



# Hydrogenics Corporation

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Second 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 August 9, 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](http://www.hydrogenics.com), on the SEDAR website at [www.sedar.com](http://www.sedar.com), and on the EDGAR filers section of the U.S. Securities and Exchange Commission website at [www.sec.gov](http://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.

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**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 June 30,				Six months ended June 30,			
	2019	2018	Favourable / (Unfavourable)		2019	2018	Favourable / (Unfavourable)	
OnSite Generation	\$ 7,585	\$ 4,776	\$ 2,809	59 %	\$ 10,068	\$ 8,537	\$ 1,531	18 %
Power Systems	2,870	2,833	37	1 %	8,471	7,219	1,252	17 %
Total revenue	10,455	7,609	2,846	37 %	18,539	15,756	2,783	18 %
Gross profit	1,353	2,101	(748)	(36)%	5,228	5,339	(111)	(2)%
Gross Margin %	13%	28%			28%	34%		
Selling, general and administrative expenses	4,476	3,024	(1,452)	(48)%	8,583	5,860	(2,723)	(46)%
Research and product development expenses	1,695	1,880	185	10 %	3,504	3,961	457	12 %
Loss from operations	(4,818)	(2,803)	(2,015)	(72)%	(6,859)	(4,482)	(2,377)	(53)%
Gain (loss) from joint ventures	21	(1,492)	1,513	n/a	26	(1,561)	1,587	n/a
Finance income (loss), net	31	(506)	537	n/a	(580)	(412)	(168)	(41)%
Income tax expense	–	–			–	300	(300)	n/a
Net loss	\$ (4,766)	\$ (4,801)	\$ 35	1 %	\$ (7,413)	\$ (6,755)	\$ (658)	(10)%
Net loss per share	\$ (0.25)	\$ (0.31)	\$ 0.06	19 %	\$ (0.40)	\$ (0.44)	\$ 0.04	9 %
Cash operating costs <sup>1</sup>	\$ 4,681	\$ 4,631	\$ (50)	(1)%	\$ 9,664	\$ 9,546	\$ (118)	(1)%
Adjusted EBITDA <sup>1</sup>	(3,279)	(2,447)	(832)	(34)%	(4,242)	(4,053)	(189)	(5)%
Cash used in operating activities	(3,692)	(4,468)	776	17 %	(8,605)	(5,599)	(3,006)	(54)%
Cash and cash equivalents (including restricted cash)	17,735	15,003	2,732	18 %	17,735	15,003	2,732	18 %
Total assets	65,919	59,149	6,770	11 %	65,919	59,149	6,770	11 %
Total non-current liabilities (excluding deferred funding and contract liabilities)	\$ 8,431	\$ 8,365	\$ (66)	(1)%	\$ 8,431	\$ 8,365	\$ (66)	(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 and six months ended June 30, 2019 compared to the three and six months ended June 30, 2018

- Revenues increased by \$2.8 million for both the three and six months ended June 30, 2019 versus the comparable three and six months ended June 30, 2018. The OnSite Generation business segment realized growth in revenues through the three and six months of 2019, up \$2.8 million and \$1.5 million respectively. Power Systems revenue was flat for the three months ended June 30, 2019 compared to the three months ended June 30, 2018 but increased by \$1.3 million for the six months period ended June 30, 2019.
- We received \$30.9 million in new orders for the six months ended June 30, 2019 (2018 – \$13.3 million) consisting of \$25.5 million (2018 – \$9.7 million) for the OnSite Generation business and \$5.4 million (2018 – \$3.6 million) for the Power Systems business. The OnSite Generation business achieved a net positive order intake through the first six months of \$15.4 million, whereas orders delivered exceeded orders received by \$3.1 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		June 30, 2019	
	backlog		Received		FX	Delivered/ Revenue Recognized	backlog	
OnSite Generation	\$	20.6	\$	25.5	\$	(0.1)	\$	36.0
Power Systems		112.1		5.4		(0.9)		108.1
<b>Total</b>	<b>\$</b>	<b>132.7</b>	<b>\$</b>	<b>30.9</b>	<b>\$</b>	<b>(1.0)</b>	<b>\$</b>	<b>144.1</b>

- Gross margin decreased to 13% (2018 - 28%) and 28% (2018 - 34%) for the three and six months ended June 30, 2019, respectively. Refer to Section 2 Operating Results for more discussion regarding key drivers for each business segment.
- Selling, General and Administrative (“SG&A”) expenses for the three and six months ended June 30, 2019 increased by \$1.5 million and \$2.7 million versus the comparative prior periods. The increase is attributable primarily to non-cash losses realized on the revaluation of DSUs due to the increase in our stock price. Net of non-cash items, SG&A expenses for the three and six months ended June 30, 2019 increased by \$0.2 million and \$0.6 million, respectively, as compared to the same periods in 2018. The increase for the six months ended June 30 2019 is attributable to \$0.8 million of one-time expenses related to negotiating the Arrangement Agreement with Cummins Inc. described further in Section 5 Strategy and Outlook.
- Net research and product development (“R&D”) expenses for the three and six months ended June 30, 2019 decreased by \$0.2 million and \$0.5 million versus the comparative prior periods. Of the \$3.5 million spent on net R&D year-to-date, \$2.8 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 \$0.7 million relates to product development within our OnSite Generation business.

Three months ended June 30,	2019		2018	
Research and product development expenses	\$	2,174	\$	3,271
Government research and product development funding		(479)		(1,391)
<b>Total</b>	<b>\$</b>	<b>1,695</b>	<b>\$</b>	<b>1,880</b>

Six months ended June 30,	2019		2018	
Research and product development expenses	\$	4,278	\$	6,286
Government research and product development funding		(774)		(2,325)
<b>Total</b>	<b>\$</b>	<b>3,504</b>	<b>\$</b>	<b>3,961</b>

- Loss from operations increased by \$2.0 million and \$2.4 million for the three and six months ended June 30, 2019 as compared to the prior periods in 2018. The increase is attributable to the non-cash loss realized in 2019 on the revaluation of DSUs and one-time expenses associated with negotiating the Arrangement Agreement with Cummins Inc. as noted above.

- Gain (loss) from joint ventures improved by \$1.5 million and \$1.6 million respectively for the three and six month periods ended June 30, 2019 compared to the prior periods in 2018. The comparative period included losses of \$1.6 million attributable to the write down of our previous joint venture investment with Kolon.
- Net finance loss decreased by \$0.5 million for the three months ended June 30, 2019 due to a \$0.4 million increase in foreign exchange gains attributable to strengthening of the US dollar against the euro and Canadian dollar. The remaining \$0.1 million increase is due to the expiry of warrants in May 2019. For the six months ended June 30, 2019 the net finance loss increased by \$0.2 million as compared to prior period mainly due to the interest expense on lease liabilities recognized as a result of IFRS 16 adoption effective January 1, 2019.
- Net loss for the three months ended June 30, 2019 was consistent with the prior comparative period at \$4.8 million and increased by \$0.7 million for the six months ended June 30, 2019 as compared to the same period in 2018, driven mainly by the increase in SG&A expenses described above.
- Cash operating costs increased by \$0.1 million for the three and six months ended June 30, 2019 compared to the same periods in 2018, despite incurring one-time expenses of \$0.8 million related to negotiating the Arrangement Agreement with Cummins Inc.. This increase was offset in part by the reduction in net R&D expenses.
- Adjusted EBITDA increased \$0.8 million and \$0.2 million for the three and six months ended June 30, 2019, as compared to the same periods in 2018. The increase is primarily attributable one-time expenses of \$0.8 million related to negotiating the Arrangement Agreement with Cummins Inc..

## 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 June 30,			Six months ended June 30,		
	2019	2018	Favourable / (Unfavourable)	2019	2018	Favourable / (Unfavourable)
Revenues	\$ 7,585	\$ 4,776	59 %	\$ 10,068	\$ 8,537	18 %
Gross profit	1,173	1,419	(17)%	1,191	2,655	(55)%
Gross margin %	15%	30%	(48)%	12%	31%	(62)%
Selling, general and administrative expenses	539	700	23 %	1,305	1,451	10 %
Research and product development expenses, net	178	855	79 %	722	1,487	51 %
Segment gain (loss)	\$ 456	\$ (136)	n/a	\$ (836)	\$ (283)	(195)%

**Revenues** increased by \$2.8 million and \$1.5 million for the three and six months ended June 30, 2019, respectively, versus the comparative prior periods, as a result of increased equipment deliveries. New orders awarded for the six months ended June 30, 2019 amounted to \$25.5 million (2018 – \$9.7 million) inclusive of the 20 megawatts (“MW”) award previously announced with Air Liquide. Backlog at June 30, 2019 was \$36.0 million (June 30, 2018 - \$20.5 million) with approximately \$30.3 million of this backlog expected to be recognized as revenue in the next twelve months.

**Gross margin** decreased for the three and six months ended June 30, 2019 to 15% from 30% and 12% from 31%, respectively, versus the comparative periods in 2018. In the comparative periods, we delivered large capital projects with improved margins and released warranty provisions that were no longer required.

**SG&A expenses** decreased by \$0.2 million and \$0.1 million for the three and six months ended June 30, 2019, respectively, versus the comparative periods in 2018 mainly due to a \$0.3 million recovery of trade receivables that was previously written off, partially offset by increased business development activity.

**Net R&D expenses** decreased by \$0.7 million and \$0.8 million for the three and six months ended June 30, 2019, respectively, versus the comparative periods in 2018 due primarily to the completion of the fueling station project in Mississauga, Canada. These costs amounted to \$0.9 million for the six months ended June 30, 2018.

**Segment gain (loss)** improved by \$0.6 million for the six months ended June 30, 2019, as compared to the same period in 2018, despite lower gross profit, offset by the decrease in net R&D and SG&A expenses, as described above.

### Power Systems

Our Power Systems business segment is based in Mississauga, Canada, with satellite facilities in Carlsbad, California, USA, and Gladbeck, Germany 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 June 30,			Six months ended June 30,		
	2019	2018	Favourable / (Unfavourable)	2019	2018	Favourable / (Unfavourable)
Revenues	\$ 2,870	\$ 2,833	1 %	\$ 8,471	\$ 7,219	17 %
Gross Profit	180	682	(74)%	4,037	2,684	50 %
Gross margin %	6%	24%	(74)%	48%	37%	28 %
Selling, general and administrative expenses	852	1,057	19 %	2,053	2,122	3 %
Research and product development expenses, net	1,499	1,007	(49)%	2,744	2,446	(12)%
Segment loss	\$ (2,171)	\$ (1,382)	(57)%	\$ (760)	\$ (1,884)	60 %

**Revenues** increased by 1% and 17%, respectively, for the three and six months ended June 30, 2019 versus the comparative periods in 2018. The increase is attributable to revenue recognized for licensing and support services agreements with our key customers in China. Orders awarded through 2019 amounted to \$5.4 million (2018 – \$3.6 million). At June 30, 2019, backlog was \$108.1 million (June 30, 2018 – \$111.3 million) with approximately \$29.6 million of this backlog expected to be recognized as revenue in the next twelve months.

**Gross margin** declined from 24% to 6% for the three months period over the comparative period for 2018 due to a delay in completing a multi-year project that resulted in unexpected costs as well as additional costs recognized during the quarter for warranty provisions and our semi-annual inventory obsolescence assessment. Despite the margin variances for the three-month period, gross margin increased from 37% to 48% for the six months period over the comparative period for 2018 attributable to higher margins on license and support services revenue.

**SG&A expenses** decreased by \$0.2 million and \$0.1 million for the three and six months ended June 30, 2019 versus the comparative periods in 2018 mainly due to a \$0.1 million recovery of trade receivables that was previously written off.

**Net R&D expenses** increased by \$0.5 million and \$0.3 million for the three and six months ended June 30, 2019 versus the comparative periods in 2018 mainly attributable to expansion of our FCPM to new mobility use cases, 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 loss** increased by \$0.8 million for the three months ended June 30, 2019 versus the comparative period in 2018 due to decrease in gross margin and increased net R&D expenses, as described above. Segment loss decreased by \$1.1 million for the six months ended June 30, 2019 versus the comparative period in 2018 due to higher margins on license and support services revenue, as described above.

**Corporate and Other****Selected Financial Information**

	Three months ended June 30,			Six months ended June 30,		
	2019	2018	Favourable / (Unfavourable)	2019	2018	Favourable / (Unfavourable)
Selling, general and administrative expenses	\$ 3,085	\$ 1,267	(143)%	\$ 5,225	\$ 2,287	(128)%
Research and product development expenses, net	18	18	-	38	28	(36)%
Losses (gains) from joint ventures	(21)	1,492	n/a	(26)	1,561	n/a
Interest expense, net	288	372	23 %	572	753	24 %
Foreign currency losses (gains), net	(182)	177	n/a	19	(42)	n/a
Other finance gains, net	(137)	(43)	(219)%	(11)	(299)	(96)%
Segment loss	\$ 3,051	\$ 3,283	7 %	\$ 5,817	\$ 4,288	(36)%

**SG&A expenses** increased by \$1.8 million and \$2.9 million for the three and six months ended June 30, 2019 versus the comparative periods in 2018 due to \$1.0 million and \$1.8 million, respectively, of non-cash fair value adjustments of DSUs resulting from the higher share price at the end of current period. Other factor contributing to the increase in SG&A expenses include \$0.8 million in one-time costs associated with negotiating the Arrangement Agreement with Cummins Inc..

**Net interest expense** increased by \$0.1 million and \$0.2 million for the three and six months ended June 30, 2019 versus the comparative periods in 2018 due to interest expense on our lease obligations recognized as a result of IFRS 16 adoption in 2019, partially offset by lower interest due to principal repayments on our long-term debt.

**Net foreign currency gains (losses)** moved to a gain of \$0.2 million for the three months ended June 30, 2019 compared to a loss of \$0.2 million in the prior period, attributable to the appreciation of the US dollar against the Euro and Canadian dollar.

**Other net finance gains** increased by \$0.1 million for the three months ended June 30, 2019 due to a gain on the expiry of warrants in May 2019.

### 3 Financial Condition

	June 30,		December 31,		Increase (decrease)	
		2019		2018	\$	%
Cash, cash equivalents and restricted cash	\$	17,735	\$	8,737	\$ 8,998	103 %
Trade and other receivables		8,022		6,728	1,294	19 %
Contract assets – (current and non-current)		6,584		6,223	361	6 %
Inventories		18,940		17,174	1,766	10 %
Prepaid expenses		2,008		1,960	48	2 %
Trade and other payables		8,628		9,068	(440)	(5)%
Contract liabilities – (current and non-current)		14,512		16,001	(1,489)	(9)%
Financial liabilities		6,121		3,359	2,762	82 %
Provisions – (current and non-current)		2,666		2,851	(185)	(6)%
Deferred funding – (current and non-current)		2,067		1,973	94	5 %
Other non-current liabilities		7,632		5,711	\$ 1,921	34 %

**Cash, cash equivalents, restricted cash and short-term investments** increased \$9.0 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, \$8.6 million used for operating activities, \$1.2 million in debt and lease payments and \$0.4 million in capital expenditures. Refer to Section 6 – Liquidity for a more detailed discussion of the change in cash, cash equivalents and restricted cash.

**Trade and other receivables** increased \$1.3 million due to the timing of billings on equipment deliveries during the period.

**Contract assets (current and non-current)** increased \$0.4 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 \$1.8 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 \$0.4 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, partially offset by an increase resulting from the timing of purchases and payments to the suppliers and consistent with the increase in inventory.

**Contract liabilities (current and non-current)** decreased due to the release of amounts related to revenue recognized in the period net of payments received on new orders.

**Financial liabilities** increased \$2.8 million due to: i) a \$1.3 million increase in the fair value of DSU liabilities, ii) a \$0.7 million of current lease liabilities recognized as a result of IFRS 16 adoption in 2019; 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 \$0.2 million reflecting the expiry of warranty periods and the release of start-up and commissioning accruals for completed projects.

**Other non-current liabilities** increased \$1.9 million due to \$2.8 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 June 30, 2019. The comparative financial information presented for 2017 has been restated to reflect the retroactive adoption of IFRS 15 in 2018.

	2019		2019		2018		2018		2018		2017		2017			
	Q2		Q1		Q4		Q3		Q2		Q1		Q4			
Revenues	\$	10,455	\$	8,084	\$	10,475	\$	7,665	\$	7,609	\$	8,147	\$	19,745	\$	12,079
Gross profit		1,353		3,875		1,915		1,471		2,101		3,238		5,668		2,897
Gross margin %		13%		48%		18%		19%		28%		40%		29%		24%
Adjusted EBITDA		(3,279)		(963)		(2,805)		(2,529)		(2,447)		(1,606)		175		(1,947)
Net loss		(4,766)		(2,647)		(3,141)		(3,443)		(4,801)		(1,954)		(975)		(2,032)
Net loss per share - basic and fully diluted	\$	(0.25)	\$	(0.15)	\$	(0.20)	\$	(0.22)	\$	(0.31)	\$	(0.13)	\$	(0.06)	\$	(0.13)
Weighted average common shares outstanding		18,999,286		18,081,498		15,441,947		15,442,416		15,440,888		15,436,879		15,133,194		15,232,905

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

When comparing the second quarter of 2019 to the second quarter of 2018, our net loss remained consistent at \$4.8 million (\$0.25 per common share in 2019 versus \$0.31 per common share in 2018). Our gross margin declined to 13% from 28% mainly due to: i) a delay in completion of a multi-year project with a customer in Europe that resulted in unexpected costs; ii) costs recognized during the quarter for warranty provisions; and iii) a semi-annual inventory obsolescence provision. In the second quarter of 2018, we delivered large capital projects with improved margins. Adjusted EBITDA loss increased by \$0.9 million to a loss of \$3.3 million from a loss of \$2.4 million attributable to a decrease in gross profit of \$0.7 million and an increase of \$0.1 million in cash operating costs year-over-year. The increase in cash operating costs reflects \$0.2 million of additional expenditures for SG&A, partially offset by decrease in net R&D.

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.

## 5 Strategy and Outlook

### Potential Sale Transaction

On June 28, 2019 the Company entered into an arrangement agreement (the "Arrangement Agreement") with Cummins Inc. ("Cummins") and Atlantis AcquisitionCo Canada Corporation (the "Purchaser"), pursuant to which the Purchaser, a subsidiary of Cummins Inc., has agreed to acquire all of the outstanding common shares of the Company (the "Shares"), other than Shares owned by The Hydrogen Company, a wholly owned subsidiary of L'Air Liquide S.A. ("Air Liquide"), for US\$15.00 in cash per Share (the "Transaction"). The Hydrogen Company has agreed to exchange its Shares for shares of the Purchaser pursuant to the Transaction. The Transaction is structured as a statutory plan of arrangement under the Canada Business Corporations Act. The Transaction requires approval of at least 66 2/3% of the votes cast by Shareholders, as well as the approval by a simple majority of votes cast by disinterested Shareholders, excluding Shares held by The Hydrogen Company and its affiliates, and any other Shareholders required to be excluded under MI 61-101. The Shareholders meeting is scheduled for August 29, 2019 to approve the Transaction.

On July 31, 2019, the Company issued a Notice of Meeting and Management Information Circular ("Circular") setting August 29, 2019 for a Special Meeting of the Shareholders to approve the Transaction. As outlined in the Circular, the Board of Directors of the Company unanimously determined that the Arrangement Agreement was fair to Shareholders (other than Hydrogen Company and its affiliates) and is in the best interest of the Company. In making its recommendation, the Board of Directors reviewed a significant amount of information and considered a number of factors including, but not limited to, the unanimous recommendation of the Special Committee, valuation and fairness opinions received from its financial advisors, pricing terms and all cash consideration, Company prospects on a stand-alone basis and including consideration of other strategic transactions, Identity of Cummins, the Cummins and Hydrogen Company arrangement and other factors.

If approved by the Shareholders, the Transaction is expected to close in Q3 2019 and, as a result, the Company's shares will be delisted from Toronto Stock Exchange and NASDAQ.

### Strategy

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 and the first half of 2019, 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 for 82 units is under active negotiation. Production against this order is expected to begin in 2019 with deliveries expected in late 2020.

Energy Storage – We have identified several large-scale applications which would consume 10 to 100 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 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 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 hydrogen powered rail.

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 June 30, 2019, our order backlog was \$144.1 million (December 31, 2018 – \$132.7 million) spread across numerous geographical regions, of which approximately \$59.9 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 June 30,			Six months ended June 30,		
	2019	2018	Change	2019	2018	Change
Net loss	\$ (4,766)	\$ (4,801)	\$ 35	\$ (7,413)	\$ (6,755)	\$ (658)
(Increase) decrease in restricted cash	(145)	(266)	121	178	(279)	457
Net change in non-cash operating assets	(507)	(1,416)	909	(4,687)	(859)	(3,828)
Other items not affecting cash	1,726	2,015	(289)	3,317	2,294	1,023
<b>Cash used in operating activities</b>	<b>\$ (3,692)</b>	<b>\$ (4,468)</b>	<b>\$ 776</b>	<b>\$ (8,605)</b>	<b>\$ (5,599)</b>	<b>\$ (3,006)</b>

Cash used in operating activities during the six months ended June 30, 2019 increased by \$3.0 million versus the comparative period in 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 June 30,			Six months ended June 30,		
	2019	2018	Change	2019	2018	Change
Purchases of property, plant and equipment	\$ (148)	\$ (101)	\$ (47)	\$ (332)	\$ (335)	\$ 3
Receipt of government funding	–	974	(974)	(974)	974	(1,948)
Purchase of intangible assets	(2)	(1)	(1)	(10)	(1)	(9)
<b>Cash provided by (used in) investing activities</b>	<b>\$ (150)</b>	<b>\$ 872</b>	<b>\$ (1,022)</b>	<b>\$ (1,316)</b>	<b>\$ 638</b>	<b>\$ (1,954)</b>

Cash used in investing activities decreased by \$1.9 million during the six months ended June 30, 2019 versus the comparative period in 2018 reflecting the receipt and subsequent 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 June 30,			Six months ended June 30,		
	2019	2018	Change	2019	2018	Change
Proceeds from common shares issued and stock options exercised, net of	\$ 21	\$ 1	\$ 20	\$ 20,381	\$ 1	\$ 20,380
Principal repayment of long-term debt	(500)	(500)	–	(500)	(750)	250
Interest payment	(286)	(286)	–	(330)	(582)	252
Lease payments	(199)	–	(199)	(379)	–	(379)
Repayment of operating borrowings	–	–	–	–	(1,193)	1,193
<b>Cash provided by (used in) financing activities</b>	<b>\$ (964)</b>	<b>\$ (785)</b>	<b>\$ (179)</b>	<b>\$ 19,172</b>	<b>\$ (2,524)</b>	<b>\$ 21,696</b>

Cash provided by financing activities during the six months ended June 30, 2019 increased by \$21.7 million versus the comparative period in 2018 mainly attributable to a \$20.3 million funding from subscription agreement with H2C partially offset by debt, interest and lease payments.

We expect to consume an additional \$nil million to \$6.0 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			After 5 years
		1 year	1-3 years	4-5 years	
Long-term debt <sup>1</sup> , including current portion	\$ 9,611	\$ 4,353	\$ 5,258	\$ –	\$ –
Purchase obligations	25,223	23,050	2,173	–	–
Lease payments	3,482	990	1,405	596	491
<b>Total contractual obligations<sup>2</sup></b>	<b>\$ 38,316</b>	<b>\$ 28,393</b>	<b>\$ 8,836</b>	<b>\$ 596</b>	<b>\$ 491</b>

1. Represents the undiscounted amounts payable as disclosed below under “Credit and Loan Facilities”.

2. The table excludes the DSU liability of \$1,995 included in our current liabilities which relate to units that are only settled once a director resigns.

**Credit and Loan Facilities**

At June 30, 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, €2.8 million or approximately \$3.1 million was drawn as standby letters of credit and bank guarantees and €nil was drawn as an operating line (December 31, 2018 - €nil). At June 30, 2019, the Company had availability of €4.2 million or \$4.8 million (December 31, 2018 –\$5.5 million) under this facility for use as letters of credit and bank guarantees.

At June 30, 2019, the Company also had a Canadian credit facility of C\$3.0 million, with no expiration date for use only as letters of credit and bank guarantees. At June 30, 2019, C\$0.1 million was drawn as standby letters of credit and bank guarantees. At June 30, 2019, the Company had C\$2.9 million or \$2.2 million (December 31, 2018 – \$1.8 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 June 30, 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 June 30, 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 quarterly repayment date.

## 7 Capital Resources

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

	June 30, 2019	December 31, 2018
Total equity	\$ 24,293	\$ 10,961
Long-term debt (EDC and Province of Ontario)	8,025	8,082
Total	32,318	19,043
Less: Cash and cash equivalents and restricted cash	17,735	8,737
Total capital employed	\$ 14,583	\$ 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 and six months ended June 30, 2019, Hydrogenics made purchases of \$nil and \$0.1 million (2018 – \$nil and \$0.2 million) from this related company. At June 30, 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 and six months ended June 30, 2019, the Company had sales to the joint venture of \$nil and \$0.1 million (2018 – \$nil and \$nil) and at the end of June 30, 2019, the Company had a net receivable of less than \$0.1 million (2018 - \$nil) 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. On adoption of IFRS 16, the Company recognized lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17 Leases. These liabilities were measured at the present value of the remaining lease payments, discounted using the Company's incremental borrowing rate as of January 1, 2019. The weighted average lessee's incremental borrowing rate applied to the lease liabilities on January 1, 2019 was 4.7%. The right-of-use assets were measured at the amount equal to the lease liability adjusted by the amount of previously recognized prepaid lease payments of \$40 relating to these leases. There were no onerous lease contracts that would have required an adjustment to the right-of-use assets at the date of initial application. 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 June 30, 2019	Six months ended
Depreciation expense for right-of-use assets:		
Properties	\$ 157	\$ 307
Equipment	8	15
Automobiles	53	105
Total depreciation expense for right-of-use assets	218	427
Interest expense on lease liabilities	57	101
Expense relating to variable lease payments not included in the measurement of lease	38	76
Expense relating to short-term leases not included in the measurement of lease liabilities	11	51
Expense relating to low-value leases not included in the measurement of lease liabilities	2	3
Total expense	\$ 326	\$ 658

Lease liabilities recognized as follows:

	June 30, 2019	January 1, 2019
Current lease liabilities	\$ 721	\$ 887
Non-current lease liabilities	2,774	2,817
Total lease liabilities	\$ 3,495	\$ 3,704

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

	June 30, 2019	January 1, 2019
Properties	\$ 2,840	\$ 2,964
Equipment	115	129
Automobiles	566	651
Total right-of-use assets	\$ 3,521	\$ 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 June 30, 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 June 30, 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 June 30, 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 June 30, 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 June 30,		Six months ended June 30,	
	2019	2018	2019	2018
Net loss	\$ (4,766)	\$ (4,801)	\$ (7,413)	\$ (6,755)
Loss (gain) from joint ventures	(21)	1,492	(26)	1,561
Finance loss (income), net	(31)	506	580	412
Income tax expense	–	–	–	300
Amortization and depreciation	417	175	797	352
DSUs expense (recovery)	971	(62)	1,433	(388)
Stock-based compensation expense	151	243	387	465
Adjusted EBITDA	\$ (3,279)	\$ (2,447)	\$ (4,242)	\$ (4,053)

### 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 June 30		Six months ended June 30,	
	2019	2018	2019	2018
Selling, general and administrative expenses	\$ 4,476	\$ 3,024	\$ 8,583	\$ 5,860
Research and product development expenses	1,695	1,880	3,504	3,961
Total operating costs	\$ 6,171	\$ 4,904	\$ 12,087	\$ 9,821
Less: Amortization and depreciation	(366)	(89)	(599)	(192)
Less: loss on disposal of assets	(2)	(3)	(4)	(6)
Less: DSUs recovery (expense)	(971)	62	(1,433)	388
Less: Stock-based compensation expense	(151)	(243)	(387)	(465)
Cash operating costs	\$ 4,681	\$ 4,631	\$ 9,664	\$ 9,546

## 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](http://www.sedar.com)) and U.S. securities regulatory authorities ([www.sec.gov/edgar.shtml](http://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.
- If the contemplated sale of the Company is approved by the required majority of shareholders, all shareholders will be required to sell their common shares.
- 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 June 30, 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	20,259	–	–
Issuance of common shares on exercise of stock options	23,912	214	100	1
Issuance of common shares on exercise of restricted share units	8,865	72	–	–
Issuance of common shares on vesting of performance share units	–	–	4,204	96
At June 30,	19,018,191	\$ 408,456	15,441,183	\$ 387,843

At June 30, 2019, there were 823,893 stock options and 178,217 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.

Risks and uncertainties that may cause differences related to the contemplated sale of the Company include but are not limited to: the risk that the sale transaction may not be completed on a timely basis, if at all; the conditions to the consummation of the sale transaction may not be satisfied; the risk that the sale transaction may involve unexpected costs, liabilities or delays; the risk that, prior to the completion of the sale transaction, the company's business may experience significant disruptions, including loss of clients or employees, due to transaction-related uncertainty or other factors; a possibility that legal proceedings may be instituted against the company and or others relating to the sale transaction and the outcome of such proceedings; a possible occurrence of an event, change or other circumstances that could result in termination of the sale transaction; risks related to the diversion of management's attention from the company's ongoing business operations; risks relating to the failure to obtain necessary regulatory approvals; risks related to the company's strategy going forward, risks related to the failure to satisfy the conditions to complete the sale transaction; and other risks inherent in the industry. Failure to obtain the requisite approvals, or the failure of the parties to otherwise satisfy the conditions to or complete the sale transaction, may result in the sale transaction not being completed on the proposed terms, or at all. In addition, if the sale transaction is not completed, and the company continues in its current form, the Announcement of the sale transaction and the dedication of substantial of the company's resources to the completion of the sale transaction could have a material adverse affect on the company's share price, it's current business relationships and on the current and future operations, financial condition and prospects of the company.

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.