

ZINC8 ENERGY SOLUTIONS INC.

Unit 1 – 8765 Ash Street
Vancouver, BC V6P 6T3

MANAGEMENT DISCUSSION AND ANALYSIS FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2020

The following Management’s Discussion and Analysis (“MD&A”), prepared as of August 31, 2020 should be read in conjunction with the unaudited condensed interim financial statements of Zinc8 Energy Solutions Inc. (“Zinc8” or the “Company”) for the three and six months ended June 30, 2020, together with the audited financial statements of the Company for the year ended December 31, 2019 and the accompanying MD&A for that fiscal year. The referenced financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board applicable to the preparation of interim financial statements, including IAS 34 Interim Financial Reporting. All financial amounts are stated in Canadian dollars unless stated otherwise.

Additional information relating to the Company and its operations is available under the Company’s profile on SEDAR at www.sedar.com

FORWARD-LOOKING STATEMENTS

The Company’s condensed interim financial statements for the three and six months ended June 30, 2020, and this accompanying MD&A contain statements that constitute “forward-looking statements” within the meaning of National Instrument 51-102 - *Continuous Disclosure Obligations* of the Canadian Securities Administrators.

It is important to note that, unless otherwise indicated, forward-looking statements in this MD&A describe the Company’s expectations as of August 31, 2020

Certain statements contained in this MD&A may constitute “forward-looking statements”. Such term is defined in applicable securities laws. The forward-looking statements include, without limitation, statements with respect to the success of research and development activities; the Company’s new and existing technology; the Company’s ability to obtain necessary financing; the completion of the Transaction (as defined herein) and the listing of the Company’s shares on the Canadian Securities Exchange; the Company’s ability to meet its obligations as they become due; and other similar statements concerning anticipated future events, conditions or results that are not historical facts. These statements reflect management’s current estimates, beliefs, intentions and expectations; they are not guarantees of future performance. The Company cautions that all forward-looking information is inherently uncertain and that actual performance may be affected by a number of material factors, many of which are beyond the Company’s control. Such factors include, among others, risks relating to research and development; the Company’s intellectual property applications being approved; the Company’s ability to protect its proprietary rights from unauthorized use or disclosure; the ability of the Company to obtain additional financing; the Company’s limited operating history; the need to comply with environmental and governmental regulations; fluctuations in currency exchange rates; operating hazards and risks; competition; and other risks and uncertainties. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Accordingly, actual future events, conditions and results may differ materially from the estimates, beliefs, intentions and expectations expressed or implied in the forward-looking information. All statements are made as of the report date and, except as required by law, the Company is under no obligation to update or alter any forward-looking information.

DESCRIPTION OF BUSINESS

The Company was incorporated on December 8, 2011 pursuant to the BC Business Corporations Act and the Company’s head office is located at #1 – 8765 Ash Street Vancouver, BC V6P 6T3. The Company is executing the development and commercialization of a dependable, low cost zinc-air battery. The Company believes that this mass storage system will offer both environmental and economic benefits.

The Company’s technology has been developed around the utilization of zinc as the anode fuel, which is expected to offer numerous advantages over other forms of metals due to its unique attributes, which include high energy density, abundant availability, low cost, and ease of storage and handling. The regenerative system does not

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require fuel replacement and offers scalable energy capacity through the simple introduction of additional fuel tanks.

On December 19, 2017 there was a change of control event whereby MGX Minerals Inc. ("MGX") acquired all of the outstanding common shares of the Company in exchange for common shares of MGX and cash considerations. On April 3, 2018, MGX announced it would pursue a reorganization, pursuant to which it would spin-out its interests in the Company, resulting in the Company becoming listed as a separate company on the Canadian Securities Exchange ("CSE") (the "Transaction"). On July 15, 2019 the Company filed a Listing Statement outlining the full details of the Transaction. Additional information is also contained in news releases of Zinc8 dated July 9, 2019 and July 22, 2019 available on Sedar.com

HIGHLIGHTS

On February 11, 2020 the Company closed a non-brokered private placement issuing 27,879,513 units at \$0.11 per unit for gross proceeds of \$3,066,746. Each unit consists of one common share and one non-transferrable share purchase warrant. The warrants have a two-year life and an exercise price of \$0.155 during the year first year and \$0.40 for the balance of the term. The Company paid \$186,893 in finders fees and issued 632,887 finders warrants. The Company fair valued the finders warrants at \$128,469 using the Black-Scholes option pricing model based on the following assumptions: risk free rate – 1.90%; expected dividend - nil; expected life – 2 years; expected volatility – 145%.

During the six months ended June 30, 2020 the Company agreed to a settlement of the loan with MGX for \$1,500,000 and repaid \$260,000. As per the terms of the settlement the remainder of the settlement is payable over. The Company recorded a gain on debt settlement of \$3,736,152. Upon completion of the settlement, Jared Lazerson resigned from his position as a Director of Zinc8. Mr. Lazerson agreed to a severance agreement with the Company whereby the Company issued 800,000 units with each unit consisting of one common share and one share purchase warrant. Each warrant is exercisable for 2 years at a price of \$0.50 per warrant and the units were issued on May 5, 2020. The units were fair valued at \$420,881 and recorded as a severance expense.

During the six months ended June 30, 2020 the Company received \$1,109,706 in government grants as a reimbursement of past research and development expenditures. The Company may be eligible for additional grants upon further development of its zinc-air technology.

OVERALL PERFORMANCE

The Company's operations are not currently revenue generating and the Company will need to continue to rely on its ability to obtain the necessary financing through grants and other financings to complete the development of zinc-air flow batteries.

Zinc-Air Technology

The Company's zinc-air technology consists of three major components: the fuel tank where zinc particles and a potassium hydroxide (KOH) electrolyte are stored; the cell stack where the fuel is converted to electrical power; and the regenerator unit where the electrical power is converted back to fuel. In operation, electrical energy from a source is used to convert zinc oxide to zinc metal in the regenerator unit. The zinc "fuel" thus created is stored in the fuel tank until required. When stored energy is to be released, the zinc fuel is pumped into the cell stack where it reacts with atmospheric oxygen to produce electricity.

The Company has commenced development of a scaled-up 20 kW/160-kilowatt hour ("kWh") system for use in utility-scale battery storage. The 20kW/160kWh modules represent a four-times increase in both energy and power as compared to its current 5kW systems. The 20kW system is expected to retain all attributes of the Company's existing 5kW systems, while providing additional benefits, including lower costs and higher energy density along with adaptability for new applications beyond mass energy storage. The containerized system may be easily scaled to megawatt storage and output capacities. To date, Zinc8 has been awarded 20 patents covering its mass storage technology.

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The Company has started production of carbon-based cathodes for its initial mass storage battery systems. Each 5kW system fuel cell stack utilizes 50 cathodes and the Company currently has produced 300 cathodes.

DISCUSSION OF OPERATIONS

Three months ended June 30, 2020

The Company recorded net loss of \$2,316,114 (\$0.03 per share) for the three months ended June 30, 2020 as compared to a loss of \$1,199,615 (\$0.04 per share) for the three months ended June 30, 2019.

The change is due to the following:

- Interest expense of \$317 (2019 - \$152,303) decreased as the Company settled the promissory note with MGX during the period ended June 30, 2020.
- Marketing expense decrease to \$221,915 from \$334,246 as the Company completed the Transaction in the period ended June 30, 2019 and has engaged consultants to help increase the Company's visibility.
- The Company incurred management fees of \$116,000 (2019 - \$78,000) related to compensation to the CEO, CFO and Directors of the Company.
- Research and development increased to \$1,271,327 (2019 - \$474,221) as the Company was able to raise funds to further advance development of zinc-air battery technology.
- During the three months ended June 30, 2020 the Company recorded a severance expense of \$420,881 related to the settlement with Jared Lazerson.

Six months ended June 30, 2020

The Company recorded net income of \$340,913 (\$0.00 per share) for the six months ended June 30, 2020 as compared to a loss of \$2,104,998 (\$0.07 per share) for the six months ended June 30, 2019.

The change is due to the following:

- The Company recorded interest expense of \$63,426 (2019 - \$282,198) related to the promissory note from MGX. Interest was lower in the current period as the Company settled the amount owing.
- The Company incurred \$58,460 (2019 - \$14,482) of filing and listing fees associated with being listed on the Exchange.
- The Company incurred share-based compensation expense of \$963,547 (2019 - \$nil) related to the grant of stock options.
- Research and development increased to \$1,797,053 (2019 - \$998,648) as the Company was able to raise funds to further advance development of zinc-air battery technology.
- During the six months ended June 30, 2020 the Company recorded a gain on debt settlement of \$3,736,152 related to the settlement of the MGX Loan.
- During the six months ended June 30, 2020 the Company recorded a severance expense of \$420,881 related to the settlement with Jared Lazerson.

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RESEARCH AND DEVELOPMENT

In order to execute the Company's business strategy, Zinc8 focusses heavily on research and development. During the six months ended June 30, 2020 the Company incurred \$1,797,053 (2019 - \$998,648) of research and development expense. A breakdown of research and development expenditures during the six months ended June 30, 2020 and 2019 is as follows:

	June 30, 2020	June 30, 2019
	\$	\$
Materials	527,731	107,622
Operations	348,468	33,432
Personnel	918,378	842,506
Testing	2,476	15,088
	1,797,053	998,648

SUMMARY OF QUARTERLY RESULTS

The following table sets out financial information for the past eight quarters:

	Three Months Ended (\$)			
	June 30, 2020	March 31, 2020	December 31, 2019	September 30, 2019
Net and comprehensive income (loss)	(2,316,114)	2,657,027	(1,051,158)	(1,990,714)
Basic and diluted loss per share*	(0.03)	0.04	(0.02)	(0.05)
Total assets	6,425,973	8,092,779	5,594,352	5,780,848
Working capital (deficit)	(1,083,498)	699,915	(6,018,775)	21,550

	Three Months Ended (\$)			
	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018
Net and comprehensive income	(1,199,615)	(905,383)	(756,084)	(831,724)
Basic and diluted loss per share*	(0.04)	(0.02)	(0.04)	(0.06)
Total assets	6,135,264	5,258,462	5,220,115	5,242,768
Working capital	419,554	(234,884)	(189,348)	(31,301)

* No exercise or conversion is assumed during the periods in which a loss is incurred, as the effect is anti-dilutive.

The increase in loss during the quarters ended June 30, 2018 and March 31, 2018 are due to a decrease in funding for research and development.

The income during the quarter ended March 31, 2020 is due to a gain on debt settlement of \$3,736,152. The loss for the quarter ended June 30, 2020 includes a \$420,881 severance expense related to the settlement with Jared Lazerson.

OUTSTANDING SHARE DATA

The Company has authorized unlimited common shares without par value.

All share information is reported as of August 31, 2020, in the following table:

Type of Security	Number
Issued and outstanding common shares	81,269,790
Stock options with a weighted average exercise price of \$0.25	7,675,951
Warrants with a weighted average exercise price of \$0.17	36,536,481
Total	125,282,222

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TRANSACTIONS BETWEEN RELATED PARTIES

Compensation paid to key management during the three and six months ended June 30, 2020 and 2019 was as follows:

	Three months ended June 30		Six months ended June 30	
	2020 \$	2019 \$	2020 \$	2019 \$
Management fees	116,000	78,000	212,000	78,000
Payroll expense	33,000	33,000	66,000	66,000
Share-based compensation	-	-	491,031	-
	149,000	111,000	769,031	144,000

¹Includes fees paid to CFO Michael Reimann, and current CEO Ron MacDonald

²Includes fees paid to VP of Engineering John McLeod

Key management includes the CFO, CEO, VP of Engineering and the Board of Directors. All related party transactions are in the normal course of operations and have been measured at the agreed to amounts, which is the amount of consideration established and agreed to by the related parties.

During the year ended December 31, 2018 the Company received \$2,376,744 (2017 - \$nil) in loans from MGX. On June 30, 2018 the Company entered into a promissory note agreement with MGX in the amount of \$2,952,222 (the "Promissory Note"). The Promissory Note replaced the existing loans payable that were owing to MGX. The Promissory Note bears interest at 12%, is unsecured and due on December 31, 2020. Additional loans received from MGX subsequent to the Promissory Note have the same terms as the Promissory Note.

	\$
Balance, December 31, 2018	4,104,558
Additions	739,038
Repayments	(251,499)
Interest	582,591
Balance, December 31, 2019	5,174,688
Interest	61,464
Gain on debt settlement	(3,736,152)
Repayment	(260,000)
Balance, June 30, 2020	1,240,000

On March 11, 2020 the Company settled its debt with MGX Minerals for \$1,500,000 and recorded a gain on debt settlement of \$3,736,152. During the six months ended June 30, 2020 the Company repaid \$260,000 and subsequent to June 30, 2020 the Company repaid an additional \$620,000.

As part of the debt settlement, Jared Lazerson, a former director of the Company, agreed to resign from his board position. Mr. Lazerson agreed to a severance agreement with the Company whereby the Company issued 800,000 units at a deemed price of \$0.38, with each unit consisting of one common share and one share purchase warrant. Each warrant is exercisable for 2 years at a price of \$0.50 per warrant. The units were fair valued at \$420,881 and recorded as a severance expense.

LIQUIDITY AND CAPITAL RESOURCES

As at June 30, 2020 the Company had a working capital deficit of \$1,083,498 (December 31, 2019 – working capital deficit \$6,018,775), has not generated any revenue from operations and has an accumulated deficit of \$15,438,792 (December 31, 2019 - \$15,779,705).

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To date the Company has been funded through government grants and shareholder funding for research and development. As at June 30, 2020 the Company had sufficient funds to cover working capital expenditures for the next 12 months. However, the Company will need additional funding to continue the development of its zinc-air technology. In order to execute the Company's business strategy the Company will need to continue capital development through research and development. The Company expects to fund its future capital requirements through additional government grants and shareholder funding. The circumstances that could affect such sources of financing include those set out under "Risk Factors" in the accompanying Circular. See also the "Financial Instruments" section of this MD&A.

FINANCING ACTIVITIES AND CAPITAL EXPENDITURES

On February 11, 2020 the Company closed a non-brokered private placement issuing 27,879,513 units at \$0.11 per unit for gross proceeds of \$3,066,746. Each unit consists of one common share and one non-transferrable share purchase warrant. The warrants have a two-year life and an exercise price of \$0.155 during the year first year and \$0.40 for the balance of the term. The Company paid \$186,893 in finders fees and issued 632,887 finders warrants. The Company fair valued the finders warrants at \$128,469 using the Black-Scholes option pricing model based on the following assumptions: risk free rate – 1.90%; expected dividend - nil; expected life – 2 years; expected volatility – 145%.

The Company repaid \$260,000 of the promissory note due to MGX and \$173,671 of advances payable.

During the six months ended June 30, 2020 the Company incurred \$58,595 of capital expenditures related to the purchase of equipment (2019 - \$nil).

OFF-BALANCE SHEET ARRANGEMENTS

The Company does not utilize off-balance sheet transactions.

PROPOSED TRANSACTIONS

The Company has no proposed transactions that will materially affect the performance of the Company.

ACCOUNTING POLICIES

The Company uses the same accounting policies and methods of computation as in the annual financial statements for the year ended December 31, 2019.

FINANCIAL INSTRUMENTS

Fair Values

The Company has classified fair value measurements of its financial instruments using a fair value hierarchy that reflects the significance of inputs used in making the measurements as follows:

- Level 1: Valuation based on quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: Valuation based on directly or indirectly observable inputs in active markets for similar assets or liabilities, other than Level 1 prices, such as quoted interest or currency exchange rates; and
- Level 3: Valuation based on significant inputs that are not derived from observable market data, such as discounted cash flow methodologies based on internal cash flow forecasts.

As at June 30, 2020, the fair values of financial instruments measured on a recurring basis include cash, determined based on Level 1 inputs and consisting of quoted prices in active markets for identical assets. The fair values of other financial instruments, which include accounts payable and accrued liabilities, loans payable, approximate their carrying values due to the relatively short-term maturity of these instruments.

Liquidity Risk

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Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company currently settles its financial obligations out of cash. The ability to do this relies on the Company raising equity financing in a timely manner and by maintaining sufficient cash in excess of anticipated needs. As at June 30, 2020 the Company had a working capital deficit of \$1,083,498 (December 31, 2019 – working capital deficit \$6,018,775).

Credit Risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Company's cash is largely held in large Canadian financial institutions. The Company does not have any asset-backed commercial paper. The Company's receivables consist of GST receivable due from the Federal Government of Canada. The Company has not experienced any significant credit losses and believes it is not exposed to any significant credit risk.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Financial assets and liabilities with variable interest rates expose the Company to cash flow interest rate risk. The Company does not hold any financial liabilities with variable interest rates. The Company does maintain bank accounts which earn interest at variable rates but it does not believe it is currently subject to any significant interest rate risk.

Foreign Currency Exchange Rate Risk

The Company's functional and reporting currency is the Canadian dollar and major purchases are transacted in Canadian dollars. As a result, the Company's exposure to foreign currency risk is minimal.

RISKS AND UNCERTAINTIES

Risk is inherent in all business activities and cannot be entirely eliminated. The Company's goal is to mitigate the risks arising from business activities, the markets and political environments in order to sustain and develop the Company's operations. The risks and uncertainties described in the accompanying Circular under "*Risk Factors*" are considered by management to be the most important in the context of the Company's business. Such risks and uncertainties are not inclusive of all risks and uncertainties the Company may be subject to and other risks may apply.

FINANCIAL AND DISCLOSURE CONTROLS AND PROCEDURES

In connection with National Instrument 52-109 (Certification of Disclosure in Issuer's Annual and Interim Filings) ("NI 52-109"), the Chief Executive Officer and Chief Financial Officer of the Company have filed a Venture Issuer Basic Certificate with respect to the financial information contained in the condensed interim financial statements for the three and six months ended June 30, 2020, and this accompanying MD&A (together the "Interim Filings").

In contrast to the full certificate under NI 52-109, the Venture Issuer Basic Certificate does not include representations relating to the establishment and maintenance of disclosure controls and procedures and internal control over financial reporting, as defined in NI 52-109. For further information the reader should refer to the Venture Issuer Basic Certificates filed by the Company with the Interim Filings on SEDAR at www.sedar.com.