will experience warranty claims. During the year ended December 31, 2021, the Company recorded a warranty provision of \$0.3 million, which is included in cost of sales.

Foreign operations:

As a result of the incorporation of Loop Shanghai during the year ended December 31, 2021, and the assessment that the functional currency of the subsidiary is the Renminbi, this was determined to be a foreign operation under IFRS. The assets and liabilities of foreign operations are translated to the presentation currency using the exchange rate at the reporting date. The income and expenses of foreign operations are translated to the presentation currency using exchange rates at the dates of the transactions. Foreign currency gains or losses arising from the translation of foreign operations are recognized in other comprehensive income and a separate component of shareholders' equity.

5.3 Financial Instruments

As at December 31, 2021, the Company's financial instruments consists of cash and cash equivalents, accounts receivable, accounts payable, lease liabilities and long-term debt. The fair values of cash and cash equivalents, accounts receivable and accounts payable approximates their carrying values because of the short-term nature or the discount rates used in assessing the fair value of the instrument. The fair value of lease liabilities and long-term debt approximates their carrying value given the discount rates used to recognize the liabilities and the market rates of interest.

5.4 Risks and Uncertainties

Risk is inherent in all business activities and cannot be entirely eliminated. As a global company, we are subject to the risks arising from adverse changes in global economic and political conditions. Political conditions such as government commitments and policies towards environmental protection and renewable energy may change over time. Economic conditions in leading and emerging economies have been, and remain, unpredictable. These macroeconomic and geopolitical changes could result in our current or potential customers reducing purchases or delaying shipments, which could cause revenue recognition on these products to shift into later periods.

The Company is exposed to credit risk, liquidity risk and market risk (i.e. interest rate risk, foreign currency risk and commodity risk). The following is a description of these risks and how they are managed:

Credit Risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The carrying value of the Company's cash and cash equivalents and accounts receivable, totaling \$69.6 million, represents the Company's maximum exposure to credit risk. The Company does not believe it has a significant credit risk associated with its cash and cash equivalents as such funds are on deposit with major credit worth financial institutions and thus credit risk and arises principally from the Company's receivables from customers. The Company's exposure to credit risk on customer accounts receivable is influenced mainly by the individual characteristics of each debtor. The Company currently only has a small number of customers and is therefore able to monitor credit risk on an individual account basis and apply lifetime expected loss provisions where any uncertainty on collectability is identified.

As at December 31, 2021, the Company had \$1.3 million contractual payments, included in accounts receivable in the Company's consolidated statement of financial position, which are more than 30 days past due. This amount mainly relates to an outstanding balance from two counterparties. The Company is currently in the process of settling all balances with these counterparties and expects to collect such amounts in full.

Based on no experience of past default of the Company's debtors and minimal expectations of future losses as a result of default, the Company has determined its credit risk to be low. As at December 31, 2021, the Company recorded an expected credit loss provision of \$0.1 million (December 31, 2020 - \$nil).

The Company attempts to limit its exposure to credit risk from accounts receivables by contracting prepayments (generally 30%) from certain customers when possible.

Liquidity Risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company maintains sufficient financial liquidity to be able to meet its ongoing operating requirements. The Company's approach to managing liquidity is to ensure, as much as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Company's reputation. As at December 31, 2021, the Company had working capital of \$72.0 million, however the Company has experienced significant historical losses resulting in an accumulated deficit of \$57.8 million as at December 31, 2021, and has experienced significant negative cash flow from operations. We expect that our working capital of \$72.0 million will provide sufficient liquidity for the Company to execute its operating plans. Our actual liquidity requirements may vary and there are risks and uncertainties associated with our ability to achieve this liquidity objective including, but not limited to, the market acceptance and rate of commercialization of our products, the ability to successfully execute our business plan, and general global economic conditions, certain of which are beyond our control.

The Company's primary liquidity needs for the next twelve months are to pay existing committed capital expenditures, to make scheduled repayments of debt, to pay operating expenses and to manage its working capital. The Company's contractual obligations, as at December 31, 2021, are included in section 4.2 above.

Market risk

Market risk is defined for these purposes as the risk that the fair value or future cash flows of a financial instrument held by the Company will fluctuate because of changes in market prices. Market risk includes the risk of changes in interest rates, foreign currency exchange rates and changes in market prices due to factors other than interest rates or foreign currency exchange rates, such as changes in commodity prices or credit spreads.

(i) Interest rate risk

Interest rate risk is the risk that the fair value of deferred cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company's long-term debt is non-interest bearing and therefore does not fluctuate. Interest income on cash and cash equivalents is considered incidental and not significant to operating results.

(ii) *Foreign currency exchange risk*

Foreign currency risk is the risk that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. The Company is exposed to foreign currency risk related to working capital balances denominated in foreign currencies, primarily the United States dollar, Euro and Renminbi. The following tables set out the Company's currency exposure of financial instruments as at December 31, 2021:

Table 21: Foreign Currency Exchange Risk	December 31, 2021				
	USD	EUR	RMB	Other	Total
	\$	\$	\$	\$	\$
Financial assets					
Current assets	2,515	1,547	464	9	4,535
Non-current assets	-	-	477	-	477
Total	2,515	1,547	941	9	5,012
Financial liabilities					
Current liabilities	649	194	289	8	1,140
Non-current liabilities	-	-	769	-	769
Total	649	194	1,058	8	1,909

As at December 31, 2020, the Company did not have significant net working capital balances in foreign balances.

Based on financial assets and liabilities held at December 31, 2021, a 10% increase in the United States dollar relative to the Canadian dollar, with all other variables held constant, would result in an increase in foreign exchange gains of approximately \$0.2 million, recorded against net loss. If the United States dollar weakened 10% against the Canadian dollar, there would be an equal, and opposite impact, on net income. This sensitivity analysis includes foreign currency denominated monetary items, and adjusts their translation at year-end, for a 10% change in foreign currency rates. A 10% increase or decrease in the Renminbi would not significantly impact net loss.

(iii) *Commodity risk*

Commodity risk is the risk of financial loss due to fluctuations in commodity prices, in particular, for the price of platinum and iridium, which are key components of the Company's fuel cell products. Platinum and iridium are scarce natural resources and therefore the Company is dependent upon a sufficient supply of these commodities. To manage its exposure to commodity price fluctuations, the Company may include platinum and or iridium pricing adjustments directly into certain significant customer contracts.

(iv) *Other risks*

The Company is also exposed to a number of other risks and uncertainties. For full details on the risks and uncertainties affecting the Company, please refer to the Company's AIF (see section entitled "Risk Factors") for the year ended December 31, 2021, a copy of which is available on SEDAR at www.sedar.com. The risks and uncertainties described in our AIF are not the only ones that we face. Additional risks and uncertainties, including those that we do not currently know of or that we deem immaterial, could materially and adversely affect the Company's investments, prospects, cash flows, results of operations or financial condition.

A summary of our identified risks and uncertainties are as follows:

- Our limited operating history and our nascent industry makes evaluating our business and future prospects difficult.
- We have limited experience manufacturing fuel cell products on a commercial basis and our experience has been limited to relatively low production volumes.
- Potential fluctuations in our financial and business results make forecasting difficult and may restrict our access to funding for our commercialization plan.
- The competitive advantages of our products, in relation to fuel efficiency, peak power output and durability may not be realized or maintained.

- Our technology and products may not meet the market requirements, including requirements relating to performance, integration and/or cost.
- Growth in demand for fuel cells will be dependent upon the economic production and broad distribution of hydrogen.
- A mass market for our products may never develop or may take longer to develop than we anticipate.
- Our plans are dependent on market acceptance of our products.
- Certain estimates of market opportunity and forecasts of market growth may prove to be inaccurate.
- Failure to successfully implement our growth strategy could result in reduced revenue and net income growth.
- We may have difficulty executing on our growth strategy and expanding our manufacturing capability.
- We may have difficulty bringing in-house the manufacturing of certain product components currently sourced from third-party suppliers.
- We may be unable to reduce our manufacturing costs as market prices for our products decline over time in line with overall market pricing dynamics.
- We are dependent on third-party suppliers for the supply of key materials and components for our products and services.
- We depend on a limited number of customers for a majority of our revenues and are subject to risks associated with early stage market activities related to the use of fuel cells in commercial vehicles.
- Some of the product purchase commitments pursuant to our purchase orders and/or MOUs with customers may change based on criteria stipulated under such purchase orders and MOUs.
- In the Chinese market, to date a significant amount of our operations have been conducted through a joint venture in China that we cannot operate solely for our benefit.
- We expect to commence operations at our new production facility in China in the second quarter of 2022 and we are subject to risks associated with the build out of this facility and start up of operations.
- We expect we will depend on Chinese customers for a significant portion of our revenues and we are subject to risks associated with the economic conditions and government practices in China.
- Emerging and continuing global events, including without limitation the ongoing COVID-19 pandemic and the war between Russia and the Ukraine, may adversely affect our operations, our suppliers, our customers, or the InPower-Loop JV.
- We have benefited from considerable governmental grants and subsidies to fund our operations, including research and development, which may not be available to us in the future.
- We expect our cash reserves will be reduced due to future operating losses, working capital requirements, capital expenditures and potential acquisitions and other investments by our business, and we cannot provide certainty as to how long our cash reserves will last or that we will be able to access additional capital when necessary.
- We have incurred operating losses and negative cash flow in the past and may incur the same in future periods.
- The Company may need additional capital, which it may not be able to raise on favourable terms, or at all.
- The adoption of new accounting standards or interpretations could adversely affect the Company's financial results.
- Failure to establish and maintain effective internal controls in accordance with NI 52-109 could have a material adverse effect on the Company's business and the market price of the Common Shares.
- The Company's operating results and revenues are subject to fluctuations and its quarterly financial results may be subject to seasonality and market cyclicality, each of which could cause its share price to be negatively affected.
- We are dependent upon systems integrators and OEM's to purchase certain of our products.
- The components of the Company's fuel cell products and the associated components in a customer integration, may contain defects or errors, or our customers may operate our products in an improper manner, resulting in performance loss or a safety incident that could negatively affect customer relationships, increase manufacturing costs, damage the Company's reputation and brand and substantially harm our business.
- Negative publicity could result in a decline in the Company's client growth and its business could suffer.

- If the Company fails to develop widespread brand awareness cost-effectively, its business may suffer.
- The Company is subject to risks inherent in foreign operations, including restrictions on the conversion of currencies and restrictions on repatriation of funds, including out of China.
- Exchange rate fluctuations may adversely affect the Company's results and/or compliance with financial covenants.
- Commodity price fluctuations are beyond our control and may have a material adverse effect on our business, operating results, financial condition and profitability.
- Regulatory agencies could require us to modify or terminate existing investments or acquisitions and could delay or prevent future opportunities.
- We are subject to taxes and we have taken uncertain tax positions.
- Growth may place significant demands on the Company's management and infrastructure.
- Claims for indemnification by the Company's directors and officers may reduce its available funds to satisfy successful third-party claims against the Company and may reduce the amount of money available to it.
- Future litigation could substantially harm the Company's business.
- Warranty claims, product performance guarantees or indemnification claims could negatively affect our financial performance.
- We could be adversely affected by risks associated with acquisitions and investments.
- Our failure to protect that intellectual property could adversely affect our expected future growth and success.
- Confidentiality agreements with employees and others may not adequately prevent disclosure of trade secrets and other proprietary information.
- We may experience cybersecurity threats to our IT Systems, and unauthorized attempts to gain access to our proprietary or confidential information, as may our customers, suppliers, subcontractors and joint venture partners.
- Global macro-economic conditions are beyond our control and may have an adverse impact on our business or our key suppliers and customers.
- The Company operates in a competitive business environment and, if the Company is unable to compete effectively, it could have a material adverse effect on the Company's business, financial condition and results of operations.
- The Company depends on highly-skilled personnel to operate its business and if the Company is unable to retain its current, or hire additional, personnel, its ability to develop and successfully market its business could be harmed.
- If the Company cannot maintain its corporate culture, the Company could lose members of its workforce.
- Public policy and regulatory changes could hurt the market for our products and services.
- Our business is subject to risks associated with obtaining government permits and approvals, and other contingencies that may arise in the course of completing fuel cell installation projects.
- The Company's risk management efforts may not be effective.
- We could be liable for environmental damages resulting from our research, development or manufacturing operations.
- The Company's insurance coverage reserves may not cover future claims.
- If completed, any potential merger and acquisition activity may fail to achieve the expected benefits of the transaction, including potential disruptions to operations, higher than anticipated costs and efforts to integrate, and loss of key personnel.
- The Company's business is subject to the risks of earthquakes, fires, floods and other natural catastrophic events and to interruption by man-made problems such as terrorism.
- Our products use flammable fuels and some generate high voltages, which could subject our business to product liability claims.

5.5 Management's Report on Internal Controls

Disclosure controls and procedures

We have designed disclosure controls and procedures, as defined in National Instrument 52-109 - Certification of Disclosure in Issuers' Annual and Interim Filings ("NI 52-109"), to provide reasonable assurance that material information is identified and communicated to senior management, including the Chief Executive Officer and Chief Financial Officer, in a timely manner to allow decisions regarding required disclosures. As of December 31, 2021, we have evaluated, under the supervision and with the participation of senior management including the Chief Executive Officer and Chief Financial Officer, the effectiveness of the design and operation of our disclosure controls and procedures, as defined in NI 52-109, and concluded that our disclosure controls and procedures were effective to ensure that information required to be disclosed in reports that we file or submit is recorded, processed summarized and reported within the time periods required and is accumulated and communicated to senior management to allow timely discussions regarding required disclosures.

Internal control over financial reporting

We have also designed internal controls over financial reporting ("ICFR"), as defined in NI 52-109, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. Any system of ICFR, no matter how well designed, has inherent limitations and cannot provide absolute assurance that all misstatements and instances of fraud, if any, within the Company have been prevented or detected. We have evaluated, under the supervision and with the participation of senior management including the Chief Executive Officer and Chief Financial Officer, the effectiveness of ICFR, as defined in NI 52-109, in relation to the criteria in the 2013 Internal Control - Integrated Framework published by The Committee of Sponsoring Organizations of the Treadway Commission ("2013 COSO framework"). Based on this evaluation, we have determined that ICFR was effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS as of December 31, 2021.

Change in internal control over financial reporting

During the year ended December 31, 2021, the Company implemented new internal controls over financial reporting as a result of new circumstances or transactions, however there were no changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

5.6 Cautionary Statement Regarding Forward-Looking Information

This MD&A contains certain "forward-looking statements" within the meaning of Canadian securities legislation that involve risks, uncertainties and assumptions and relate to the Company's current expectations and views of future events.

In certain cases, these forward-looking statements can be identified by words or phrases such as "forecast", "target", "goal", "may", "might", "will", "expect", "anticipate", "estimate", "intend", "plan", "indicate", "seek", "believe", "project", "predict", or "likely", or the negative of these terms, or other similar expressions intended to identify forward-looking statements. The Company has based these forward-looking statements on its current expectations and projections about future events and financial trends that it believes might affect its financial condition, results of operations, business strategy and financial needs. These forward-looking statements include, among other things, statements relating to the Company's financial position, business strategy, growth strategies, addressable markets, budgets, operations, financial results, taxes, plans and objectives. Particularly, statements regarding the Company's expectations of future results, performance, achievements, prospects or opportunities or the markets in which we operate is forward-looking information, including:

- our liquidity needs and our estimation that we will have sufficient liquidity to execute our operating plans for at least the next twelve months;
- our future growth prospects, business outlook, the expected demand for our products and the planned growth of our customer base, including our expected expansion into China and our ability to meet localized requirements in China;

- our ability to secure future firm order commitments or develop further market opportunities under existing and future customer and/or partner agreements, including without limitation, collaboration agreements, joint market development agreements, strategic cooperation agreements, memorandums of understanding and supply agreements;
- our plans for establishing a physical presence in Europe;
- expected completion dates for potential material transactions with customers, suppliers and other third parties;
- the timing of expected integration, testing and commissioning of our products in customer vehicles or other customer applications;
- our ability to assist customers with access to convenient and cost effective hydrogen solutions;
- our expected manufacturing capacity and production capability;
- the timing of the completion, commissioning and start-up of our new production facility in Shanghai, China;
- the expected rollout and timing of our planned field deployment of our next generation 120 kW to 240 kW fuel cell stacks and the belief that the larger e-flow plate will result in significant cost reductions;
- the potential for in-house manufacturing of certain components used in the production of our products;
- the expected shift in our focus from production of fuel cell modules to fuel cell stacks at some point in the future;
- our anticipated completion of milestones with Sustainable Development Technology Canada and receipt of associated grant funds;
- our belief that zero emission vehicles are one of the only viable options for a sustainable future and that fuel cell systems (combined with Lithium ion batteries) will meet the requirements of the majority of fuel cell operators;
- the expected growth in demand for fuel cells for the light to medium commercial transportation market in the near to mid term;
- the expected growth in demand for fuel cells in the stationary power and heavy-duty commercial transportation markets in the mid to long term;
- our belief that the Company has superior fuel cell systems when compared to those of our competitors and that we will become a market leader in the commercial vehicle sector over time;
- our view that our systems have leading fuel efficiency, higher durability, and increased power capabilities;
- our expectation that we will be granted all patents we have applied for and our ability to adequately protect our intellectual property now and in the future;
- our ability meet manufacturing cost reduction targets;
- the realization of electrification of transportation, elimination of diesel fuel and ongoing government support of such developments;
- our belief that zero emission vehicles are one of the only viable options for a sustainable future;
- the extent of the disruption to and/or adverse impact on our business, operation results and financial condition as a result of the COVID-19 pandemic or the war between Russia and the Ukraine.

Forward-looking statements are based on certain assumptions and analyses made by the Company based upon management's experience and perception of historical trends, current conditions and expected future developments, and other factors it believes are appropriate. Although the Company believes that the assumptions underlying these statements are reasonable, if any assumptions underlying the forward-looking statements prove incorrect, actual results may vary materially from those anticipated in those forward-looking statements and there can be no assurance that actual results will be consistent with these forward-looking statements. Material assumptions underlying forward-looking statements in this MD&A include future expectations and assumptions regarding:

- our belief of the value of the total assessable market today and by 2030;
- our intention to become the market leader and moving to adjacent market applications;

- our expectation that eFlow™-equipped fuel cells will continue to offer performance improvements over time and the increased offerings for uniformity of current, increased flow velocity and water removal;
- our expectation that total cost of ownership will decrease and demand will increase;
- our expectation that we will continue to scale production and decrease average unit cost;
- our belief that our market visibility will increase;
- the demand for, and supply of, hydrogen fuel cells for the commercial mobility and stationary power markets;
- the realization of electrification of transportation, elimination of diesel fuel and ongoing government support of such developments;
- our belief that hydrogen fuel cells combined with lithium-ion batteries are the optimal solution;
- our target of 60 fuel cell units ordered for 2022 and our ability to increase capacity, enhance our supply chain and reduce delivery time;
- our ability to reduce costs through scale purchasing;
- our expectation that the write-down of inventory will decrease or will no longer be required;
- our expectation that revenue will vary period to period;
- the timely availability of key equipment and components required in the manufacture of our products;
- the availability of sufficient skilled human resources and financial capital required to meet our sales, product development and production growth aspirations; and
- the extent of the disruption to and/or adverse impact on our business, operation results and financial condition as a result of existing and unforeseen future global events, including without limitation the COVID-19 pandemic and the current war between Russia and the Ukraine.

In addition, forward-looking-statements, by their nature, involve risks and uncertainties. Certain of these risks are included in “*Risks and Uncertainties*” in this MD&A and “*Risk Factors*” in the Company’s Annual Information Form dated March 23, 2022 (“AIF”), which factors should not be considered exhaustive and should be read together with the other cautionary statements in this MD&A. Given these risks, uncertainties and assumptions, readers should not place undue reliance on forward-looking statements and the Company cautions readers that forward-looking statements are not guarantees of future performance and that its actual results of operations, financial condition and liquidity and the development of the industry in which it operates may differ materially from those made in or suggested by forward-looking statements contained in this MD&A. In addition, even if the Company’s results of operations, financial condition and liquidity and the development of the industry in which it operates are consistent with the forward-looking statements contained in this MD&A, those results or developments may not be indicative of results or developments in subsequent periods. Any forward-looking statement that is made in this AIF speaks only as of the date of such statement, and the Company undertakes no obligation to update any forward-looking statements or to publicly announce the results of any revisions to any of those statements to reflect future events or developments, except as required by applicable securities laws. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless specifically expressed as such, and should only be viewed as historical data.

5.7 Non-IFRS Financial Measures

Product back-log is a non-IFRS financial measure intended to provide additional information and should not be considered a substitute for measures of performance prepared in accordance with IFRS. In addition, this measure does not have a standardized meaning under IFRS and therefore may not be comparable to a similar measure presented by other companies. This non-IFRS measure is used by management, and we believe that it assists investors and other users of our financial reports in assessing our financial performance and monitoring our ongoing financial position. Our product back-log represents the estimated aggregate value of all future conditional orders, binding and non-binding commitments and memorandums of understanding from customers who have placed at least one committed purchase order with us for at least one fuel cell stack or module with written intention (including binding and non-binding commitments) of follow-on unit orders. Our product back-log is currently comprised of a relatively limited number of contracts and a relatively limited number of customers and there can be no assurance that any such conditions will be fulfilled, or that our product back-log will be equal to our future revenues. Given the relative immaturity of our industry and customer deployment programs, our product back-log is potentially vulnerable to risk of cancellation, deferral or non-performance by our customers for a variety of reasons, including:

risks related to continued customer commitment to a fuel cell program; risks related to customer liquidity; credit risks; risks related to changes, reductions or eliminations in government policies, subsidies and incentives; risks related to macro-economic conditions including trade, public health (including the ongoing impact of the COVID-19 pandemic), and other geopolitical risks; risks related to slower market adoption; risks related to vehicle integration challenges; risks related to the development of effective hydrogen refueling infrastructure; risks related to the ability of our products to meet evolving market requirements; and supplier-related risks.