

**HYDROGRAPH CLEAN POWER INC.**  
**Management Discussion and Analysis**  
**For the three months ended December 31, 2021**

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**DISCLAIMER FOR FORWARD-LOOKING INFORMATION**

Certain statements in this report are forward-looking statements, which reflect our management's expectations regarding our future growth, results of operations, performance and business prospects and opportunities. Forward-looking statements consist of statements that are not purely historical, including any statements regarding beliefs, plans, expectations or intentions regarding the future. Such statements are subject to risks and uncertainties that may cause actual results, performance or developments to differ materially from those contained in the statements. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits we will obtain from them. These forward-looking statements reflect management's current views and are based on certain assumptions and speak only as of December 31, 2021. These assumptions, which include, management's current expectations, estimates and assumptions about the global economic environment may prove to be incorrect. A number of risks and uncertainties could cause our actual results to differ materially from those expressed or implied by the forward-looking statements, including: (1) a downturn in general economic conditions, (2) inability to locate and identify potential business acquisitions, (3) potential negative financial impact from regulatory investigations, claims, lawsuits and other legal proceedings and challenges, and (4) other factors beyond our control. There is a significant risk that such forward-looking statements will not prove to be accurate. Investors are cautioned not to place undue reliance on these forward-looking statements. Unless otherwise required by applicable securities laws, the Issuer disclaims any obligation to update any forward-looking statements, whether as a result of new events, circumstances and information, future events or results or otherwise. Additional information about these and other assumptions, risks and uncertainties are set out in the section entitled "Risk Factors" below.

**1.1 – Date and Basis of Discussion & Analysis**

This management discussion and analysis ("MD&A") is dated as of February 28, 2022 and should be read in conjunction with the unaudited consolidated financial statements of HydroGraph Clean Power Inc. for the interim three month period ended December 31, 2021 ("Financial Statements"). The Financial Statements are prepared in compliance with International Financial Reporting Standard 34, Interim Financial Reporting ("IAS 34"). Accordingly, certain information and footnote disclosure normally included in annual consolidated financial statements prepared in accordance with International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board ("IASB"), have been omitted or condensed. Unless expressly stated otherwise, all financial information is presented in United States dollars.

**1.2 – Overall Performance**

**Nature of Business**

HydroGraph Clean Power Inc. (the "Company" or "HydroGraph") was incorporated under the Laws of the Province of British Columbia on September 26, 2017 as Carbon-2D Graphene Enterprises Inc. On July 4, 2017, the Company altered its name to Carbon-2D Graphene Inc. On March 3, 2021, the Company changed its name to HydroGraph Clean Power Inc. The address of the Company's corporate office, principal place of business is 430-580 Hornby Street, Vancouver, British Columbia, Canada, and Company's registered and records office address is 704-595 Howe Street, Vancouver, British Columbia, Canada. As of December 31, 2021, the Company's principal business activity was the research, development, marketing and commercialization of patented technology to produce graphene, hydrogen, syngas, methane and other products and business opportunities.

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**1.2 – Overall Performance (continued)**

**Nature of Business (continued)**

At December 31, 2021, the Company had not yet achieved profitable operations, had accumulated a deficit of \$2,395,860 (September 30, 2021 – \$1,905,525) and had working capital of \$3,639,082 (2020 – deficiency of \$242,028), consisting primarily of cash less accrued liabilities. The Company expects to incur further development costs and operating losses in the development of its business. However, it is expected that these funds are sufficient to complete its business as discussed in “Financing” below. The Company’s ability to continue as a going concern is dependent upon its ability to generate future profitable operations and to identify, evaluate and negotiate potential business acquisitions or participation agreements.

**Description of Business**

The Company is engaged in developing and commercializing processes to manufacture Hydrogen and high-quality Graphene in bulk, and to create customized Graphene solutions for specific applications using detonation of hydrocarbon gases. The proprietary detonation method used by the Company to produce Graphene was discovered by Kansas State University (“KSU”) and patented in 2016. Acetylene and Oxygen in specific ratios are pumped into a chamber and detonated with a spark from electrodes to create quality Graphene in gram amounts. The detonated Graphene is synthetic Graphene produced via the KSU method (bottom-up approach), as opposed to conventional exfoliation of naturally occurring Graphite (top-down approach) to produce Graphene.

It was subsequently discovered that syngas could be produced from the same process. Methane and Oxygen are mixed in specific ratios in a pre-mix device and then pumped into a natural gas internal combustion engine and detonated by sparks from a sparkplug to produce syngas. Through a secondary process called membrane separation, pure Hydrogen is extracted. The KSU methods to produce Hydrogen and Graphene are similar, starting with different feedstocks, albeit both hydrocarbon gases, yet ending up with completely different end products. The Company has received an exclusive worldwide license from KSU to commercialize their patented detonation process to produce Hydrogen gas and Graphene (See the “License Agreement”).

**License Agreement with Kansas State University Research Foundation**

Overview: Effective July 15, 2021, the Company entered into a license agreement with KSURF (the “License Agreement”). Under the terms of the License Agreement, the Company obtained a worldwide exclusive license to utilize and exploit, including the right to sublicense the detonation technology subject to a reservation by Kansas State University for research and education purposes and US Government statutory reservations. The Company continues to do development work at Kansas State University under a Memorandum of Agreement dated June 1, 2021.

**Description of Business (continued)**

**Business Development**

During the three years ended September 30, 2021, the Company’s activities have focused on funding, work at Kansas State University to develop processes to manufacture Hydrogen and quality Graphene, and to create customized Graphene solutions for specific applications.

As at December 31, 2021, the Company had expended a total of \$2,608,493 to develop its technology. The development work has resulted in the building of a prototype production line for graphene in a dedicated lab at KSU and confirmation that the technology with membrane separation is suitable for hydrogen production. The graphene prototype production line is capable of producing up to 5 kg of Graphene per day and is operated on an as needed basis. To date the Company has sold 6 kgs of Graphene products for revenues \$8,000 including 4 kgs to Bazalt and 2 kgs to Hawkeye (bio sensor company). These preliminary sales were made to supply the potential customers with sufficient quantity of the Company’s product to test for their intended uses. There is no assurance the Company will receive additional orders from these customers may not occur. The customers are both arm’s length to the Company.

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**Financing**

On December 2, 2021, the Company converted 26,020,000 subscription receipts into units at a price of \$0.20 per unit. Each unit is comprised of one common share and common share purchase warrant. Each warrant will entitle the holder thereof to purchase one common share at a price of \$0.60 per common share.

**Commitments**

On July 15, 2021, the Company executed the License Agreement with Kansas State University Research Foundation ("KSURF"). The principal terms of the License Agreement are as follows:

- (i) the Company has license to technology developed including Hydrogen and Graphene detonation technology and certain applications of Graphene technology (the "Technology"),
- (ii) the Company will re-imburse KSURF \$111,694 third party patent related expenditures within 60 days,
- (iii) The Company will pay an initiation fee of \$25,000 within 60 days,
- (iv) The Company will pay annual maintenance fees of:
  - i. \$10,000 per active patent application for calendar years 2022 to 2024
  - ii. \$25,000 per active patent application for calendar years 2025
  - iii. \$35,000 per active patent application for calendar years 2026
  - iv. \$50,000 per active patent application for calendar years 2027 and subsequent years
- (v) the Company will pay a royalty of 4% of net sales by the Company or its affiliates (reduced to 3.5% if royalties are paid to third parties to achieve sales),
- (vi) the Company will pay 20% of any non-royalty payments received by the Company from sub-licensed products.
- (vii) the Company may purchase the 4% running royalty on the hydrogen patent for \$16,000,000 in four increments, commencing in 2022, and
- (viii) the Company may purchase the 4% running royalty on all the other patents for \$12,000,000 in four increments, commencing in 2022.

**1.4 – Results of Operations**

Operations during the three months ended December 31, 2021, were primarily related to research, development, marketing and commercialization of patented technology to produce graphene, hydrogen, syngas, methane and other products and business opportunities as described above. There were no investor relations arrangements entered during the three months ended December 31, 2021. There were no legal proceedings, contingent liabilities, and defaults under debt or other contractual obligations, breach of any laws or special resolutions during the three months ended December 31, 2021.

During the three-month period ended December 31, 2021, the Company had a net loss of \$490,435 (2020 – \$105,281), comprised of operating expenses. Operating expenses consisted consulting fees of \$160,596 (2020 – \$53,268), professional fees of \$81,058 (2020 – \$nil), travel and promotion \$54,004 (2020 – \$1,679), research of \$48,990 (2020 – \$nil), office and miscellaneous of \$32,144 (2020 – \$622), rent and occupancy of \$14,266 (2020 – \$nil), exchange fees of \$8,034 (2020 – \$nil), license maintenance fees of \$5,927 (2020 – \$2,500), transfer agent fees of \$1,332 (2020 – \$nil), stock-based compensation of \$nil (2020 – \$39,000), foreign exchange loss of \$47,743 (2020 – \$nil), lease accretion costs of \$6,997 (2020 – \$151), finance costs of \$588 (2020 – \$777), and depreciation of \$28,756 (2020 – \$7,284). Consulting fees were higher in 2021 due to increased activities and personnel. Professional fees were higher in 2021 related to the preparation of prospectus documents. Office expenses and travel and promotion were higher in 2021 related to website development and branding exercises. Research related to external product testing in 2021. Rent was higher in 2021 due to the office premises lease expiring and converting to a month-to-month obligation, and no longer being subject to IFRS 16. Foreign exchange loss in 2021 was related to the effect of the US dollar on the subscription receipts issued during the period. The remaining costs were generally consistent with the prior period.

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**1.5 – Summary of Quarterly Results (Unaudited)**

| As at   | 31-Dec-21        | 30-Sep-21        | 30-Jun-21        | 31-Mar-21        | 31-Dec-20        | 30-Sep-20        | 30-Jun-20        | 31-Mar-20        |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|   | \$               | \$               | \$               | \$               | \$               | \$               | \$               | \$               |
| Current Assets  | 4,002,671        | 5,460,831        | 5,553,927        | 937,645          | 153,191          | 48,221           | 48,492           | 51,787           |
| Right-of use<br>Asset   | 330,491          | 345,289          | -                | -                | 4,856            | 12,140           | 19,424           | 26,708           |
| Fixed Assets,<br>net  | 291,008          | 123,124          | -                | -                | -                | -                | -                | -                |
| License   | 2,608,493        | 2,344,701        | 2,192,670        | 1,592,670        | 1,550,170        | 1,167,670        | 1,167,670        | 1,167,670        |
| <b>Total Assets</b>   | <b>7,232,663</b> | <b>8,273,945</b> | <b>7,746,597</b> | <b>2,530,315</b> | <b>1,708,217</b> | <b>1,228,031</b> | <b>1,235,586</b> | <b>1,246,165</b> |
| Current<br>Liabilities  | 363,589          | 5,672,859        | 5,384,200        | 186,078          | 181,442          | 152,526          | 308,805          | 301,300          |
| CEBA Loan   | 20,011           | 19,423           | 18,852           | 18,298           | 17,761           | 17,239           | -                | -                |
| Lease Liability   | 304,715          | 298,823          | -                | -                | -                | -                | -                | -                |
| Shareholders'<br>Equity   | 8,940,208        | 4,158,265        | 3,453,265        | 2,962,765        | 2,010,729        | 1,454,700        | 1,301,200        | 1,301,200        |
| Deficit   | (2,395,860)      | (1,875,425)      | (1,109,720)      | (636,826)        | (501,715)        | (396,434)        | (374,419)        | (356,335)        |
| Total Liabilities<br>and<br>Shareholders'<br>Equity                 | 7,232,663        | 8,273,945        | 7,746,597        | 2,530,315        | 1,708,217        | 1,228,031        | 1,235,586        | 1,246,165        |
| <b>Quarters ended</b>   | <b>31-Dec-21</b> | <b>30-Sep-21</b> | <b>30-Jun-21</b> | <b>31-Mar-21</b> | <b>31-Dec-20</b> | <b>30-Sep-20</b> | <b>30-Jun-20</b> | <b>31-Mar-20</b> |
| Revenue   | -                | -                | 7,980            | -                | -                | -                | -                | -                |
| Operating<br>Expenses   | 490,435          | 765,704          | 480,875          | 135,110          | 105,281          | 22,016           | 18,083           | 54,450           |
| Loss and<br>Comprehensive<br>Loss for Period                        | 490,435          | 765,704          | 472,895          | 135,110          | 105,281          | 22,016           | 18,083           | 54,450           |
| Basic and<br>diluted loss per<br>share                              | (0.01)           | (0.02)           | (0.01)           | (0.00)*          | (0.00)*          | (0.00)*          | (0.00)*          | (0.00)*          |
| Weighted<br>average<br>number of<br>common<br>shares<br>outstanding | 95,583,234       | 83,687,513       | 83,687,513       | 66,025,043       | 54,731,792       | 53,261,339       | 50,427,100       | 46,517,210       |

\* Denotes a loss of less than \$0.01 per share.

As described in the description of business above, the Company entered into a technology license letter of intent with Kansas State University in 2017. During the quarters ended September 30, 2021, the Company continued to invest the majority of capital raised into development of the KSU technology license. During the quarter ended December 31, 2021, the Company began development of a production facility in Kansas. The Company raised equity in the quarters ended December 31, 2020, March 31, 2021 and June 30, 2021 as detailed above, resulting in an increase in the cash balance.

During the quarter ended June 30, 2021, the Company received \$5,250,386 subscription receipts to acquire units at a price of \$0.20 per unit, as described in 1.2 Financing above.

The right-of-use asset relates to the leased production facilities and office premises. The lease began on August 1, 2021.

Current liabilities are comprised primarily of accrued liabilities. Management had accrued fees in order to have more cash available for the KSU license development. During the quarter ended September 30, 2019, there was a success fee of \$300,000 due to KSU, which was paid in full during the quarter ended September 30, 2020.

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**1.5 – Summary of Quarterly Results (Unaudited) (continued)**

Operating expenses increased during the final three quarters primarily related to preparation and filing of the prospectus and advertising costs. Operating expenses were generally consistent over the prior six quarters.

**1.6 – Liquidity and Capital Resources**

The Company is developing its licensed technology and new business opportunities and therefore has incurred losses and negative cash flows from operations. The Company's sole source of funding has been the issuance of common shares for cash, through private placement. The Company's ability to raise cash depends on various capital market conditions. There is no assurance that the Company will be able to obtain any additional financing on terms acceptable to the Company. The quantity of funds to be raised and the terms of any equity financing that may be undertaken will be negotiated by management as opportunities to raise funds arise. Actual funding requirements may vary from those planned due to a number of factors, including developing new business opportunities.

There can be no certainty that the Company's existing cash balances or that the proceeds from the issuance of its common shares will provide sufficient funds for all of the Company's cash requirements. Should the need arise, the Company may pursue other financing options or rely on joint venture partners to supply some of funds required to develop any opportunities. There is no assurance that the Company will be successful in obtaining the funds it may require to sustain operations or that the terms of any financing obtained will be acceptable.

The Company's business premises are currently located at #430-580 Hornby Street, Vancouver, British Columbia. As at December 31, 2021, the Company had cash and cash equivalents on hand of \$3,930,838 (September 30, 2021 – \$5,423,791).

During the three months ended December 31, 2021, cash used in operating activities was \$621,709 (2020 – \$22,396), cash used in investing activities was \$431,676 (2020 – \$62,500), cash used in financing activities was \$391,826 (2020 – provided by \$189,351). The increase in cash used in operating activities is primarily related to the increase in operating loss less increased accounts payable. The increase in operating loss is described in 1.4 Results of Operations above. The cash used in investing activities in 2021 is primarily related to Phase 3 development costs and Phase 2 success fees. The cash provided by financing activities is primarily related to proceeds received from subscription receipts as described above and subscriptions for private placements to fund operations and development of the licensed technology. The financing activities are negative in 2021 due to share issue costs on the conversion of the subscription receipts.

Shareholder's equity as at December 31, 2021, was \$6,544,348 (September 30, 2021 – \$2,252,840). The Company will need to raise additional capital to maintain technology development activities and operations at the current level. Although the Company has been successful in the past in raising the necessary funding to continue operations, there can be no certainty it will be able to do so in the future.

**1.7 – Off Balance Sheet Arrangements**

As at December 31, 2021, there were no off-balance sheet arrangements to which the Company was committed.

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**1.8 – Transactions with Related Parties**

The Company had the following balances and transactions with executive officers or companies controlled by these officers for the three months ended September 30, 2021:

| Transactions:  | December 31, 2021        | December 31, 2020         |
|--|--------------------------|---------------------------|
| Salaries to Harold Davidson                          | \$ 33,985                | \$ nil                    |
| Fees to Harold Davidson                              | \$ nil                   | \$ 7,500                  |
| Fees to H. Barry Hemsworth                           | \$ 3,000                 | \$ 3,000                  |
| Fees to Kjirstin Breure                              | \$ 23,994                | \$ 3,763                  |
| Fees to Ranjith Divigalpitiya                        | \$ 27,662                | \$ nil                    |
| Fees to Amteck Financial Corp. <sup>(2)</sup>        | \$ 12,000                | \$ nil                    |
| Fees to OnBase DB Systems Inc. <sup>(1)</sup>        | \$ nil                   | \$ 1,505                  |
| Rent to Capricorn Investments Ltd. <sup>(3)</sup>    | \$ 8,594                 | \$ nil                    |
| Legal fees to O'Neill Law LLP <sup>(4)</sup>         | \$ nil                   | \$ 3,956                  |
| Stock-based compensation to Steven O'Neill           | \$ nil                   | \$ 31,200                 |
| Stock-based compensation to Kjirstin Breure          | \$ nil                   | \$ 7,200                  |
| <b>Balances:</b>                                     | <b>December 31, 2021</b> | <b>September 30, 2021</b> |
| Accounts Payable: Harold Davidson                    | \$ 27,154                | \$ 7,893                  |
| Accounts Payable: Kjirstin Breure                    | \$ nil                   | \$ 1,768                  |
| Accounts Payable: SP2 Consulting Inc. <sup>(5)</sup> | \$ nil                   | \$ 10,421                 |
| Accounts Payable: H. Barry Hemsworth                 | \$ 2,133                 | \$ nil                    |
| Accounts Payable: Amteck Financial Corp.             | \$ 29,400                | \$ 16,800                 |

(1) Harold Davidson and H. Barry Hemsworth are directors of OnBase DB Systems Inc.

(2) Amteck Financial Corp. is a company controlled by Logan Anderson

(3) Capricorn Investments Ltd. is a company controlled by H. Barry Hemsworth

(4) Steven O'Neill is a partner in O'Neill Law LLP

(5) SP2 Consulting Inc. is a company controlled by Ranjith Divigalpitiya

**1.9 – Proposed Transactions - NA**

**2.1 – Critical Accounting Estimates**

The Company has outlined the basis of its critical accounting estimates in Note 3 of the September 30, 2021 Financial Statements.

**2.2 – Changes in Accounting Policies – International Financial Reporting Standards (“IFRS”)**

**Change in Accounting Policies**

**Future Changes in Accounting Policies**

New accounting standards issued but not yet effective:

Certain new standards, interpretations and amendments to existing standards have been issued by the IASB that are mandatory for future accounting periods. Some updates that are not applicable or are not consequential to the Company may have been excluded from the list below.

The Company has initially assessed that there will be no material reporting changes as a result of adopting the new standards, however, there may be enhanced disclosure requirements.

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**2.3 – Financial Instruments and Other Instruments**

The Company's financial instruments include cash, accounts receivable, accounts payable and accrued liabilities, CEBA loan and lease liability. The risks associated with these financial instruments and the policies on how to mitigate these risks are set out below. Management manages and monitors these exposures to ensure appropriate measures are implemented on a timely and effective manner.

(i) *Currency risk*

The Company's expenses are denominated in United States Dollars. The Company's corporate office is based in Canada and current exposure to exchange rate fluctuations is minimal. At December 31, 2021, with other variables unchanged, a 1% movement in the US dollar against the Canadian dollar would have an estimated \$39,000 impact on the net loss and comprehensive loss.

(ii) *Interest rate risk*

The Company is exposed to interest rate risk on the variable rate of interest earned on bank deposits. The fair value interest rate risk on bank deposits is insignificant as the deposits are short-term. The Company has not entered into any derivative instruments to manage interest rate fluctuations.

(iii) *Credit risk*

Financial instruments that potentially subject the Company to concentrations of credit risks consist principally of cash and GST receivable. To minimize the credit risk on cash, the Company places the instrument with a financial institution.

(iv) *Liquidity risk*

In the management of liquidity risk, the Company maintains a balance between continuity of funding and development activity. Management closely monitors the liquidity position and expects to have adequate sources of funding to finance the Company's projects and operations.

**2.4 – Other MD&A Requirements**

**Share Capital**

The authorized share capital consists of an unlimited number of common shares without par value.

The total number of common shares issued and outstanding as at December 31, 2021 and February 28, 2022 is 119,535,892.

As at December 31, 2021 and February 28, 2022, the Company has 84,918,847 escrowed shares. These escrowed shares are subject to escrow trading restrictions pursuant to the Escrow agreement and are released as follows: 5,072,045 on December 2, 2021, 7,854,090 on March 2, 2022, 17,425,679 on June 2, 2022, 15,708,178 September 2, 2022, 17,425,679 December 2, 2022, 19,635,223 March 2, 2023, 1,717,500 June 2, 2023, 1,717,500 December 2, 2023, 1,717,500 June 2, 2024 and 1,717,500 December 2, 2024.

**Warrants and Options**

As at December 31, 2021 and February 28, 2022, there are no incentive warrants outstanding.

As at December 31, 2021 and February 28, 2022, there were 1,492,750 broker warrants outstanding all with an exercise price of \$0.05 and a weighted average term to expiry of 1.92 years.

As at December 31, 2021 and at February 28, 2022, there were 29,545,000 share purchase warrants outstanding with an exercise price of \$0.60 and a weighted average term to expiry of 1.92 years.

As at December 31, 2021 there were 13,050,000 stock options outstanding and at February 28, 2022 there were 11,550,000 stock options outstanding with an exercise price of \$0.20 and a weighted average term to expiry of 4.47 years.

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**RISK FACTORS AND UNCERTAINTIES**

The Company is pursuing the opportunity to exploit patented technology to produce graphene, hydrogen, syngas, methane and other products and business opportunities. Due to the nature of the Company's business and the present stage of its activities, many risk factors will apply. The risks described below are not the only ones facing the Company. Additional risks not presently known to the Company may also impair the business operations.

An investment in the Company is speculative and involves a high degree of risk. Accordingly, prospective investors should carefully consider the specific risk factors set out below, in addition to the other information contained in this document, before making any decision to invest in the Company. The Directors consider the following risks and other factors to be the most significant for potential investors in the Company, but the risks listed do not necessarily comprise all those associated with an investment in the Company and are not set out in any particular order of priority. Additional risks and uncertainties not currently known to the Directors may also have an adverse effect on the Company's business.

If any of the following risks actually occur, the Company's business, financial condition, capital resources, results or future operations could be materially adversely affected. In such a case, the price of the Common Shares could decline, and investors may lose all or part of their investment.

**How risk is related to return**

Generally, there is a strong relationship between the amount of risk associated with a particular investment, and that investment's long-term potential to increase in value.

Investments that have a lower risk also tend to have lower returns because factors that can affect the value of the investment, the risks, are well known or are well controlled and have already been worked into the price of the investment. On the other hand, investments that could have potentially higher returns if conditions for success are favourable also risk generating equally higher losses if conditions become unfavourable. This is because the factors affecting the value of such investments are unknown or difficult to control.

**Dilution**

The financial risk of the Company's future activities will be borne to a significant degree by purchasers of the Common Shares. If the Company issues Common Shares from its treasury for financing purposes, control of the Company may change, and purchasers may suffer additional dilution.

**No Market for Securities**

There is currently no market through which any of the Common Shares, may be sold and there is no assurance that such securities of the Company will be listed for trading on a stock exchange, or if listed, will provide a liquid market for such securities. Until the Common Shares are listed on a stock exchange, holders of the Common Shares may not be able to sell their Common Shares. Even if a listing is obtained, there can be no assurance that an active public market for the Common Shares will develop or be sustained after Listing. The offering price determined by the Company was based upon several factors and may bear no relationship to the price that will prevail in the public market. The holding of Common Shares involves a high degree of risk and should be undertaken only by investors whose financial resources are sufficient to enable them to assume such risks and who have no need for immediate liquidity in their investment. Common Shares should not be purchased by persons who cannot afford the possibility of the loss of their entire investment.

**Negative Cash Flow from Operating Activities**

The Company's activities have been focused on developing its technology and accordingly cash flow is negative, and the Company has been required to raise funds through equity financings.



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**RISK FACTORS AND UNCERTAINTIES** (continued)

**Current Market Volatility**

The securities markets in the United States and Canada have recently experienced a high level of price and volume volatility, and the market prices of securities of many companies have experienced wide fluctuations in price which have not necessarily been related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that continual fluctuations in price will not occur. It may be anticipated that any market for the Common Shares will be subject to market trends generally, notwithstanding any potential success of the Company. The value of the Common Shares distributed hereunder will be affected by such volatility.

**Personnel**

The Company has a small management team and the loss of any key individual could affect the Company's business. Additionally, the Company will be required to secure other personnel to facilitate its development plans. Any inability to secure and/or retain appropriate personnel may have a materially adverse impact on the business and operations of the Company.

**Tax Issues**

Income tax consequences in relation to the securities offered will vary according to the circumstances of each purchaser. Prospective purchasers should seek independent advice from their own tax and legal advisers prior to purchasing the securities.

**Smaller Companies**

The share price of publicly traded smaller companies can be highly volatile. The value of the Common Shares may go down as well as up and, in particular, the share price may be subject to sudden and large falls in value given the restricted marketability of the Common Shares.

**Competition**

Both the Hydrogen and Graphene industries are characterized by larger companies with more financial resources than the Company. There is no assurance that the Company will be able to effectively compete in that environment.

**Illiquidity** The Common Shares are not listed on a stock exchange. Investors should be aware that there may never be a market for the Common Shares and an investor may never realize a return on their investment. The Common Shares, therefore, may not be suitable as a short-term investment.

**Going Concern and Financing Risks**

The Company has limited financial resources, has no source of operating cash flow and has no assurance that additional funding will be available to it to sustain operations. Although the Company has been successful in the past in obtaining financing through the issuance of common shares, there can be no assurance that it will be able to obtain the necessary financing and raise capital sufficient to cover its operating costs.

**Licensed Technology**

The Company believes the licensed technology will be commercially scalable and the products can be profitably marketed. There can be no assurance that the Company will be able to develop the technology to the point that may be required to carry out its business plans, on reasonable terms, or at all. Delays, or a failure to develop such economically viable products or a failure to comply with the terms of the license could have a material adverse effect on the Company.

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**RISK FACTORS AND UNCERTAINTIES (continued)**

**General Economic Conditions**

The recent events in global financial markets have had a profound impact on the global economy. A continued or worsened slowdown in the financial markets or other economic conditions, including but not limited to, consumer spending, employment rates, business conditions, inflation, fuel and energy costs, consumer debt levels, lack of available credit, the state of the financial markets, interest rates, and tax rates may adversely affect the Company's growth and profitability. These factors could have a material adverse effect on the Company's financial condition and results of operations.

**Coronavirus (COVID-19)**

In March 2020 the World Health Organization declared coronavirus COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, and any related adverse public health developments, has adversely affected workforces, economies, and financial markets globally, potentially leading to an economic downturn. It is not possible for the Company to predict the duration or magnitude of the adverse results of the outbreak and its effects on the Company's business or ability to raise funds. However, COVID-19 may directly impact the Company by disrupting the financial markets of which the Company relies on for raising funds or interfering with its supply chains.

**Hydrogen Production Risk Factors**

**Proof of High Scale Production**

The Company needs to work with many different types of engines to see which type is optimal for mass centralized Hydrogen production. Another engine type might be best for smaller decentralized production. The Company does not know how effectively and reliably the engines will work. Since the engines will be running on a very rich fuel mixture that they were not designed for, the Company does not know the long-term consequences. Risks exist that the engines may need to be modified to work with a very rich methane and pure oxygen fuel mixture which would substantially increase the cost to the Company. There are methane engines, but they run with a mixture of methane and air, so the possible need to adopt engines for our fuel mixture is a risk factor.

**Integration of Novel Mixing Chamber**

The Company has designed and patented a novel pre-mixing chamber, which needs to be affixed between the engine and the fuel source, like a fuel injector in a gas car engine. The pre-mix chamber will be fully digital and attached to digitally controlled valves and pumps. There is uncertainty as to how the device will function, as it will be a brand-new device mixing methane and oxygen in very specific ratios. The device will need to be tested and this may protract the time to achieve adequate production levels.

**Volume Oxygen Generation**

Currently the Company is purchasing canisters of oxygen to mix with methane. The Company needs to purchase an oxygen generator to bring down the feedstock costs. The O<sub>2</sub> generator has to be integrated into the pre-mix chamber and the engine. Until further development work is done, the Company cannot predict the success of the system.

**Membrane Separation Technology**

The Company produces Syngas from Methane and Oxygen as its primary product coming out of the engine. Syngas is COH<sub>2</sub>, essentially carbon monoxide and hydrogen. Using membrane separation technology, the Company splits the CO from the H<sub>2</sub> (it is 80% H<sub>2</sub>). There are uncertainties as to the performance of the membranes and the life cycle of them. They will be in constant usage and the Company does not know how quickly they will clog up, thereby shutting down production. The Company may need several membranes onsite and will need to pull out old, clogged membranes and replace with new ones, the Company does not know how long this procedure will take. This process could cause significant production delays.

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**RISK FACTORS AND UNCERTAINTIES** (continued)

**Risks Related to Gases**

The gases produced by the Company's process, Hydrogen and Oxygen are flammable and carbon monoxide is poisonous. There is no assurance that the Company will be able to devise methods to safely deal with these gases. Carbon monoxide is used in some chemical processes. In the event the Company is not able to find a customer for the carbon monoxide by product of its production process which is not assured it may incur considerable costs to dispense of the carbon monoxide could impact its production costs.

**Graphene Production Risk Factors:**

**Limited Production**

The Company's production plan calls for beyond 6Kg per canister per day. In order to do so new pumps and valves have to be purchased and tested. The Company also needs to fabricate more robust electrodes. Within the canister, after detonation, it is a very hostile environment for electrodes. Carbon can get in the gap between the electrodes and foul the entire process. The Company cannot guarantee this will be successfully achieved.

**Increased Frequency of Detonations**

When the Company increases the frequency of detonations it is hard on the equipment. Right now, the Company detonates every 40 seconds and wants to get the frequency down to every 20 seconds. So, the new pumps, valves and electrodes have to fill the canister with acetylene and oxygen twice as fast, and vacuum pull the contents into the holding vessel. Moreover, the electrodes have to spark twice as often in a very hostile environment for electrodes. There is no assurance the Company will be able to achieve this increased frequency of detonation.

**Production Line Automation**

The Company has the front-end process automated, up to containing the product after multiple automated detonations in a holding vessel, it does not have the backend production line from the holding vessel done. Although it is a conventional mass manufacturing issue, the Company still need it solved and there is uncertainty about it.

**Health Risks**

It is possible that Nano-graphene particles from leakage will get into human bodies and cause harm. The Company will need to ensure it has adequate safety procedures at its plant to deal with such risks, which may cause delays in the production process.

**Graphene Sales Risk Factors:**

**Limited Market**

The Company does not believe the market for Graphene is limited; however, the present market for Graphene is limited partially because of the high cost of Graphene. It may take considerable time for manufacturers to adopt Graphene which could delay potential future revenue and/or profitability for the Company.

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**RISK FACTORS AND UNCERTAINTIES** (continued)

**Protracted Sales Cycle** (continued)

Graphene is not yet a commodity product. Therefore, it has to be an engineered solution in most cases. That is Graphene samples get tested and if there is interest, then the Graphene gets functionalized for specific applications. Moreover, the insertion of Graphene into a composite requires modification of an existing production line. If this process takes too much time, it will affect the Company's potential future revenue and profitability.

**High Cost of Customer Acquisition**

It takes time and money to get prospective customers from testing to functionalizing to integrating our graphene into their production. The Company needs to find a way to drive down customer acquisition costs through expediting the process. There is no assurance the Company will be able to do so.

**General**

Although management believes that the above risks fairly and comprehensibly illustrate all material risks facing the Company, the risks noted above do not necessarily comprise all those potentially faced by the Company as it is impossible to foresee all possible risks.

Although the Directors will seek to minimise the impact of the risk factors, an investment in the Company should only be made by investors able to sustain a total loss of their investment. Investors are strongly recommended to consult a person who specialises in investments of this nature before making any decision to invest.

**APPROVAL**

The Board of Directors of the Company has approved the disclosure contained in this MD&A on February 28, 2022.