



The Engine Driving Zero-Emissions

LOOP ENERGY INC.

Management's Discussion and Analysis

FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2022

(in Canadian dollars, amounts expressed in thousands unless stated otherwise)

DATED NOVEMBER 2, 2022

Loop Energy Inc. ("Loop", "Company", "we", "us" or "our") has prepared the following management's discussion and analysis ("MD&A") for the three and nine months ended September 30, 2022 as of November 2, 2022. This MD&A has been prepared in accordance with National Instrument 51-102F1 and should be read in conjunction with the unaudited condensed consolidated interim financial statements of the Company and the notes thereto for the three and nine months ended September 30, 2022, and the consolidated financial statements and accompanying notes for the years ended December 31, 2021 and 2020, 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

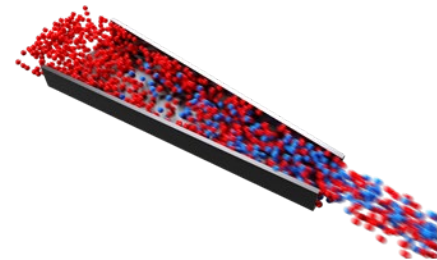
Loop designs, manufactures, installs, and maintains hydrogen fuel cells and the systems which integrate them into applications that will contribute to the development of a mature hydrogen economy. As our mission is to contribute to global decarbonization, our current focus is to extend the range, power, and efficiency of fleets of return-to-base electric buses, trucks and coaches. We believe this will be key to ignite growth in the hydrogen economy.

We estimate our total assessable market (TAM) value within return-to-base fleets at C\$1.2 billion¹ today, our broader strategy will create access to an aggregate TAM that has the potential to reach up to C\$64 billion¹ by 2032.

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 commenced first article inspection and assembly at our wholly owned manufacturing facility in Shanghai, China, and have opened a service centre in the United Kingdom (UK) to support growing customer demand in Europe.

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 approximately 20 manufacturers of fuel cells in the market today. However, only Loop's products feature its eFlow™² technology which is based on a patented modified (narrowing) geometry. Using a tapered, rather than rectangular, channel we can better control the flows of hydrogen, oxygen and coolant in the fuel stack.



Our tests show this technology maintains optimal performance temperatures and increases the unit's efficiency, peak power and operational longevity. Our conclusion is that our proprietary eFlow™ technology offers up to 10x greater density uniformity of current, increased flow velocity and robust water removal³.

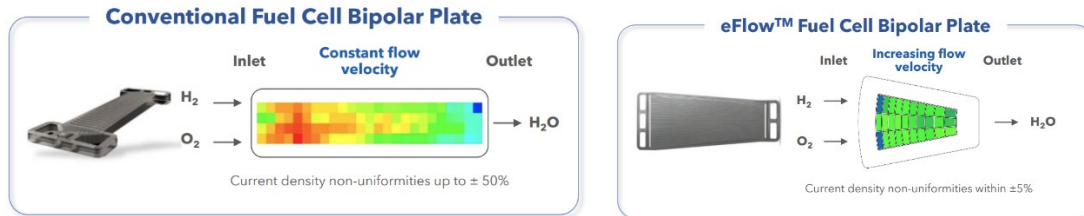


Figure 1: Conventional vs. eFlow™ Fuel Cell Bipolar Plate

Our initial focus with eFlow™'s patented modified geometry, has been on fuel cells. We have successfully commercialized fuel cells into our product and are seeing strong customer demand for its industry leading

¹ Source: Company estimates, Bloomberg NEF, MarketsandMarkets Hybrid Train Market, The North American Locomotive Review 2021, 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.

performance. We have also been investigating the potential positive impact that eFlow™ can have on Polymer Electrolyte Membrane (PEM) Electrolyzers. Our most recent findings are discussed later in this MD&A.

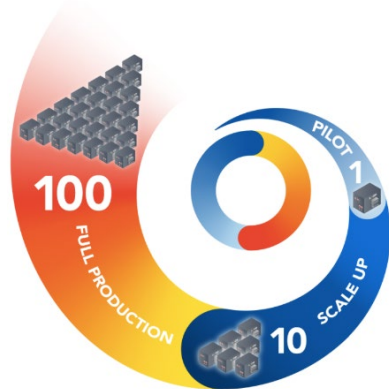
1.1.2 Commercial Strategy

Given our competitive 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 the combination of decreasing TCO and accelerating demand will create an ongoing positive feedback loop, allowing us to leverage Wright’s Law - a reliable framework for cost reduction as a function of cumulative production. As we continue to scale operations, we expect average unit cost to decrease. Decreased unit cost will result in greater demand which, in turn, will increase production scale and decrease costs until market saturation is reached.

Our proven eFlow™ technology is expected to deliver lower TCO, due to the improvement in fuel efficiency, which makes up a significant portion of the TCO, and its uniform current distribution that prevents hotspots, making our products inherently more durable, thereby extending lifecycles and reducing service and maintenance costs.

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.



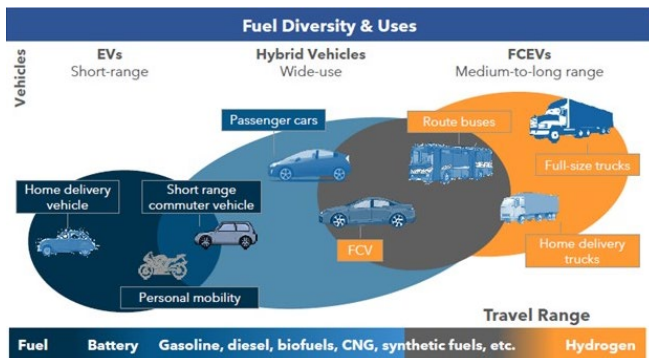
Our strategy of being local in the key geographical markets in which we operate will enable us to provide on-the-ground support for our customers. We believe that this will not only lower TCO while enhancing customer experience and retention, it will also increase our market visibility. For this purpose, we have recently opened a service center in the United Kingdom 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. (Production Phase).

Having met our 2021 targets, we believe that our continued 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”). Energy security concerns highlighted by the recent and ongoing conflict in the Ukraine have provided further emphasis on the push away from the world’s dependency on fossil fuels.

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, recent examples include REPowerEU in Europe and the Inflation Reduction Act in the USA. 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 since December 31, 2022:

- Record quarter and nine-month revenues for the period ended September 30, 2022 of \$1.4 million and \$2.6 million respectively (2021 \$0.2M and \$1.3M) (Nov 2022)
- Record purchase orders (POs) of 61 year to date exceeding original PO guidance set for 2022 (Nov 2022)
- Loop Energy’s fuel cell was selected, primarily due to its fuel efficiency, by Rampini Carlo SpA for launch of its hydrogen-electric bus platform (Oct 2022)
- Two new companies entered the Pilot Phase of Loop’s Customer Adoption Cycle, Avia Ingenieria and Opex/Hevolucion, expanding Loop’s presence in Europe and entering the emerging South American market (Oct 2022)
- Launched S1200 fuel cell system, cutting hydrogen cost-parity with diesel by up to eight years (Sep 2022)
- Increased European footprint with the opening of a service facility in the UK (Aug 2022)
- 2022 Purchase Order (PO) Guidance increased to 100 from 60 (a 67% increase) and 2023 PO Guidance increased to 500 from 180 (a 178% increase) (Aug 2022)
- 52 Purchase Orders (POs) in the first half of 2022 exceeds 2021 full year POs of 19 by over 170% (Aug 2022)
- Record first half year revenues of \$1.2 million (2021: \$1.1 M) (Aug 2022)

- Mobility and Innovation (M&I) entered Loop’s Scale-Up Phase of our CAC with additional POs for 10 units (Jul 2022)
- Signed Supply Agreement with Tevva Motors Ltd’s (Tevva) with commitments in excess of US\$12 M thru 2023 (Jul 2022)
- Appointed Kent Thexton as Director and Chair of the Board (Jun 2022)
- Loop Energy selected by Aluminium Revolutionary Chassis Company (ARCC) to expand into promising Australian hydrogen bus market (Jun 2022)
- Partners with Aliant Battery to provide Hydrogen technology for Netherlands’ Green Residential Hub (Apr 2022)
- Selected as Tevva Motor Ltd’s (Tevva) fuel cell supplier for Tevva’s 7.5 tonne electric truck platform (Apr 2022)
- Appointed Quan Hu as President and board member of Loop Shanghai (Apr 2022)
- Entered into and agreement with Innotest AG to integrate fuel cell system into Home Power Energy System (Mar 2022)
- Launch of Loop Powered Mobility & Innovation H2Bus in Slovakia (Mar 2022)

1.3 Outlook

Continuing to Execute

2022 is already a record-breaking year for Loop Energy in terms of revenue, order in-take, and strategic customer engagements. Although the first nine months have not been without their challenges, with lock-downs in China impacting world-wide supply chains and energy security becoming a more prominent issue with Russia’s invasion of Ukraine, we have met these challenges head on and continue to increase our rate of acceleration and momentum. We have now achieved and exceeded a number of our 2022 objectives, among them POs received, introduction of our new plate platform, our 120kW (S1200) product and are well placed to achieve our 25% unit cost reduction; and look forward to building on this in Q4 2022 and into 2023.

Industry Leading Growth and Go to Market Strategy (“GTMS”)

We continue to believe our Go to Market Strategy (“GTMS”) is best measured by the number of POs we have received. With 61 POs received already in 2022, we have tripled 2021 efforts and surpassed our initial 2022 guidance of 60 POs and are closing in on our revised guidance of 100 POs.

These purchase orders are being built off our Customer Adoption Cycle (“CAC”) which now stands at 19 (16 customers in the Pilot Phase, 2 in the Scale-up Phase and 1 in the Production Phase) which has grown over 10% in the last quarter and over 70% year to date. Our order book remains heavily weighted towards the EMEA region, representing 85% of POs received in 2022. However, with North America and APAC markets contributing to 15% of POs, a measure of healthy diversification has begun.

In Q2 2022 we were named fuel cell supplier to Tevva, a British electric and hydrogen truck manufacturer. The 2022 thru 2024 supply agreement calls for minimum purchase commitments in excess of US\$12 million to end of 2023, with the number of POs in 2024 to be confirmed at a later date. This is significant milestone for the Company, as Tevva is the first customer to enter the Production Phase of the CAC. We were also able to enter the Scale-Up Phase in the transit bus market vertical with Mobility and Innovation. With this acceleration of our stated business plan, in August 2022 we revised our 2022 and 2023 guidance for POs as per below:

Purchase Orders (POs) Guidance				
	Current	Revised	Change	%
2022	60	100	40	67
2023	180	500	320	178

Due to build times and logistics, not all POs will be converted into revenue during the same period in which the POs are received. We continue to increase our capacity and enhance our supply chain to reduce the time between purchase and receipt by the end customer but remain on a build to order basis.

Although sales drive our bottom-line, our customer-centric approach drives the Company and we were delighted to be joined by another two customers in our CAC in Q3 2022, Avia Ingenieria and Opex/Hevolucion. In October, Loop Energy joined Rampini Carlo SpA with its launch of its HYDRON bus representing our fourth customer to launch a hydrogen-electric bus platform powered by e-Flow fuel cells.

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. Since the adoption of our CAC, we already have three customers progress from the Pilot Phase to the Scale-Up Phase, of which one (Tevva) further progressed to the Production Phase.

The Pilot Phase of our CAC starts with the first PO and a documented path to full production and future orders, including things such as conditional purchase orders. We believe that our success is measured by the number of fuel cells ordered from our customers. As of the date of this MD&A, the number of POs received for 2022 are already over 3 times greater than the number of POs for all of 2021.

Building on our Advantage

In September we were proud to announce the launch of our 120kW unit (S1200) with our patented new larger bipolar plate. We believe the S1200 with its improved power efficiency significantly advances hydrogen fuel cells achieving parity with diesel. In parts of Europe, a customer using an S1200 with its 60% system fuel efficiency could have lower fuel costs than a traditional diesel engine. We expect the S1200 will be available to early adopters in 2023 and will impact our sales mix from 2024 onwards.

Our larger bipolar plate is a significant step in our next generation of products. It also forms a key part of our cost out strategy for our existing product lines which was another key milestone for our development team in 2022. We remain very focused on our core applications of commercial mobility but understand our products offer compelling solutions for adjacent markets - including heavy materials handling, generators, charging stations and specialty vehicles. Our current solutions portfolio now includes 30kW, 50kW, 60kW and 120kW units.

We had previously referenced Wright's Law, which describes the ability to drive cost reduction with increased volumes. We believe that the upward revision to our volume guidance will help accelerate our ability to capture some of those benefits, and we are also working on integrating certain of our upstream activities to drive further cost reduction. We had a stated objective of reducing our cost per unit by 25% in 2022 and although the year is only 9 months complete, we are pleased to announce that we currently have achieved a 39% reduction in our unit costs compared to full year 2021.

Growing our Capacity

During Q3 2022, we increased our manufacturing space in Canada by 60%, bringing our total space in Canada including our engineering and administrative offices, to just over 37,000 sq ft. This increase has enabled us to expand our manufacturing areas and house our growing global technical services group. We have also grown our talent pool in Vancouver, almost doubling our engineering team and tripling our manufacturing team since the start of the year. The growth in our physical space and talent pool makes us well placed to achieve our stated objective of being able to demonstrate production of 200 fuel cell units per annum on a single-shift basis by the end of 2022 from our facility in Burnaby, British Columbia

After receiving its' license to manufacture in Q1 2022 our Shanghai facility was impacted by China's "dynamic zero" policy where there were lockdowns in place for just under 100 days. Notwithstanding these challenges, we opened our Shanghai facility in late July with first article testing and assembly now underway. Our lease agreement provides an option to triple our production space, should we require it. In the UK we have improved and expanded our capacity to care for our customers by opening our UK service center. The UK facility was another key objective in 2022 which enables us to maintain and advance our customer centric approach in Europe.

We remain focused on growing at a sustainable measured rate and building capacity ahead of demand and believe we remain well placed to deliver into this demand.

We have taken the prudent step of growing our inventory levels to ensure any impacts from global supply chains are mitigated as much as possible with our raw materials, before allowance for write-downs, increased from \$2.7 million to \$6.5 million in Q3 2022, and our inventory levels, before allowance for write-downs, being up 144% from the start of the year.

Further exploiting our technology advantage

Our initial commercial success is built off our ability to deliver greater performance, efficiency and durability via our patented modified geometry. While we have been focused on commercializing this technological advantage in the

fuel cell market, we are now readying the business to exploit our technological advance in adjacent markets. One such market is the Electrolyzer market. Our initial external studies have indicated eFlow™, with its modified geometry increases fluid velocity, when used in PEM electrolyzers by removing oxygen bubbles and excess heat. Oxygen bubbles and excess heat is a common challenge that reduces efficiency and limits hydrogen production.

Capital Requirements

At the time of our Initial Public Offering (IPO) (February 2021) we indicated that the proceeds from our IPO would be for 24 months based on our business plans at that time. Having now delivered on these objectives and seeing our growth projections lean towards the upside of our projections, we need to ensure we can fund the market opportunities presenting themselves. The Canadian Government, at all levels, has been very supportive as we work towards our shared goal of reducing carbon emissions, developing our Canadian grown technology, and building out our manufacturing facilities. We continue to engage with, and are actively evaluating, various government programs to access non-dilutive funding. These include the \$9.75 million financial contribution from the Jobs and Growth Fund, which we signed in Q2. In Q3 we were able to draw on previously committed non-dilutive funding from the government of \$4.9 million.

As a next mover in the fuel cell industry, we continue to be able to capitalize on our leading technology position by leveraging off the experiences of others to help minimize our capital requirements. This funding has enabled us to maintain a healthy cash balance of \$36.9 million as of September 30, 2022.

We believe we have the focus and discipline to make 2022 another strong year for Loop, and the results so far are a clear indication of this.

2. SEPTEMBER 2022 FINANCIAL PERFORMANCE OVERVIEW

The following table highlights key financial information for the three and nine months ended September 30, 2022 as compared to the same period in the prior year.

Table 1: Selected Interim Financial information (in thousands of CAD dollars, except per share amounts)	Three months ended September 30,		Variance	
	2022	2021	\$	%
Revenues	\$ 1,404	\$ 206	1,198	582
Cost of Sales				
Cost of goods sold	3,283	620	2,663	430
Change in allowance for inventory write-down	736	910	(174)	(19)
Gross margin	(2,615)	(1,324)	(1,291)	98
Expenses:	9,539	5,230	4,309	82
Cost (recoveries) expenses:	(2,051)	(33)	(2,018)	6,115
Net expenses	7,488	5,197	2,291	44
Loss before the undernoted	(10,103)	(6,521)	(3,582)	55
Other income (expenses):	239	(17)	256	(1,506)
Net loss for the period	(9,864)	(6,538)	(3,326)	51
Other comprehensive income	9	19	(10)	(53)
Total comprehensive loss for the period	(9,855)	(6,519)	(3,336)	51
Loss per common share				
- basic and diluted	(0.29)	(0.19)	(0.10)	50

	Nine months ended September 30,		Variance	
	2022	2021	\$	%
Revenues	\$ 2,647	\$ 1,296	1351	104
Cost of Sales				
Cost of goods sold	7,761	3,661	4,100	112
Change in allowance for inventory write-down	1,783	812	971	120
Gross margin	(6,897)	(3,177)	(3,720)	117
Expenses:	23,368	16,042	7,326	46
Cost (recoveries) expenses:	(2,041)	(1,910)	(131)	7
Net expenses	21,327	14,132	7,195	51
Loss before the undernoted	(28,224)	(17,309)	(10,915)	51
Other income (expenses):	390	(254)	644	(254)
Net loss for the period	(27,834)	(17,563)	(10,271)	58
Other comprehensive income	(149)	19	(168)	(884)
Total comprehensive loss for the period	(27,983)	(17,544)	(10,439)	60
Loss per common share - basic and diluted	(0.83)	(0.58)	(0.25)	43

2.1 Revenues and Cost of Sales

Table 2: Revenues and Cost of Sales (in thousands of CAD dollars, except units sold)	Three months ended September 30,		Variance	
	2022	2021	\$	%
Revenues	\$ 1,404	\$ 206	1,198	582
Units sold	22	2	20	900
Cost of sales				
Cost of goods sold	3,283	620	2,663	430
Change in inventory write-down allowance	736	910	(174)	(19)
Gross margin	(2,615)	(1,324)	(1,291)	98

	Nine months ended September 30,		Variance	
	2022	2021	\$	%
Revenues	\$ 2,647	\$ 1,296	1,351	104
Units sold	40	13	27	208
Cost of sales				
Cost of goods sold	7,761	3,661	4,100	112
Change in inventory write-down allowance	1,783	812	971	120
Gross margin	(6,897)	(3,177)	(3,720)	117

The Company's primary source of revenues is the sale of its fuel cell modules. As the Company continues to commercialize its fuel cell modules, it is expected that revenue will vary from period to period.

Revenues was \$1.4 million and \$2.6 million for the three and nine months ended September 30, 2022 (2021- \$0.2M and \$1.3M respectively) due to the sale of 22 (2021: 2) and 40 (2021: 13) fuel cell units respectively. The average price per unit decreased in 2022 due to the customer mix.

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 3: Cost of sales (in thousands of CAD dollars)	Three months ended		Variance	
	September 30,			
	2022	2021	\$	%
Cost of goods sold	\$ 3,283	\$ 620	2,663	430
Change in inventory write-down allowance	736	910	(174)	(19)
Cost of sales	4,019	1,530	2,489	163

	Nine months ended		Variance	
	September 30,			
	2022	2021	\$	%
Cost of goods sold	\$ 7,761	\$ 3,661	4,100	112
Change in inventory write-down allowance	1,783	812	971	120
Cost of sales	9,544	4,473	5,071	113

Cost of sales increased to \$4.0 million and \$9.5 million for the three and nine months ended September 30, 2022 respectively (2021- \$1.5 million and \$4.5 million respectively) primarily due to increases in the cost of good sold and inventory write-down allowance.

The increase in cost of goods sold is consistent with the increase in the number of units sold with the average cost per unit trending downwards as we start to benefit from Wright's law and economics of scale. Units sold increased to 22 (2021: 2) and 40 (2021: 13) in the three and nine months ended September 30, 2022. The increase in the inventory allowance is consistent with us building our capacity to fulfil the increased year on year sales. We set ourselves an aggressive target of reducing unit costs by 25% in 2022 and are pleased to report as of September 30, 2022 we had achieved a reduction of 39% during the first nine months of 2022 compared to full year 2021.

A warranty provision, dependant upon the warranty period, is recorded for each applicable fuel cell unit sold. As the Company has just begun 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 currently exceeds our selling price and we have a negative gross margin. We record our finished goods at the lower of costs and their net realizable value (estimated selling price less the estimated cost of completion and selling costs) recording a write down allowance when required, and also record a provision against our raw materials on hand. The inventory write-down allowance increased by \$0.7 million and \$1.8 million during the three and nine months ended September 30, 2022 respectively, mostly due to the increase in inventory on-hand, and at September 30, 2022 included \$3.0 million for raw materials, \$0.3 million for work in process and \$0.3 million for finished goods. As this is based on the amount of inventory on hand at period end, this amount can significantly vary 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 4: Operating expenses (in thousands of CAD dollars)	Three months ended September 30,		Variance	
	2022	2021	\$	%
	General and administrative	\$ 3,329	\$ 2,013	1,316
Engineering	4,126	1,891	2,235	118
Business development	1,794	913	881	96
Technology development	290	413	(123)	(30)
Cost recoveries	(2,051)	(33)	(2,018)	6,115
Operating expenses	7,488	5,197	2,291	44

	Nine months ended September 30,		Variance	
	2022	2021	\$	%
	General and administrative	\$ 8,360	\$ 7,477	883
Engineering	9,887	5,891	3,996	68
Business development	4,189	1,913	2,276	119
Technology development	932	761	171	22
Cost recoveries	(2,041)	(1,910)	(131)	7
Operating expenses	21,327	14,132	7,195	51

Operating expenses have increased across the majority of functions as the Company is currently in a growth phase and building its foundation to deliver against its expected growth profile. A quarter by quarter comparison for the last eight quarters is included in section 3.2.

G&A expenses were \$3.3 million (2021: \$2.0M) and \$8.4 million (2021: \$7.5M) for the three and nine months ended September 30, 2022, these increases are consistent with the aforementioned growth.

Engineering expenses were \$4.1 million (2021: \$1.9M) and \$9.9 million (2021: \$5.9M) in the three and nine months ended September 30, 2022, respectively. The increase was primarily related to product development (PD) supporting the Company's growth strategy including expanding the Company's product lines, the evolution of the Company's fuel stack technology with a new 120kw product launched in September 2022 and initiatives to optimize product design and costs.

During the period ended September 30, 2022, the Company invested in various Business Development (BD) initiatives mainly related to market development activities in Europe. BD costs increased to \$1.8 million (Q321: \$0.9M) and \$4.2 million (2021: \$1.9M) in the three and nine months ended September 30, 2022, respectively primarily due to increased headcount, tradeshow participation, and communications and consultancy fees to support these initiatives. We are seeing the benefits of this increased expenditure in the success of our GTMS, the additional companies that are entering our CAC and that our orders and units sold are already 3 times those of 2021.

The Company has continued to engage in new initiatives related to technology research and new material development, and how the benefits of eFlow™'s patented modified geometry may apply to Electrolyzers.

\$2.0 million in cost recoveries were recognized in the nine months ended September 30, 2022, out of which \$1.8 million is related to its Sustainable Development Technology Canada ("SDTC") project, mostly related to the completion of the Third Milestone (2021: \$1.9M, mostly related to the completion of the Second Milestone). As at September 30, 2022, the Company has \$0.5 million recorded deferred recoveries relating to SDTC credits, and in October received an additional \$0.8 million as an advance for the Fourth Milestone, which the Company is currently working on. The Company expects to receive \$1.1 million once Milestone 4 is completed and accepted by SDTC and an additional \$0.8 million after Milestone 5 is completed and approved.

In Q122 the Company entered into an agreement with Pacific Economic Development Canada and received first JGF Program funding of \$4.9 million in Q322. The loan was fair valued at \$3.1 million on the payment receipt date with \$1.8

million being recorded as government grant and a deferred cost recovery. The Company recognized \$0.2 million as cost recovery for the three and nine months ended September 30, 2022 (three and nine months ended September 30, 2021 - nil).

Net loss increased by \$3.3 million (2021: \$6.5M net loss) and \$10.3 million (2021: \$17.6M net loss) in the three and nine months ended September 30, 2022 respectively, driven by the aforementioned increases in cost of sales and operating expenses.

Revenue and operating costs are further analyzed and discussed in section 3.1.

3. REVIEW OF QUARTERLY PERFORMANCE

The following tables highlights key financial performance for the last eight quarters and year-to-date for the past three years:

3.1 Revenues and Cost of Sales

Table 5: Quarterly and YTD Revenue and Cost of Sales (in thousands of CAD dollars)

	Quarter								YTD		
	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420	2022	2021	2020
Revenues	\$ 1,404	\$ 1,065	\$ 178	\$ 128	\$ 206	\$ 1090	\$ -	\$ 193	\$ 2,647	\$ 1,296	\$ 353
Units sold	22	16	2	1	2	11	-	2	40	13	3
Cost of sales											
Cost of goods sold	3,283	3,685	793	789	620	3,041	-	-	7,761	3,661	-
Inventory write-down allowance	736	(159)	1,206	988	910	(931)	833	-	1,783	812	-
Cost of sales	4,019	3,526	1,999	1,777	1,530	2,110	833	-	9,544	4,473	-
Gross margin	(2,615)	(2,461)	(1,821)	(1,649)	(1,324)	(1,020)	(833)	193	(6,897)	(3,177)	353

Revenues

The Company's primary source of revenues is the sale of its fuel cell modules and systems, with 22 units sold in the three months ended September 30, 2022 (2021: 2) and 40 (2021: 13) units sold in the nine months ended September 30, 2022. As the Company is commercializing its fuel cells, it is expected that revenue will vary from period to period. The increase in the last two quarters (Q222 & Q322) has been driven by Teva transitioning to the Production Phase of the CAC. Q221 revenue was driven by the sale of 11 units for our first Pilot bus.

Prior to Q221, the Company had only recognized insignificant revenues as the Company was primarily engaged in product development and testing. Sales during this period were associated with pilot projects arising from engineering and product development activities and, as such, no separate cost of sales was presented.

Cost of sales

Our cost of goods sold varies with the number of units sold with Q322, Q222 and Q221 being significantly higher than other periods due to the aforementioned higher units sales. Our average cost of goods sold per unit will also vary based on the volumes being sold but we are seeing a downward trend as our volumes increase over time. We expect to see average costs further decrease as we leverage off Wright's law and economics of scale. We set ourselves an aggressive target of reducing unit costs by 25% in 2022 and are pleased to report as of September 30, 2022, we had achieved 39% reduction during the first nine months of 2022 compared to full year 2021.

Due to the Company's current low production volumes and the build -out of our manufacturing capacity, our cost per unit currently 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 are required to 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 Q222 and 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. The increase in Q322 reflects that the inventory write down is higher than the credit for the inventory sold in that period.

Since Q221, the Company has been building its manufacturing capacity and as a result has had an increasing allowance on its raw materials. During Q122, the Company commenced building units to meet its recent POs which resulted in an increase in work-in-progress and finished goods balance and will result in a further increase in its inventory write-down allowance.

3.2 Operating Expenses

Table 6: Quarterly and YTD Operating Expenses (in thousands of CAD dollars)

	Quarter								YTD		
	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420	2022	2021	2020
G&A	\$ 3,329	\$ 2,633	\$ 2,398	\$ 2,600	\$ 2,015	\$ 1,976	\$ 3,487	\$ 1,447	\$ 8,360	\$ 7,478	\$ 2,222
Engineering	4,126	3,168	2,593	2,194	1,891	2,238	1,762	1,224	9,887	5,891	4,833
BD	1,794	1,643	752	688	912	616	384	180	4,189	1,912	181
Tech Dev	290	215	427	295	412	214	135	65	932	761	63
Cost recoveries	(2,051)	53	(43)	(33)	(33)	(38)	(1,839)	(130)	(2,041)	(1,910)	(1,331)
Operating expenses	7,488	7,712	6,127	5,744	5,197	5,006	3,929	2,786	21,327	14,132	5,968

General & Administrative (G&A) Expenses

In February 2021 (Q121), the Company completed its IPO which resulted in additional costs associated with becoming and being a public company, Q121 also includes a one-off non-cash share-based compensation expense for warrants of \$1.7 million. The increase in Q222 compared to Q122, is mainly due to costs associated with additional headcount. Q322 includes a non-recurring one-off charge of \$0.7 million.

Engineering Expenses

Engineering expenses are associated with the expansion of the Company's product lines, the evolution of the Company's fuel stack technology and initiatives to optimize product design and costs. Work on our new 120kw product based on the larger plate design intensified through the first three quarters of 2022, this new energy fuel cell was launched in September 2022. The increase in Q221 is attributable to bonus payments to its employees which had not been previously accrued. The increase in Q322 is mostly due to increased headcount, to support the aforementioned larger plate design and new 120kW product.

Business development (BD) Expenses

Prior to Q121 our sales and marketing initiatives were relatively limited as we were focused on product development. Q321 saw a significant increase as the Company attended its first tradeshows to market our products. In 2022 we have increased our European sales team. Q322 and Q222 saw an increased focus on tradeshows as we continue to highlight the benefits that eFlow™ brings to them market and the launch of the new energy fuel cell, and we would expect this to drop off slightly for the remainder of the year. We are also experiencing a growth in our global technical services team as we look to support our customers integration of our fuel cell modules and we opened our UK service location to support the growth we are seeing in Europe.

Technical Development (Tech Dev) Expenses

Technical Development expenses are comprised of the Company's advanced development research. The Company has continued to engage in new initiatives related to early-stage technology research and new material development, and in particular how the benefits of eFlow™'s patented modified geometry apply to Electrolyzers and the potential to produce more hydrogen in a more cost efficient manner.

Cost Recoveries

Cost recoveries primarily relates to Scientific Research and Experimental Development (SR&ED) tax credits and Sustainable Development Technology Canada ("SDTC") credits, which are recognized only when there is reasonable certainty as to their collectability or in the case of SDTC when milestones are completed and approved. The SR&ED

tax credits only relate to the periods prior to the Company becoming a public company. During each of Q121 and Q322, the Company recognized, \$1.6 million and \$1.8 million respectively of cost recoveries related to achieving certain SDTC milestones. The Company is actively working on Milestones 4 and 5, and in October 2022 received \$0.8 million as an advance for Milestone 4 and expects to receive \$1.1 million once this milestone is completed and accepted by SDTC, and an additional \$0.8 million after Milestone 5 is completed and approved.

3.3 Net Loss

Table 7: Quarterly and YTD Net Loss in thousands of CAD dollars except per share amount)

	Quarter								YTD		
	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420	2022	2021	2020
Net loss	\$(9,864)	\$(9,923)	\$(8,047)	\$(7,457)	\$(6,540)	\$(6,152)	\$(4,872)	\$(2,785)	\$(27,834)	\$(17,564)	\$(6,136)
Loss per common share - basic and diluted	(0.29)	(0.29)	(0.24)	(0.22)	(0.19)	(0.18)	(0.20)	(0.15)	(0.83)	(0.58)	(0.34)

Net loss has been increasing as a result of the aforementioned increases in cost of sales and operating expenses.

4. FINANCIAL POSITION

The following tables summarize the financial position for the Company for the last eight quarters.

4.1 Assets

Table 8: Total Assets

(in thousands of CAD dollars)

	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420
Cash and cash equivalents	\$ 36,949	\$ 43,325	\$ 55,730	\$ 67,030	\$ 77,810	\$ 84,439	\$ 91,486	\$ 3,201
Accounts receivable	3,237	2,914	2,533	2,066	1,671	1,356	566	543
Tax credit receivable	182	1,329	1,416	1,416	1,416	1,416	1,416	1,207
Inventory	3,927	1,591	1,637	1,280	1,195	828	1,463	1,142
Prepaid expenses and advances	7,105	7,748	6,575	6,564	3,256	2,322	2,997	831
Total current assets	51,400	56,907	67,891	78,356	85,348	90,361	97,928	6,924
Accounts receivable	289	345	412	477	529	-	-	-
Equity-accounted investment	-	-	-	-	-	141	186	231
Property, plant and equipment	13,659	10,301	8,589	5,260	5,179	4,110	3,511	2,597
Deferred financing costs	-	-	-	-	-	-	-	500
Total non-current assets	13,948	10,646	9,001	5,737	5,708	4,251	3,697	3,328
Total assets	65,348	67,553	76,892	84,093	91,056	94,612	101,625	10,252

The increase in cash and cash equivalents in Q121 was primarily due to the completion of the Company's IPO. The reduced cash burn in Q3 is attributed to the draw down of non-dilutive government funding in the form of tax credits and an interest free loan. The following table summarises the net cash flow from operating, investing, and financing activities:

Table 8.1: Cash Flow

(in thousands of CAD dollars)

	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420
Net operating cash flow	\$ (8,458)	\$(10,654)	\$(7,839)	\$(6,113)	\$(5,883)	\$(4,789)	\$(3,556)	\$(2,613)
Net investing cash flow	(2,542)	(1,541)	(3,274)	(3,993)	(628)	(714)	(1,327)	(390)
Net financing cash flow	4,568	(99)	(187)	(677)	(97)	(1,562)	93,168	(133)
Foreign exchange	56	(111)	-	3	(21)	18	-	-
Net change in cash and cash equivalents	(6,376)	(12,405)	(11,300)	(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 (refer section 3.3). In each of Q421, Q321 and Q322 net operating cash outflow was higher than the net loss primary due to the timing of inventory purchases with Q421 also impacted due to the timing of payments.

Cash used in investing activities relates entirely to the purchase of capital assets and leasehold improvements. Capital assets include testing and manufacturing equipment to continue grow the Company's manufacturing, product development, testing and prototyping capabilities. As at September 30, 2022, outstanding commitments related to purchases of property, plant, and equipment were \$4.0 million (Q222: \$6.6M).

Cash provided by financing activities in Q121 was primarily a result of the issuance of 6,250,000 common shares in connection with the Company's IPO for gross proceeds of \$100 million (refer to section 4.4). The net financing cash outflow for Q221 and Q421 primarily relates to the payment of share issuance costs related to the Company's IPO. In Q322 the Company received \$4.9 million related to its agreement with Pacific Economic Development Canada.

Accounts receivable increased in Q322 mostly due to the sale of twenty-two fuel cell modules, in Q222 primarily due to the sale of sixteen fuel cell modules and timing of collection of GST receivables, and in Q221, primarily due to the sale of ten fuel cell modules. Subsequent increases during Q321, Q421, and Q122 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. In Q322 the Company completed and submitted these filings and received \$1.1 million of SR&ED credits in cash, with an additional and final cash payment of \$0.2 million received in October 2022.

Inventory increased in Q121 to support the forecasted sale for ten fuel cell modules 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. The increase in Q122 and Q322 is consistent with the build up of raw materials, work in process and finished goods to meet production requirements associated with the fulfillment of purchase orders. As of September 2022, not including write down allowance, the Company has \$7.5 million in inventory, out of which over 80% is raw materials.

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. Subsequent increases in Q321, Q421, Q122 and Q222 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 the lease entered into by Loop Shanghai.

Property, plant and equipment has increased following the IPO, to expand the Company's testing and manufacturing capabilities, as well as during Q121 and Q322 the Company entered into new office and facility leases in Canada and the UK, and during Q321 entered into a new facility lease by Loop Shanghai.

4.2 Liabilities

	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420
Accounts payable and accrued liabilities	\$ 5,312	\$ 2,416	\$ 3,037	\$ 2,846	\$ 2,886	\$ 1,555	\$ 2,731	\$ 2,521
Current portion of lease liabilities	900	708	713	715	659	492	499	160
Current portion of long-term debt	175	175	175	175	175	165	515	515
Deferred revenues and recoveries	666	2,453	2,836	2,479	2,358	2,577	2,664	2,214
Convertible debentures	-	-	-	-	-	-	-	3,577
Warranty provision	427	310	138	112	103	60	-	-
Total current liabilities	7,480	6,062	6,899	6,327	6,181	4,849	6,409	8,987
Lease liabilities	2,983	2,190	1,202	1,350	1,476	753	838	290
Long-term debt	3,226	170	195	219	242	275	296	317
Deferred revenues and recoveries	2,275	757	807	849	873	-	-	-
Warranty provision	471	185	189	193	181	188	-	-
Total non-current liabilities	8,955	3,302	2,393	2,611	2,772	1,216	1,134	607
Total liabilities	16,435	9,364	9,292	8,938	8,953	6,065	7,543	9,594

Accounts payable increased in Q322 mostly due to increase in purchases for inventory and equipment and consulting services, and the difference in timing between the receipt of the goods and services and payment of the invoices.

Lease liabilities increased in Q322 as a result of new leases entered into in Canada and the UK, in Q222 due to an extension of a facility lease in Canada, 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 and it increased in Q322 as a result of the recording of the fair value of the loan payable to Pacific Economic Development Canada from funding received under their Job and Growth Fund Innovation Program as discussed below.

Deferred revenues and recoveries include SDTC credits received for which milestones to recognize the cost recoveries had yet to be achieved, deposits received from customers, a deferred government grant recovery associated with a facility lease entered into by Loop Shanghai in Q321 and the government grant value associated with the interest free loan funding received from Pacific Economic Development Canada. In Q121, SDTC provided additional funding of \$2.0 million, of which \$0.3 million was recognized as a cost recovery during the same period, and we recognized a further \$1.4 million cost recovery relating to the completion of the first milestone of the SDTC project. In Q321 an additional \$1.6 million was recognized as a cost recovery as Milestone 2 was completed, and similarly in Q322 another \$1.8 million was recognized as a cost recovery associated with Milestone 3 completion.

On March 31, 2022, the Company entered into an agreement with Pacific Economic Development Canada for funding of up to \$9.75 million in cash to assist with project costs associated with increases in the Company's manufacturing capacity, under the terms of the agreement the funding is repayable over 60 consecutive months commencing on April 1, 2025, and is non-interest bearing. The funds are to be received as certain milestones are accomplished over a period up to March 31, 2024. In Q322 the Company received \$4.9 million, the loan was valued at \$3.1 million on the payment receipt date with the discount of \$1.8 million being recorded as deferred cost recovery. The Company recognized \$0.2 million as a cost recovery for the three and nine months ended September 30, 2022 (three and nine months ended September 30, 2021 - nil) in relation to salaries incurred with the remaining recovery to be recognized over the life of the property, plant and equipment acquired which such funds.

The increase in the non-current portion of deferred revenues and recoveries during Q322 is related to the non-current portion of the Pacific and Economic Development Canada loan, and in 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. The increase in Q122 is consistent with deposits associated with the increase in purchase orders received.

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.

4.3 Liquidity and Working Capital

Table 10: Liquidity and Working Capital

(in thousands of CAD dollars)	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420
Cash and cash equivalents	\$36,949	\$43,325	\$55,730	\$67,030	\$77,810	\$84,439	\$91,486	\$ 3,201
Working capital (deficiency)	43,920	50,845	60,992	72,029	79,167	85,512	91,519	(2,063)

The Company's working capital position, being its current assets less its current liabilities, significantly increased in Q1 2021 as a result of the completion of the Company's IPO.

We consider our capital to consist of shareholders' equity and total debt, net of cash. While the Company has incurred losses to date, its strategy to mitigate this uncertainty is to continue its drive to attain profitable operations that are sustainable by executing a business plan that continues to focus on revenue growth, improving gross margins, maintaining discipline over operating expenses, managing working capital requirements and securing additional financing to fund operations as needed until the Company does achieve profitable operations that are sustainable. 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

Table 11: Shareholders' equity

(in thousands of CAD dollars)	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420
Common shares	\$ 126,517	\$ 126,517	\$ 126,402	\$ 126,310	\$ 126,306	\$ 126,677	\$ 126,708	\$ 15,675
Preferred shares	-	-	-	-	-	-	-	14,990
Share-based payments reserve	8,090	7,511	6,973	6,556	6,119	5,671	5,023	2,770
Accumulated deficit	(85,631)	(75,767)	(65,844)	(57,797)	(50,341)	(43,801)	(37,649)	(32,777)
Foreign currency reserve	(63)	(72)	69	86	19	-	-	-
Total shareholders' equity	48,913	58,189	67,600	75,155	82,103	88,547	94,082	658

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.

During Q122, 323,334 stock options with an exercise price of \$0.99 were exercised by a former employee and shareholder via a short-term loan payable on December 15, 2022 and secured by 290,000 of such common shares. For accounting purposes, the 290,000 common shares held by the Company are being treated as treasury shares until the loan is paid by December 15, 2022 and will be accounted for as an exercise of the option upon payment of the loan.

As of September 30, 2022, and at the date of this MD&A the following equity instruments were outstanding:

Table 12: Equity Instruments	November 2, 2022	September 30, 2022
Common shares ⁴	34,266,550	34,077,648
Stock options	2,152,022	2,343,688
Warrants	66,667	66,667
Restricted Share Units	802,884	809,084

⁴ As of the date of this MD&A 290,000 common shares are held by the Company as treasury shares.

The Company intends to use the net proceeds from the IPO for product and technology development, sales, general and administrative 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	Intended use	Actual use
6,250,000	\$16.00	\$91,801	Product and Technology development	\$19,000	\$14,000
			Sales General and Administration	7,200	17,000
			Capital Assets	66,000	18,000
			Unallocated working Capital	1,500	17,000

The Company has focused its efforts in building its product portfolio and the sales and support team needed to achieve its growth targets, and in optimizing its production capacity needs. The unallocated working capital is mostly related to expenses associated with inventory and production costs

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:

	Q322	Q222	Q122	Q421	Q321	Q221	Q121	Q420	Q320
Salaries and benefits	\$ 377	\$ 400	\$ 531	\$ 737	\$ 542	\$ 352	\$ 376	\$ 375	\$ 243
Share-based payments	409	341	267	278	301	410	555	-	78
Director fees	44	38	38	38	31	31	31	-	-
	830	779	836	1,053	874	793	962	375	321

The increase during 2021 of 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 September 30, 2022, the Company has nil (December 31, 2021 - \$0.5M) in accounts receivable (comprised of a receivable of \$0.3 million for which an allowance for credit losses has been fully provided) and nil in accounts payable and accrued liabilities (December 31, 2021 - \$21) 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 notes 13 and 16 of the unaudited interim condensed consolidated financial statements for the three and nine months ended September 30 2022.

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

Not applicable

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.

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.

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 September 30, 2022 the Company has recorded an allowance for an expected credit loss of \$0.9 million (December 31, 2021 - \$0.1M) for sales done in 2021

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 net of recoveries on cancellations of unvested options, during the three and nine months ended September 30, 2022 and 2021 with allocations to functional expense as follows:

Table 15: Share-Based Payments (in thousands of CAD dollars)	Three months ended		Nine months ended	
	September 30,	September 30,	September 30,	September 30,
	2022	2021	2022	2021
	\$	\$	\$	\$
Engineering	121	157	312	507
General and administrative	337	212	971	949
Business development	112	104	314	348
Technology development	9	32	18	32
	579	505	1,615	1,836

The following weighted average assumptions were used for the Black-Scholes option pricing model valuation of stock options granted during 2021:

Table 16: Black-Scholes assumptions	2021
Risk-free interest rate	1.23%
Expected life of options	8.6 years
Expected annualized volatility	74%
Dividend	0%
Forfeiture rate	0%

The valuation of the warrants issued during 2021 was calculated using the Black-Scholes method of valuation using the following assumptions:

Table 17: 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. The Company did not adopt any new accounting policies in the current period. There are no significant accounting pronouncements which are anticipated to impact the Company's financial reporting.

5.3 Financial Instruments

As at September 30, 2022, 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. The impact of COVID 19 on supply chains and global economic activity also continues to be unpredictable. These macroeconomic and geopolitical changes could result in decreased or delayed revenue recognition, increased costs and other potential material impacts to our business.

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.

5.5 Management's Report on Internal Controls

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 management, including the Chief Executive Officer and Chief Financial Officer, in a timely manner to allow decisions regarding required disclosures.

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. The Company uses the 2013 Internal Control - Integrated Framework published by The Committee of Sponsoring Organizations of the Treadway Commission ("**2013 COSO framework**") as the basis for assessing its ICFR.

During the nine months ended September 30, 2022, there were no changes in internal controls 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 and business outlook including without limitation the expected demand for our products, the planned growth of our customer base and the expected growth of our operations globally
- our ability to secure future firm order commitments or develop further market opportunities under existing and future customer and/or partner agreements;

- our ability to meet manufacturing cost reduction targets;
- our plans to integrate certain of our upstream activities to drive further cost out;
- the expected rollout and timing of our planned field deployment of our next generation fuel cell stacks and the belief that the larger e-flow plate will result in significant cost reductions;
- the expected performance, durability and total cost of operation of our fuels cell systems;
- our expected manufacturing capacity and production capability;
- the timing of expected integration, testing and commissioning of our products in customer vehicles or other customer applications;
- our goal to become a leader across the entire fuel cell market;
- the timing of the completion, commissioning and start-up of our new production facility in Shanghai, China;
- our plans for establishing a physical presence in Europe;
- the estimated future TAM for hydrogen fuel cells and for our current target market;
- our anticipated completion of milestones with Sustainable Development Technology Canada and Pacific Economic Development Canada and receipt of associated funds as applicable;
- our belief that zero emission vehicles are one of the only viable options for a sustainable future and that hydrogen fuel cell systems (combined with Lithium-ion batteries) are the optimal solution for the commercial mobility market;
- our expectation that our patents will adequately protect our intellectual property now and in the future;
- the realization of electrification of transportation, elimination of diesel fuel and ongoing government support of such developments; and
- 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, including without limitation the current COVID related lockdowns in China.

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 for our products 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 for the commercial mobility market;
- our target of 100 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 and minimize inflation impact;

- our expectation that the write-down of inventory will decrease or will no longer be required in the future;
- our expectation that revenue will vary period to period;
- the timely availability of key equipment and components required in the manufacture of our products;
- our expectation that there are no significant unmitigated safety risks associated with the use of hydrogen;
- 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

None