



Hydrogenics Corporation

First Quarter 2019
Management's Discussion and Analysis

The following Management's Discussion and Analysis ("MD&A") of Hydrogenics Corporation ("Hydrogenics" or the "Company") should be read in conjunction with the Company's Audited Consolidated Financial Statements and related notes for the year ended December 31, 2018. The Company prepares its unaudited condensed interim consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") applicable to the preparation of interim financial statements, including International Accounting Standards 34 - Interim Financial Reporting. On January 1, 2019, the Company was required to adopt IFRS 16 - Leases. Accordingly, the Corporation has commenced reporting on this basis in these consolidated interim financial statements. While the adoption of this new standard has not had an impact on the Company's reported net cash flows, there has been a material impact on its consolidated balance sheets and consolidated statements of operations and comprehensive loss, which is discussed further in Section 11 of this MD&A.

The Company uses certain non-IFRS financial performance measures in this MD&A. For a detailed reconciliation of each of the non-IFRS measures, please see the discussion under Section 14 of this MD&A.

Throughout this MD&A, all currency amounts (except per unit amounts) are in thousands of United States dollars ("US Dollars"), unless otherwise stated. The information presented in this MD&A is as of May 13, 2019, unless otherwise stated.

Additional information about Hydrogenics, including our 2018 Audited Consolidated Financial Statements and our Annual Report on Form 40-F for the year ended December 31, 2018 is available on our website at www.hydrogenics.com, on the SEDAR website at www.sedar.com, and on the EDGAR filers section of the U.S. Securities and Exchange Commission website at www.sec.gov.

This document contains forward-looking statements, which are qualified by reference to, and should be read together with the "Forward-looking Statements" cautionary notice in Section 17 of this MD&A.

"Hydrogenics" or the "Company" or the words "our," "us" or "we" refer to Hydrogenics Corporation and its subsidiaries.

Management's Discussion and Analysis
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1 Overall Performance

Selected Financial information

(in thousands of US dollars, except per share amounts)

	Three months ended March 31,		Favourable/(Unfavourable)	
	2019	2018		
OnSite Generation	\$ 2,483	\$ 3,761	\$ (1,278)	(34)%
Power Systems	5,601	4,386	1,215	28 %
Total revenue	8,084	8,147	(63)	(1)%
Gross profit	3,875	3,238	637	20 %
Gross Margin %	48%	40%		
Selling, general and administrative expenses	4,107	2,836	(1,271)	(45)%
Research and product development expenses, net	1,809	2,081	272	13 %
Loss from operations	(2,041)	(1,679)	(362)	(22)%
Gain (loss) from joint ventures	5	(69)	74	n/a
Finance income (loss), net	(611)	94	(705)	n/a
Income tax expense	–	300	300	n/a
Net loss	\$ (2,647)	\$ (1,954)	\$ (693)	(35)%
Net loss per share	\$ (0.15)	\$ (0.13)	\$ (0.02)	(16)%
Cash operating costs ¹	\$ 4,983	\$ 4,915	\$ (68)	(1)%
Adjusted EBITDA ¹	(963)	(1,606)	643	40 %
Cash used in operating activities	(4,912)	(1,131)	(3,781)	(334)%
Cash and cash equivalents (including restricted cash)	22,369	19,409	2,960	15 %
Total assets	71,378	65,851	5,527	8 %
Total non-current liabilities (excluding contract liabilities and deferred funding)	\$ 8,775	\$ 8,882	\$ 107	1 %

1. Cash operating costs and Adjusted EBITDA are Non-IFRS measures. Refer to Section 14 – Reconciliation of Non-IFRS Measures.

2. As noted in the introduction, the Company has adopted IFRS 16 – Leases effective January 1, 2019. Comparative information has not been restated in accordance with the permitted transitional provisions of the Standard. Refer to Section 11 and the accompanying condensed interim consolidated financial statements for more information on the effect of this change in accounting policy.

Highlights for the three months ended March 31, 2019 compared to the three months ended March 31, 2018

- Revenues were down \$0.1 million versus the comparable three months ended March 31, 2019. The Power Systems business segment realized growth in revenues through the three months of 2019, up \$1.2 million or 28%, offset by a decrease in OnSite Generation revenues of \$1.3 million or 34% for the same period.
- We received \$26.5 million in new orders for the three months ended March 31, 2019 (2018 – \$2.6 million) consisting of \$22.0 million (2018 – \$1.6 million) for the OnSite Generation business and \$4.5 million (2018 – \$1.0 million) for the Power Systems business. The OnSite Generation business achieved a net positive order intake through the first three months of \$19.5 million, whereas orders delivered exceeded orders received by \$1.1 million in Power Systems. Accumulated backlog remains strong and our sales pipeline remains very active across both lines of business.

	December 31, 2018		Orders		Orders		March 31, 2019			
	backlog		Received		FX	Delivered/ Revenue Recognized	backlog			
OnSite Generation	\$	20.6	\$	22.0	\$	(0.1)	\$	2.5	\$	40.0
Power Systems		112.1		4.5		(1.0)		5.6		110.0
Total	\$	132.7	\$	26.5	\$	(1.1)	\$	8.1	\$	150.0

- Gross margin increased to 48% (2018 – 40%) for the three months ended March 31, 2019 driven by the improvement in revenues in Power Systems business at a higher aggregate gross margin. Refer to Section 2 Operating Results for more discussion regarding key drivers.
- Selling, General and Administrative (“SG&A”) expenses increased by \$1.3 million for the three months ended March 31, 2019 versus the comparative prior period. The increase is attributable to a non-cash loss realized in 2019 on the revaluation of DSUs due to the increase in our stock price. Net of non-cash items, SG&A expenses for the three months ended March 31, 2019 increased by \$0.4 million as compared to the same period in 2018 attributable to an increase in business development and marketing activities.
- Net research and product development (“R&D”) expenses for the three months ended March 31, 2019 decreased by \$0.3 million as compared to the same period in 2018. Of the \$1.8 million spent on net R&D year-to-date, \$1.2 million relates to expanding our Fuel Cell Power Module (“FCPM”) to new mobility uses and furthering development on the next generation of our fuel cell stack platform, and \$0.6 million relates to product development within our OnSite Generation business.

Three months ended March 31,	2019		2018	
Research and product development expenses	\$	2,104	\$	3,015
Government research and product development funding		(295)		(934)
Total	\$	1,809	\$	2,081

- Loss from operations increased by \$0.4 million for the three months ended March 31, 2019 as compared to the same period in 2018. The increase is attributable to the non-cash loss realized in 2019 on the revaluation of DSUs, as described above.
- Net finance loss increased \$0.7 million for the three months ended March 31, 2019 due to a \$0.4 million increase in foreign exchange losses due to strengthening of the US dollar against the euro and a \$0.3 million increase in non-cash loss on the revaluation of warrants in 2019 as compared to non-cash gains in the prior comparable period.
- Net loss for the three months ended March 31, 2019 increased \$0.7 million as compared to the same period in 2018, driven mainly by the increase in net finance loss described above.
- Cash operating costs increased by \$0.1 million for the three months ended March 31, 2019 compared to the same period in 2018 attributable to the \$0.4 million increase in SG&A partially offset by the \$0.3 million reduction in net R&D expenses.

- Adjusted EBITDA improved \$0.6 million for the three months ended March 31, 2019, as compared to the same period in 2018. The improvement is primarily attributable to the increase in gross profit of \$0.6 million.

2 Operating Results

Business Segment Review

We report our results in two business segments, being OnSite Generation and Power Systems. Our reporting structure reflects the way we manage our business and how we classify our operations for planning and measuring performance. The corporate office and administrative support is reported under Corporate and Other.

OnSite Generation

Our OnSite Generation business segment is based in Oevel, Belgium and Mississauga, Canada and develops products for industrial gas, hydrogen fueling and the renewable energy storage markets. Refer to Section 5 Strategy and Outlook for a more extensive discussion regarding these products, markets and our business segment strategy.

Selected Financial Information

	Three months ended March 31,		Favourable (Unfavourable)
	2019	2018	
Revenues	\$ 2,483	\$ 3,761	(34)%
Gross profit	18	1,236	(99)%
Gross margin %	1%	33%	(98)%
Selling, general and administrative expenses	766	751	(2)%
Research and product development expenses, net	544	632	14 %
Segment loss	\$ (1,292)	\$ (147)	n/a

Revenues decreased for the three months ended March 31, 2019 reflecting lower unit sales for industrial hydrogen equipment as compared to the same period last year. New orders awarded for the three months ended March 31, 2019 amounted to \$22.0 million (2018 – \$1.6 million) inclusive of the 20MW award previously announced with Air Liquide, resulting in a net increase of \$19.4 million in our backlog year-to-date. Backlog at March 31, 2019 was \$40.0 million (March 31, 2018 - \$17.3 million) with approximately \$22.9 million of this backlog expected to be recognized as revenue in the next twelve months.

Gross margin decreased through the first three months of 2019 to 1% from 33% in the same period in 2018. In the three-month 2018 comparative period, we delivered four large capital projects with improved margins and released warranty provisions that were no longer required. The lower gross margin also reflects a proportionately higher absorption of fixed manufacturing overhead costs due to lower revenue.

SG&A expenses were flat in Q1-2019 versus Q1-2018.

Net R&D expenses decreased \$0.1 million in 2019 over the comparative period in 2018 due to the timing of projects.

Segment loss increased by \$1.1 million for the three months ended March 31, 2019, as compared to the same period last year, reflecting lower gross profit of \$1.2 million, partially offset by the decrease in net R&D expenses of \$0.1 million.

Power Systems

Our Power Systems business segment is based in Mississauga, Canada and Gladbeck, Germany, with a satellite facility in Carlsbad, California, USA, and develops products for the mobility and stationary power markets. Refer to Section 5 Strategy and Outlook for a more extensive discussion regarding these products, markets and our business segment strategy.

Selected Financial Information

	Three months ended March 31,		Favourable (Unfavourable)
	2019	2018	
Revenues	\$ 5,601	\$ 4,386	28 %
Gross Profit	3,857	2,002	93 %
Gross margin %	69%	46%	51 %
Selling, general and administrative expenses	1,201	1,065	(13)%
Research and product development expenses, net	1,245	1,439	13 %
Segment gain (loss)	\$ 1,411	\$ (502)	n/a

Revenues increased \$1.2 million for the three months ended March 31, 2019 as compared to the same period in 2018. The increase is attributable to revenue recognized for licensing and support services agreements with our key customers in Europe and China. Orders awarded through 2019 amounted to \$4.5 million (2018 – \$1.0 million). At March 31, 2019, backlog was \$110.0 million (March 31, 2018 – \$122.8 million) with approximately \$34.7 million of this backlog expected to be recognized as revenue in the next twelve months.

Gross margin improved from 46% to 69% over the comparative period for 2018 mainly attributable to higher margins on license and support services revenue.

SG&A expenses increased \$0.1 million for Q1-2019 versus Q1-2018 attributable to an increase in marketing activities.

Net R&D expenses were down \$0.2 million for the three months ended March 31, 2019 versus the comparative period in 2018. Current period expenses of \$1.2 million relate to expanding our FCPM to new mobility use cases and furthering development on the next generation of our fuel cell stack platform and the development of the multi-megawatt energy storage project using Proton Exchange Membrane (“PEM”) fuel cell technology.

Segment gain (loss) the Power Systems business achieved a gain of \$1.4 million for the three months ended March 31, 2019 versus a \$0.5 million loss for the comparative period in 2018 attributable to increase in gross margin, as described above.

Corporate and Other

Selected Financial Information

	Three months ended March 31,		Favourable (Unfavourable)
	2019	2018	
Selling, general and administrative expenses	\$ 2,140	\$ 1,020	(110)%
Research and product development expenses, net	20	10	(100)%
Losses (gains) from joint ventures	(5)	69	n/a
Interest expense, net	284	381	25 %
Foreign currency losses (gains), net	201	(219)	n/a
Other finance losses (gains), net	126	(256)	n/a
Segment loss	\$ 2,766	\$ 1,005	(175)%

SG&A expenses increased \$1.1 million for the three ended March 31, 2019 versus the comparative periods in 2018 due to a \$0.8 million negative change in the non-cash fair value adjustments of DSUs and \$0.1 million increase in depreciation and amortization expense for property leases as a result of IFRS 16 adoption in 2019. SG&A expenses otherwise increased \$0.2 million for the three months ended March 31, 2019 versus the comparative period in 2018, mainly attributable to increase in marketing activities to improve awareness and visibility of our company across audiences within government, the investment community and the public generally.

Net interest expense decreased \$0.1 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018 due to partial principal repayments of our long-term debt offset by a slight increase in interest expense on our lease obligations recognized as a result of IFRS 16 adoption in 2019.

Net foreign currency gains (losses) moved to a loss of \$0.2 million for the three months ended March 31, 2019 compared to a gain of \$0.2 million in the prior period, attributable to the appreciation of the US dollar against the euro.

Other net finance gains (losses) moved to a loss of \$0.1 million for the three months ended March 31, 2019 compared to a gain of \$0.3 million in the prior period due to a non-cash fair value adjustment for outstanding warrants driven by a higher share price as compared to December 31, 2018.

3 Financial Condition

	March 31,		December 31,		Increase (decrease)	
	2019	2018			\$	%
Cash, cash equivalents and restricted cash	\$ 22,369	\$ 8,737	\$	13,632	156 %	
Trade and other receivables	6,420	6,728		(308)	(5)%	
Contract assets – (current and non-current)	7,311	6,223		1,088	17 %	
Inventories	20,707	17,174		3,533	21 %	
Prepaid expenses	1,982	1,960		22	1 %	
Trade and other payables	8,467	9,068		(601)	(7)%	
Contract liabilities – (current and non-current)	16,134	16,001		133	1 %	
Financial liabilities	5,441	3,359		2,082	62 %	
Provisions – (current and non-current)	2,541	2,851		(310)	(11)%	
Deferred funding – (current and non-current)	2,067	1,973		94	5 %	
Other non-current liabilities	7,998	5,711		2,287	40 %	

Cash, cash equivalents, restricted cash and short-term investments increased \$13.6 million on a year-to-date basis in 2019, mainly due to \$20.3 million in net proceeds from a private placement with The Hydrogen Company (“H2C”) partially offset by a \$1.0 million repayment of government funding and \$4.9 million used for operating activities. Refer to Section 6 – Liquidity for a more detailed discussion of the change in cash, cash equivalents and restricted cash.

Trade and other receivables decreased \$0.3 million as cash receipts were partially offset by billings during the period.

Contract assets (current and non-current) increased \$1.1 million due to the change in value of amounts recognized on a percentage of completion basis for a long-term Power Systems contract as well as amounts recognized for start-up and commissioning related to equipment sales.

Inventories increased \$3.5 million attributable to work in progress and finished goods inventory required to support the schedule of expected deliveries against our backlog for Power Systems and OnSite Generation products over the balance of the year.

Trade and other payables decreased \$0.6 million as result of repayment of \$1.0 million (C\$1.4 million) for unspent government funding due to the cancelation of the program in 2018.

Financial liabilities increased \$2.1 million due to: i) a \$0.8 million of current lease liabilities recognized as a result of IFRS 16 adoption in 2019; ii) a \$0.5 million increase in the fair value of outstanding warrants and DSU liabilities, and iii) a \$0.7 million increase in the current portion of our long-term debt with Export Development Canada due to the scheduled increase in principal repayments.

Provisions decreased \$0.3 million reflecting the expiry of warranty periods and the release of start-up and commissioning accruals for completed projects.

Other non-current liabilities increased \$2.3 million due to \$2.7 million of lease liabilities recognized as a result of IFRS 16 adoption in 2019, partially offset by the reduction in our long-term debt with Export Development Canada.

4 Summary of Quarterly Results

The following table highlights selected financial information for the eight consecutive quarters ended March 31, 2019. The comparative financial information presented for 2017 has been restated to reflect the retroactive adoption of IFRS 15 in 2018.

	2019	2018	2018	2018	2018	2017	2017	2017
	Q1	Q4	Q3	Q2	Q1	Q4	Q3	Q2
Revenues	\$ 8,084	\$ 10,475	\$ 7,665	\$ 7,609	\$ 8,147	\$ 19,745	\$ 12,079	\$ 7,556
Gross profit	3,875	1,915	1,471	2,101	3,238	5,668	2,897	440
Gross margin %	48%	18%	19%	28%	40%	29%	24%	6%
Adjusted EBITDA	(963)	(2,805)	(2,529)	(2,447)	(1,606)	175	(1,947)	(3,446)
Net loss	(2,647)	(3,141)	(3,443)	(4,801)	(1,954)	(975)	(2,032)	(5,462)
Net loss per share - basic and fully diluted	\$ (0.15)	\$ (0.20)	\$ (0.22)	\$ (0.31)	\$ (0.13)	\$ (0.06)	\$ (0.13)	\$ (0.43)
Weighted average common shares outstanding	18,081,498	15,441,947	15,442,416	15,440,888	15,436,879	15,133,194	15,232,905	12,677,167

1. Adjusted EBITDA is a Non-IFRS measure, refer to Section 14 – Reconciliation of Non-IFRS Measures.

When comparing the first quarter of 2019 to the first quarter of 2018, our net loss increased 35% to \$2.6 million (\$0.15 per common share) from \$2.0 million (\$0.13 per common share). An increase in gross profit of \$0.6 million was principally due to improved direct margins due to product mix. Adjusted EBITDA improved \$0.6 million attributable to the increase in gross profit. Finance loss worsened from an income of \$0.1 million to a loss of \$0.6 million primarily as a result of adjustments to the fair value of outstanding warrants related to the net increase in the Company's share price in the current quarter as compared to a net decrease in share price for the comparative quarter of March 31, 2018. SG&A expenses increased \$1.3 million in the first quarter of 2019 as compared to same period in 2018 mainly due to a \$0.9 million increase in mark-to-market adjustment relating to our DSUs and a \$0.1 million increase in amortization and depreciation as a result of IFRS 16 adopted in 2019. Excluding non-cash items, the SG&A increased by \$0.4 million attributable to an increase in business development and marketing activities. The increase in SG&A expenses was partially offset by a decrease in net R&D expenses of \$0.3 million primarily due to the timing of significant projects.

When comparing the fourth quarter of 2018 to the fourth quarter of 2017, our net loss increased by \$2.2 million to \$3.1 million (\$0.20 per common share) compared to a net loss of \$1.0 million (\$0.06 per common share). This increase was driven by lower revenue of \$9.3 million and a decrease in gross profit of \$3.8 million. Adjusted EBITDA decreased by \$3.0 million to a loss of \$2.8 million from a profit of \$0.2 million reflecting the decrease in gross profit of \$3.8 million, offset by a decrease in cash operating costs of \$0.6 million. The decrease in cash operating costs is attributable to lower SG&A expenses of \$1.0 million offset by higher net R&D expenses of \$0.4 million due to FCPM manufacturing expansion and process improvement initiatives in the current quarter. The focus of our R&D activities in Q4-2018 also included expanding our FCPMs to new mobility use cases, such as heavy duty commercial vehicles, and furthering development on the next generation of our fuel cell stack platform and electrolyzer products.

When comparing the third quarter of 2018 to the third quarter of 2017, our net loss increased by \$1.4 million (70%) to \$3.4 million (\$0.22 per common share) compared to a net loss of \$2.0 million (\$0.13 per common share). This increase was driven by lower revenue of \$4.4 million and a decrease in gross profit of \$1.4 million. Adjusted EBITDA decreased by \$0.6 million to a loss of \$2.5 million from a loss of \$1.9 million reflecting the decrease in gross profit of \$1.4 million offset by an improvement in cash operating costs of \$0.9 million. The improvement in cash operating costs is attributable to reduced net R&D expenses; notably, an increase in government funded FCPM manufacturing expansion and process improvement initiatives in the current quarter. The focus of our R&D activities in Q3-2018 also included expanding our FCPMs to new mobility use cases, such as heavy duty commercial vehicles, and furthering development on the next generation of our fuel cell stack platform and electrolyzer products.

When comparing the second quarter of 2018 to the second quarter of 2017, our net loss decreased by \$0.7 million (12%) to \$4.8 million (\$0.31 per common share) compared to a net loss of \$5.4 million (\$0.43 per common share). This improvement was driven by the increase in gross profit of \$1.7 million reflecting a gross margin improvement to 28% from 6%, offset by an increase in losses from our joint venture with Kolon. Adjusted EBITDA improved by \$1.0 million to a loss of \$2.4 million from a loss of \$3.4 million. The improvement reflects the additional gross profit of \$1.7 million offset by an increase of \$0.7 million in cash operating costs year-over-year. The increase in cash operating costs reflects \$0.3 million and \$0.4 million respectively of additional expenditures for SG&A and net R&D. The increase in SG&A is attributable to increased business development and marketing activities. The focus of our R&D activities in the quarter included commissioning the 2.5MW Power-to-Gas facility with Enbridge, government funded FCPM manufacturing expansion and process improvement initiatives, expanding our FCPMs to new mobility use cases, such as heavy duty commercial vehicles, and furthering development on the next generation of our fuel cell stack platform and electrolyzer products.

When comparing the first quarter of 2018 to the first quarter of 2017, our net loss decreased 15% to \$2.0 million (\$0.13 per common share) from \$2.3 million (\$0.18 per common share). An increase in gross profit of \$0.6 million was principally due to improved direct margins due to product mix. Finance loss improved from a loss of \$0.9 million to income of \$0.1 million primarily as a result of adjustments to the fair value of outstanding warrants related to the net decrease in the Company's share price in the current quarter as compared to a net increase in share price for the comparative quarter of March 31, 2017. SG&A expenses decreased \$0.2 million in the first quarter of 2018. Excluding mark-to-market expenses relating to our DSUs as a result of the increase in our share price for the three months ended March 31, 2018 as compared to the three months ended March 31, 2017, SG&A expenses increased \$0.4 million. The increase is the result of increased advertising and marketing costs, facility costs, and information technology costs within the Company. These improvements were offset by an increase in net R&D expenses of \$1.1 million primarily due to increased spending on the 2.5MW energy storage project, and mobility applications such as the demonstration of the technical viability of our Celerity Plus™ product in heavy duty commercial vehicle applications, as well as furthering development on the next generation of our fuel cell stack platform.

5 Strategy and Outlook

Our strategy is to develop electrolyzer and fuel cell products for sale to OEMs, integrators, electric utilities, gas utilities, merchant gas companies, municipalities and other owners of mass transit applications (such as buses and trains) and end-users requiring highly reliable products offered at competitive prices. We seek to profitably grow and lead hydrogen energy solutions for these diverse applications across global markets. We continue to leverage the milestones and reference sites established in prior years to gain additional traction in the following target markets and applications:

Mobility Power – Our Power Systems business segment is based on PEM fuel cell technology, which transforms chemical energy liberated during the electrochemical reaction of hydrogen and oxygen into electrical energy. Our HyPM® branded fuel cell products are based on our extensive track record of on-bench testing and real-time deployments across a wide range of stationary and mobility power profiles. We configure our HyPM® products into multiple electrical power outputs ranging from 3kW to 1MW with ease of integration, high reliability and operating efficiency, delivered from a highly compact configuration. We feel our technology provides us with a competitive advantage based upon a design that supports a compact, integrated balance of plant and ease of modularity. Our design provides for robust cold weather reliability and a patented rapid start-up and shut down capability. Our low pressure and dry/dry design further differentiates our technology and eliminates the need for additional humidification and pump components.

Our target markets include mobility power applications, such as trains, buses, trucks, utility vehicles, aircraft, stationary power applications (including primary and back-up power) and most recently, a product development contract was signed for a marine application. Our target future addressable markets (stationary power and mobility markets) are estimated to be in excess of \$2 billion specifically related to hydrogen power technology.

Our strategy in China is to work with integrators, companies that take our fuel cell technology and incorporate it into buses and other vehicles provided by original equipment manufacturers. We created a certified integrator program to execute this strategy and have established relationships with multiple parties in China to date. Despite a slowdown in production orders in 2018, we still have the largest fleet of buses on the road in China at over 300. As well, to date, more than ten bus models incorporating our fuel cells are listed in the official Chinese government catalogue (meaning these models are approved for commercial sale). Since inception of strategy, approximately 400 units have been shipped to date and we have outstanding orders for 1,000 more units at present.

During 2018, we continued to support the roll out of commercial units for the Company's ten-year commuter train propulsion system contract with Alstom Transport, which at €50 million, is the largest commercial order in our history. This order

highlights the commercial maturity and strong competitive positioning of our fuel cell technology. Alstom Transport achieved certification of the train sets in July 2018 and placed the trains into active passenger service in September 2018. Alstom is actively working opportunities across Europe to aggregate train orders which will drive follow-on fuel cell orders envisioned under our contract including \$46 million in backlog. Our first production order under this agreement is expected in 2019.

Energy Storage – We have identified several large-scale applications which would consume 10 to 100 megawatts (“MW”) of power, which is 100 to 300 times larger than a typical industrial unit to date. On February 25, 2019, we announced the first award of such a project at 20MW for Air Liquide Canada. On December 21, 2018, we announced the signing of a Technology and Business Development Agreement (“TBDA”) with The Hydrogen Company (“H2C”), a wholly-owned subsidiary of L’Air Liquide S.A. (“Air Liquide”). The terms of the TBDA provide for the joint development of a large-scale PEM electrolysis solution focused on lowering the total cost of ownership and collaboration to bid this solution on large scale PEM electrolysis projects worldwide.

We continue our focus to improve and differentiate our PEM electrolyzer technology. Our HyLYZER 600 3MW PEM single stack electrolyzer is the smallest, most power dense unit in the market today and is ideally suited for large scale energy storage applications. Product development is underway to augment to a 5MW stack permitting cost effective modular scaling in 5MW capacity blocks including a focus on this technology within the TBDA referred to above.

We are experiencing a willingness on the part of utilities and regulatory agencies to increase spending in the growing problem areas related to energy storage and grid stabilization and our sales pipeline remains robust in this area. We are also seeing a gradual maturation around the regulatory framework needed to integrate energy storage into an overall energy framework to permit its cost-effective rollout. For example, on June 15, 2018, the European Union issued an update to its’ Renewable Energy Directive, Part II which explicitly includes hydrogen solutions towards attainment of EU transportation target attainment. In addition, we continue to witness governments in other jurisdictions showing a willingness to increase spending on alternative energy projects for the same purpose. We believe we continue to be well positioned to benefit from government initiatives in Canada, the European Union (particularly in Germany) and the United States (particularly in California), which we expect will positively impact our business. Since 2014, we installed over 16MW of capacity across 12 reference sites in Europe, Asia and North America. An increase in interest in our Power-to-Gas application and orders for energy storage and fueling stations in Europe, California, the UK and other geographies has signaled what we believe could be a significant increase in opportunities in the markets we serve.

Industrial Hydrogen – Historically, the demand for onsite generation of hydrogen gas has been driven by the manufacturing sector requiring hydrogen for industrial use and hydrogen gas resellers. A typical unit for these applications would generate 20 to 60 normal cubic meters of hydrogen and consume 100 to 300 kW of electrical energy. Our OnSite Generation products are sold to leading merchant gas companies, such as Air Liquide and Linde Gas, and end-users requiring high purity hydrogen produced on-site for industrial applications. We recently completed development of our sixth generation (Type 6) design, our lowest cost and most efficient alkaline product to date, which is critical to maintaining commercial success in this market.

Hydrogen Fueling – We also sell and service products for progressive oil and gas companies, requiring hydrogen fueling stations for transportation applications. Recently, the rollout of fuel cell motor vehicles and the increase in fuel cell buses and other mass transit applications, such as rail, has resulted in an increase in orders and interest for fueling stations in Europe, North America, California and elsewhere. The increasing consumption of hydrogen to support mobility applications will demand more hydrogen supply infrastructure. We have been involved with the construction of over 55 fueling stations globally and see increased demand for hydrogen fueling; particularly, when it can be linked to electrolyzed hydrogen coming from electricity that is generated from renewable sources such as wind and solar energy thus reducing the carbon footprint of the production of hydrogen. Serving both the mobility and generation markets, we believe there could be a major increase in size of both addressable markets.

Outlook Summary

The timing and full realization of the opportunities above, under the current market environment, cannot be assured or specifically established. It is, however, important to understand the magnitude of these opportunities and the transformative impact that any one of them can have on the business going forward as discussed above. Over the past several years, we took significant steps to reduce operating and product costs, streamline our operations and strengthen our consolidated financial position. We have tenaciously pursued research and product development to expand use cases across both our mobility and generation businesses. We have established significant commercial opportunities with large global companies such as Alstom, Enbridge and Air Liquide that we believe will support our trajectory to larger scale. We also continue to monitor evolving opportunities such as Hydrail.

While we may see volatility in our costs and revenues over the short-term, we expect our trend of improved cost efficiency to result in attractive operating leverage over the long term. At March 31, 2019, our order backlog was \$150.0 million (December 31, 2018 – \$132.7 million) spread across numerous geographical regions, of which approximately \$57.6 million is expected to be recorded as revenue in the following twelve months.

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. In particular, currency fluctuations could have the impact of significantly reducing revenue and gross margin as well as the competitive positioning of our product portfolio. These macroeconomic and geopolitical changes could result in our current or potential customers reducing purchases or delaying shipment which could cause revenue recognition on these products to shift into 2020 or beyond.

6 Liquidity

Cash Used in Operating Activities

(Thousands of US dollars)	Three months ended March 31			
	2019	2018	\$ Change	% Change
Net loss	\$ (2,647)	\$ (1,954)	\$ (693)	35 %
(Increase) decrease in restricted cash	323	(13)	336	n/a
Net change in non-cash operating assets	(4,180)	557	(4,737)	n/a
Other items not affecting cash	1,592	279	1,313	470 %
Cash used in operating activities	\$ (4,912)	\$ (1,131)	\$ (3,781)	334 %

Cash used in operating activities during Q1-2019 increased by \$3.8 million compared to Q1-2018 primarily as a result of changes in non-cash working capital; notably, work in progress and finished goods inventory build-up required to support the schedule of expected deliveries against our backlog for Power Systems and OnSite Generation products over the balance of the year.

Cash Used in Investing Activities

(Thousands of US dollars)	Three months ended March 31			
	2019	2018	\$ Change	% Change
Purchases of property, plant and equipment	\$ (184)	\$ (234)	50	(21)%
Receipt of government funding	(974)	–	(974)	n/a
Purchase of intangible assets	(8)	–	(8)	n/a
Cash provided by (used in) investing activities	\$ (1,166)	\$ (234)	\$ (932)	n/a

Cash used in investing activities decreased by \$0.9 million in Q1-2019 over Q1-2018 reflecting the repayment of government funding due to cancellation of government funding program effective September 28, 2018.

Cash Provided by (Used in) Financing Activities

(Thousands of US dollars)	Three months ended March 31			
	2019	2018	\$ Change	% Change
Proceeds from common shares issued and stock options exercised, net of issuance	\$ 20,360	\$ –	\$ 20,360	n/a
Principal repayment of long-term debt	–	(250)	250	n/a
Interest payment	(44)	(296)	252	85 %
Lease payments	(180)	–	(180)	n/a
Repayment of operating borrowings	–	(1,193)	1,193	n/a
Cash provided by (used in) financing activities	\$ 20,136	\$ (1,739)	\$ 21,875	n/a

Cash provided by financing activities for Q1-2019 amounted to \$20.1 million mainly attributable to a \$20.3 million funding from subscription agreement with H2C partially offset by \$0.2 million in payments for our leases. Payments on long-term debt were not due until April 1, 2019. Accordingly, there were no principal and interest payments in Q1-2019 related to long-term debt.

We expect to consume an additional \$nil million to \$5.0 million of cash over the balance of the fiscal year to fund our operations, capital expenditures and debt service. We expect this estimate to be mitigated by deposits received on new customer orders.

Contractual Obligations

	Total	Less than 1 year	1-3 years	4-5 years	After 5 years
Long-term debt ¹ , including current portion	\$ 10,282	\$ 4,427	\$ 5,855	\$ –	\$ –
Purchase obligations	19,695	17,888	1,807	–	–
Lease payments	3,510	900	1,440	645	525
Total contractual obligations^{2, 3}	\$ 33,487	\$ 23,215	\$ 9,102	\$ 645	\$ 525

1. Represents the undiscounted amounts payable as disclosed below under “Credit and Loan Facilities”.
2. The table excludes the DSU liability of \$1,123 included in our current liabilities which relate to units that are only settled once a director resigns as a director.
3. The table excludes the warrants liability of \$137 included in our financial liabilities.

Credit and Loan Facilities

At March 31, 2019, the Company’s subsidiary in Belgium (the “Borrower”) had a joint credit and operating line facility of €7.0 million, which renewed in April 2019. Under this facility, the Borrower may borrow up to a maximum of 75% of the value of awarded sales contracts, approved by the Belgian financial institution, to a maximum of €0.5 million; and may also borrow up to €1.5 million for general business purposes, provided sufficient limit exists under the overall facility limit of €7.0 million. Of the €7.0 million facility, €2.7 million or approximately \$3.0 million was drawn as standby letters of credit and bank guarantees and €nil was drawn as an operating line (December 31, 2018 - €nil). At March 31, 2019, the Company had availability of €4.3 million or \$4.8 million (December 31, 2018 –\$5.5 million) under this facility for use as letters of credit and bank guarantees.

At March 31, 2019, the Company also had a Canadian credit facility of \$2.2 million, with no expiration date for use only as letters of credit and bank guarantees. At March 31, 2019, \$0.1 million was drawn as standby letters of credit and bank guarantees. At March 31, 2019, the Company had \$2.1 million (December 31, 2018 – \$2.2 million) available under this facility for use as letters of credit and bank guarantees.

These letters of credit and bank guarantees relate primarily to obligations in connection with the terms and conditions of our sales contracts. The standby letters of credit and letters of guarantee may be drawn on by the customer if we fail to perform our obligations under the sales contracts.

On September 28, 2011, we entered into a loan agreement with the Province of Ontario’s Ministry of Economic Development, Strategic Jobs and Investment Fund for funding up to C\$6.0 million. Eligible costs had to be incurred between October 1, 2010 and September 30, 2015. After this five-year period, the loan bears interest at a rate of 3.67% and requires annual repayment at a rate of 20% per year of the outstanding balance for the five years subsequent to the sixth anniversary of the first disbursement, which was November 30, 2011. There is no availability remaining under this facility at March 31, 2019. The loan is collateralized by a general security agreement covering assets of Hydrogenics Corporation. Additionally, the Corporation is required to maintain a minimum balance of cash in Canadian dollars in a Canadian financial institution at all times. We were in compliance with this covenant as at March 31, 2019.

In the fourth quarter of 2016, we entered into a loan agreement with EDC for a five-year facility of \$9.0 million. The loan is structured as a five-year term loan with quarterly interest payments calculated at an annual interest rate of U.S. prime plus 10%, declining to U.S. prime plus 5% to 7% if certain annual earnings before interest, taxes, depreciation and amortization thresholds are met. The loan is secured by a second charge over the assets located within Canada. Commencing March 31, 2017, the loan principal is subject to four quarterly repayments of \$0.25 million followed by 16 quarterly repayments of \$0.5 million. There is an option to prepay a portion of, or the entire loan, at any time.

7 Capital Resources

We consider our capital employed to consist of shareholders' equity and total debt, net of cash and cash equivalents as follows:

	March 31, 2019	December 31, 2018
Total equity	\$ 28,730	\$ 10,961
Long-term debt (EDC and Province of Ontario)	8,406	8,082
Total	37,136	19,043
Less: Cash and cash equivalents and restricted cash	22,369	8,737
Total capital employed	\$ 14,767	\$ 10,306

The Company's financial objective when managing capital is to make sure that we have the cash, debt capacity and financial flexibility to fund our ongoing business objectives including operating activities, research and development, investments and growth in order to provide returns for our shareholders and other stakeholders.

We monitor our capital structure and make adjustments according to market conditions in an effort to meet our objectives given the Company's operating and financial performance and current outlook of the business and industry in general. The Company's alternatives to fund future capital needs include cash flows from operating activities, debt or equity financing, adjustments to research and product development priorities, capital spending and/or sale of assets. These alternatives, and our capital structure, are reviewed by management and the board of directors of the Company on a regular basis to ensure the best mix of capital resources to meet the Company's needs.

8 Off-Balance Sheet Arrangements

We do not have any material obligations under forward foreign exchange contracts, guarantee contracts, retained or contingent interests in transferred assets, outstanding derivative instruments or non-consolidated variable interests.

In the normal course of operations, we occasionally provide indemnification agreements, other than those listed above, to counterparties that would require us to compensate them for costs incurred as a result of changes in laws and regulations or as a result of litigation claims or statutory sanctions that may be suffered by the counterparty as a consequence of the transaction. The terms of these indemnification agreements will vary. The nature of the indemnification agreements prevents us from making a reasonable estimate of the maximum potential amount we could be required to pay to counterparties. No amount has been recorded in the consolidated financial statements with respect to these indemnification agreements as we are not aware of any claims.

9 Related Party Transactions

In the normal course of operations, we subcontract certain manufacturing functions to a company owned by a family member of a senior officer, director, and shareholder of the Company. During the three months ended March 31, 2019, Hydrogenics made purchases of \$nil (2018 – \$0.1 million) from this related company. At March 31, 2019, the Company had an accounts payable balance due to this related party of \$nil (2018 – \$nil). We believe that transaction terms with this company are consistent with those we have with unrelated third parties.

The Company holds an equity investment in the joint venture 2562961 Ontario Ltd. related to the 2.5MW Power-to-Gas energy storage project with Enbridge Gas Distribution. During the three months ended March 31, 2019, the Company had sales to the joint venture of \$nil (2018 – \$nil) and at the end of March 31, 2019, the Company had a net receivable of less than \$0.1 million (2017 - \$0.3 million) from the joint venture.

The Company sold its 49% interest in the joint venture to Kolon Water & Energy Co. Ltd. for a nominal value of \$1 and terminated the joint arrangement effective May 2, 2019. The Company has no further obligations regarding this joint venture.

10 Critical Accounting Estimates

The Company's management make judgments in its process of applying the Company's accounting policies in the preparation of its consolidated financial statements. The preparation of financial information requires that we make assumptions and estimates of effects of uncertain future events on the carrying amounts of the Company's assets and liabilities at the end of the reporting period and the reported amounts of revenue and expenses during the reporting period. Actual results will 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 under the circumstances. Revisions to estimates and the resulting effects on the carrying amounts of the Company's assets and liabilities are accounted for prospectively.

The critical judgments, estimates and assumptions applied in the preparation of Company's financial information are reflected in Note 4 of the Company's 2018 annual audited consolidated financial statements. The impact on critical judgments, estimates and assumptions as a result of the implementation of IFRS 16 – Leases is reflected in Note 4 of the Company's First Quarter 2019 Condensed Interim Consolidated Financial Statements.

11 Changes in Accounting Policies and Recent Accounting Pronouncements

As described in note 4 to our First Quarter 2019 Condensed Interim Consolidated Financial Statements, the Company has adopted IFRS 16 – Leases from January 1, 2019 using modified retrospective method as permitted under the transitional provisions in the standard. The reclassifications and the adjustments arising from the new leasing rules are therefore recognized in the opening balance sheet on January 1, 2019. The following tables show the impact of IFRS 16 adoption in the condensed interim consolidated balance sheet and statements of operations and comprehensive loss:

Three months ended March 31,	2019
Depreciation expense for right-of-use assets:	
Properties	\$ 150
Equipment	7
Automobiles	52
Total depreciation expense for right-of-use assets	209
Interest expense on lease liabilities	44
Expense relating to variable lease payments not included in the measurement of lease	38
Expense relating to short-term leases not included in the measurement of lease liabilities	40
Expense relating to low-value leases not included in the measurement of lease liabilities	1
Total expense	\$ 332

Lease liabilities recognized as follows:

	March 31,	January 1,
	2019	2019
Current lease liabilities	\$ 801	\$ 887
Non-current lease liabilities	2,730	2,817
Total lease liabilities	\$ 3,531	\$ 3,704

The recognized right-of-use assets relate to the following types of assets:

	March 31,	January 1,
	2019	2019
Properties	\$ 2,835	\$ 2,964
Equipment	122	129
Automobiles	587	651
Total right-of-use assets	\$ 3,544	\$ 3,744

12 Disclosure Controls

We have established disclosure controls and procedures that are designed to ensure that the information required to be disclosed by the Company in the reports that it files or submits under Canadian and US securities legislation is recorded, processed, summarized, and reported within the time periods specified in such rules and forms and that such information is accumulated and communicated to management, including our principal executive officer and principal financial officer (who are our CEO (“Chief Executive Officer”) and CFO (“Chief Financial Officer”), respectively) as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognized that disclosure controls and procedures can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met.

We have assessed and effected the necessary change to our current disclosure controls and procedures to reflect the impact of adopting IFRS 16 – Leases. Specifically, we have eliminated the option of operating lease accounting.

Our management, including our CEO and CFO, evaluated the effectiveness of our disclosure controls and procedures. Based on this evaluation and as described below under “Internal Control over Financial Reporting”, our CEO and CFO concluded that our disclosure controls and procedures were effective as of March 31, 2019.

13 Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the CEO and the CFO and effected by the Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with IFRS.

Our management, including our CEO and CFO, believes that any disclosure controls and procedures or internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, they cannot provide absolute assurance that all control issues and instances of fraud, if any, have been prevented or detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by unauthorized override of the control. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Accordingly, because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud might occur and not be detected.

Management assessed the effectiveness of the Company’s internal control over financial reporting at March 31, 2019, based on the criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission as published in 2013. Based on this evaluation, management believes, at March 31, 2019, the Corporation’s internal control over financial reporting is effective. Also, management determined there were no material weaknesses in the Corporation’s internal control over financial reporting at March 31, 2019.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2018, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included in the Company’s annual audited financial statements.

14 Reconciliation of Non-IFRS Measures

Non-IFRS financial measures, including earnings before interest, taxes, depreciation and amortization (“EBITDA”), “Adjusted EBITDA” and “cash operating costs” are used by management to provide additional insight into our performance and financial condition. We believe these non-IFRS measures are an important part of the financial reporting process and are useful in communicating information that complements and supplements the consolidated financial statements.

Adjusted Earnings Before Interest, Taxes, Depreciation and Amortization

We believe Adjusted EBITDA assists investors in comparing a company's performance on a consistent basis excluding depreciation and amortization, stock-based compensation, including both share settled PSUs and stock options, equity settled restricted share units ("RSUs") and cash settled deferred share units ("DSUs"), which are non-cash in nature and can vary significantly due to stock price fluctuations. We believe that removing these expenses is a better measurement of operational performance. Investors should be cautioned that Adjusted EBITDA, as reported by us, may not be comparable in all instances to Adjusted EBITDA, as reported by other companies. As described in Section 11, upon the adoption of IFRS 16 – Leases on January 1, 2019, operating lease payments are no longer reflected as a charge against net income and are excluded from Adjusted EBITDA.

The following table provides a reconciliation of Adjusted EBITDA with net loss:

	Three months ended March 31,	
	2019	2018
Net loss	\$ (2,647)	\$ (1,954)
Loss (gain) from joint ventures	(5)	69
Finance loss (income), net	611	(94)
Income tax expense	–	300
Amortization and depreciation	380	177
DSUs expense (recovery)	462	(326)
Stock-based compensation expense (including PSUs and RSUs)	236	222
Adjusted EBITDA	\$ (963)	\$ (1,606)

Cash Operating Costs

We report cash operating costs because management feels they are a key measurement of the normal operating costs required to operate the ongoing business units of the Company. Cash operating costs are regularly reported to the chief operating decision maker and correspond to the definition used in our historical quarterly discussions. Investors should be cautioned that cash operating costs as reported by us may not be comparable in all instances to cash operating costs as reported by other companies. As described in Section 11, upon the adoption of IFRS 16 – Leases on January 1, 2019, operating lease payments are no longer reflected as a charge against selling, general and administrative expenses and are excluded from cash operating costs.

The following table provides a reconciliation of cash operating costs with total operating expenses consisting of SG&A and R&D expenses:

	Three months ended March 31,	
	2019	2018
Selling, general and administrative expenses	\$ 4,107	\$ 2,836
Research and product development expenses	1,809	2,081
Total operating costs	\$ 5,916	\$ 4,917
Less: Amortization and depreciation	(233)	(103)
Less: loss on disposal of assets	(2)	(3)
Less: DSUs recovery (expense)	(462)	326
Less: Stock-based compensation expense (including PSUs and RSUs)	(236)	(222)
Cash operating costs	\$ 4,983	\$ 4,915

15 Risk Factors

An investment in our common shares involves risk. Investors should carefully consider the risks and uncertainties described below and in our Annual Information Form. The risks and uncertainties described below and in our Annual Information Form are not the only ones we face. Additional risks and uncertainties, including those that we do not know about now or that we currently deem immaterial, may also adversely affect our business. For a more complete discussion of the risks and uncertainties which apply to our business and our operating results (which are summarized below), please see our Annual Information Form and other filings with Canadian (www.sedar.com) and U.S. securities regulatory authorities (www.sec.gov/edgar.shtml).

Our business entails risks and uncertainties that affect our outlook and eventual results of our business and commercialization plans. The primary risks relate to meeting our product development and commercialization milestones, which require that our products exhibit the functionality, cost and performance required to be commercially viable against competing technologies and that we have sufficient access to capital to fund these activities. Another primary risk is that key markets for certain of our products may never develop, or that market acceptance might take longer to develop than anticipated – in particular for applications such as energy storage which require leadership at a government and regulatory level.

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

Risk Factors Related to Our Financial Condition

- Our inability to generate sufficient cash flows, raise additional capital and actively manage our liquidity may impair our ability to execute our business plan, and result in our reducing or eliminating product development and commercialization efforts, reducing our sales and marketing efforts, and having to forego attractive business opportunities. There are uncertainties related to the timing and use of our cash resources and working capital requirements. These uncertainties include, among other things, the timing and volume of commercial sales and associated gross margins of our existing products and the development of markets for, and customer acceptance of new products.
- We may not be able to implement our business strategy and the price of our common shares may decline.
- The uncertain and unpredictable condition of the global economy could have a negative impact on our business, results of operations and consolidated financial condition, or our ability to accurately forecast our results, and it may cause a number of the risks that we currently face to increase in likelihood, magnitude and duration.
- Our operating results may be subject to currency fluctuation.
- Our mix of revenues in the recent past does not reflect our current business strategy, it may be difficult to assess our business and future prospects.
- Our quarterly operating results are likely to fluctuate significantly and may fail to meet the expectations of securities analysts and investors and may cause the price of our common shares to decline.
- We currently depend on a relatively limited number of customers for a majority of our revenues and a decrease in revenue from these customers could materially adversely affect our business, consolidated financial condition and results of operations.
- Our insurance may not be sufficient.
- Certain external factors may affect the value of goodwill, which may require us to recognize an impairment charge.

Risk Factors Related to Our Business and Industry

- Significant markets for fuel cell and other hydrogen energy products may never develop or may develop more slowly than we anticipate. This would significantly harm our revenues and may cause us to be unable to recover the losses we have incurred and expect to incur in the development of our products.
- Hydrogen may not be readily available on a cost-effective basis, in which case our fuel cell products may be unable to compete with existing power sources and our revenues and results of operations would be materially adversely affected.
- Changes in government policies and regulations could hurt the market for our products.
- Lack of new government policies and regulations for the energy storage technologies could hurt the development of the Power-to-Gas market for our hydrogen energy storage products.
- The development of uniform codes and standards for hydrogen powered vehicles and related hydrogen refueling infrastructure may not develop in a timely fashion, if at all.
- We could be liable for environmental damages resulting from our research, development or manufacturing operations.

- We currently face and will continue to face significant competition from other developers and manufacturers of fuel cell power products and hydrogen generation systems. If we are unable to compete successfully, we could experience a loss of market share, reduced gross margins for our existing products and a failure to achieve acceptance of our proposed products.
- We face competition for fuel cell power products from developers and manufacturers of traditional technologies and other alternative technologies.
- Our strategy for the sale of fuel cell power products depends on developing partnerships with OEMs, governments, systems integrators, suppliers and other market channel partners who will incorporate our products into theirs.
- We are dependent on third party suppliers for key materials and components for our products. If these suppliers become unable or unwilling to provide us with sufficient materials and components on a timely and cost-effective basis, we may be unable to manufacture our products cost-effectively or at all, and our revenues and gross margins would suffer.
- We may not be able to manage successfully the anticipated expansion of our operations.
- If we do not properly manage foreign sales and operations, our business could suffer.
- We will need to recruit, train and retain key management and other qualified personnel to successfully expand our business.
- We may acquire technologies or companies in the future, and these acquisitions could disrupt our business and dilute our shareholders' interests.
- We have no experience manufacturing our fuel cell products on a large-scale basis and if we do not develop adequate manufacturing processes and capabilities to do so in a timely manner, we will be unable to achieve our growth and profitability objectives.

Risk Factors Related to Our Products and Technology

- We may never complete the development of commercially viable fuel cell power products and/or commercially viable hydrogen generation systems for new hydrogen energy applications, and if we fail to do so, we will not be able to meet our business and growth objectives.
- We must lower the cost of our fuel cell and hydrogen generation products and demonstrate their reliability or consumers will be unlikely to purchase our products and we will therefore not generate sufficient revenues to achieve and sustain profitability.
- Any failures or delays in field tests of our products could negatively affect our customer relationships and increase our manufacturing costs.
- The components of our products may contain defects or errors that could negatively affect our customer relationships and increase our development, service and warranty costs.
- Rapid technological advances or the adoption of new codes and standards could impair our ability to deliver our products in a timely manner and, as a result, our revenues would suffer.
- We depend on intellectual property and our failure to protect that intellectual property could adversely affect our future growth and success.
- Our products use flammable fuels that are inherently dangerous substances and could subject us to product liabilities.
- We may experience cybersecurity threats to our information technology infrastructure and systems, and unauthorized attempts to gain access to our proprietary or confidential information, as may our customers, suppliers, subcontractors and joint venture partners.

Risk Factors Related to Ownership of Our Common Shares

- If at any time we are classified as a passive foreign investment company under United State tax laws, our US shareholders may be subject to adverse tax consequences.
- If we fail to maintain the requirements for continued listing on Nasdaq, our common shares could be delisted from trading on Nasdaq, which would materially adversely affect the liquidity of our common shares, the price of our common shares, and our ability to raise additional capital.
- US investors may not be able to enforce US civil liability judgments against us or our directors and officers.
- Our share price is volatile and we may continue to experience significant share price and volume fluctuations.
- Our issuance of warrants, options, RSUs and PSUs to investors and employees may have a negative effect on the trading prices of our common stock as well as a dilutive effect.

16 Outstanding Share Data

The authorized share capital of the Company consists of an unlimited number of common shares, with no par value, and an unlimited number of preferred shares in series, with no par value. We had 15,441,183 common shares outstanding at March 31, 2019.

	2019		2018	
	Number	Amount	Number	Amount
Balance at January 1,	15,447,483	\$ 387,911	15,436,879	\$ 387,746
Issuance of common shares	3,537,931	20,348	–	–
Issuance of common shares on exercise of stock options	2,000	20	–	–
At March 31,	18,987,414	\$ 408,279	15,436,879	\$ 387,746

At March 31, 2019, there were 845,805 stock options and 202,707 RSUs outstanding to purchase or vest into our common shares. If these securities are exercised, our shareholders could incur dilution.

17 Forward-looking Statements

This MD&A constitutes “forward-looking information,” within the meaning of applicable Canadian securities laws and “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively referred to herein as “forward-looking statements”). Forward-looking statements can be identified by the use of words, such as “plans,” “expects,” or “is expected,” “budget,” “scheduled,” “estimates,” “forecasts,” “intends,” “anticipates,” or “believes” or variations of such words and phrases or state that certain actions, events or results “may,” “could,” “would,” “might” or “will” be taken, occur or be achieved. These forward-looking statements relate to, among other things, our future results, levels of activity, performance, goals or achievements or other future events. These forward-looking statements are based on current expectations and various assumptions and analyses made by us in light of our experience and our perceptions of historical trends, current conditions and expected future developments and other factors that we believe are appropriate in the circumstances. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in our forward-looking statements.

These risks, uncertainties and factors include, but are not limited to: our inability to execute our business plan, or to grow our business; inability to address a slow return to economic growth, and its impact on our business, results of operations and consolidated financial condition; our limited operating history; inability to implement our business strategy; fluctuations in our quarterly results; failure to maintain our customer base that generates the majority of our revenues; currency fluctuations; failure to maintain sufficient insurance coverage; changes in value of our goodwill; failure of a significant market to develop for our products; failure of hydrogen being readily available on a cost-effective basis; changes in government policies and regulations; lack of new government policies and regulations for the energy storage technologies; failure of uniform codes and standards for hydrogen fueled vehicles and related infrastructure to develop; liability for environmental damages resulting from our research, development or manufacturing operations; failure to compete with other developers and manufacturers of products in our industry; failure to compete with developers and manufacturers of traditional and alternative technologies; failure to develop partnerships with original equipment manufacturers, governments, systems integrators and other third parties; inability to obtain sufficient materials and components for our products from suppliers; failure to manage expansion of our operations; failure to manage foreign sales and operations; failure to recruit, train and retain key management personnel; inability to integrate acquisitions; failure to develop adequate manufacturing processes and capabilities; failure to complete the development of commercially viable products; failure to produce cost-competitive products; failure or delay in field testing of our products; failure to produce products free of defects or errors; inability to adapt to technological advances or new codes and standards; failure to protect our intellectual property; our involvement in intellectual property litigation; exposure to product liability claims; failure to meet rules regarding passive foreign investment companies; actions of our significant and principal shareholders; failure to maintain the requirements for continued listing on NASDAQ; dilution as a result of significant issuances of our common shares and preferred shares; inability of US investors to enforce US civil liability judgments against us; volatility of our common share price; and dilution as a result of the exercise of options.

These factors may cause the Company’s actual performance and financial results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. Forward-looking statements do not take into account the effect that transactions or non-recurring or other special items

announced or occurring after the statements are made have on the Company's business. For example, they do not include the effect of business dispositions, acquisitions, other business transactions, asset write-downs or other charges announced or occurring after forward-looking statements are made. The financial impact of such transactions and non-recurring and other special items can be complex and necessarily depends on the facts particular to each of them.

We believe the expectations represented by our forward-looking statements are reasonable, yet there can be no assurance that such expectations will prove to be correct. The purpose of the forward-looking statements is to provide the reader with a description of management's expectations regarding the Company's fiscal 2019 financial performance and may not be appropriate for other purposes. Furthermore, unless otherwise stated, the forward-looking statements contained in this report are made as of the date of this report and we do not undertake any obligation to update publicly or to revise any of the included forward-looking statements, whether as a result of new information, future events or otherwise unless required by applicable legislation or regulation. The forward-looking statements contained in this report are expressly qualified by this cautionary statement.