GRAPHENE MANUFACTURING GROUP LTD

Management's Discussion and Analysis

For the three and six month periods ended

December 31, 2021

(in Australian dollars)

(Unless specified otherwise, all amounts are expressed in Australian dollars)

This Management's discussion and analysis ("MD&A") provides a review of Graphene Manufacturing Group Ltd's ("GMG" or the "Company") operations, performance and financial position for the three and six month periods ended December 31, 2021. This MD&A should be read in conjunction with the unaudited condensed consolidated financial statements for the three and six month periods ended December 31, 2021 and with the audited consolidated financial statements for the year ended June 30, 2021. The purpose of this document is to provide information on GMG's activities. The information contained herein is dated as of February 11, 2022. You will find more information about us on GMG's website and on SEDAR (the official site of the Canadian Securities Administrators, which is publicly available), including all news releases.

The period from October 1, 2021 to December 31, 2021 has been referred to as Q2FY22 and the period from October 1, 2020 to December 31, 2020 has been referred to as Q2FY21. The period from July 1, 2021 to December 31, 2021 has been referred to as 6MFY22 and the period from July 1, 2020 to December 31, 2020 has been referred to as 6MFY21. The financial year ending 30 June 2022 has been referred to as FY22 and the financial year ended 30 June 2021 has been referred to as FY21.

The financial statements of GMG and extracts of those financial statements provided in this MD&A have been prepared in accordance with International Financial Reporting Standards ("IFRS"). The Company has consistently applied the accounting policies used in the preparation of its IFRS financial statements, including the comparative figures. References to the symbol AUD or $ or A$ means the Australian dollar, the official currency of Australia. References to the symbol CAD or C$ mean the Canadian dollar. References to "K" indicate thousands. Except as otherwise set out herein, all amounts expressed herein are in Australian dollars, the functional currency of the Company. As a result of the rounding of dollar differences, certain total dollar amounts in this MD&A may not add exactly to their constituent amounts. Throughout this MD&A, percentage changes are calculated using numbers rounded as they appear. Readers are cautioned that this MD&A contains certain forward-looking information. Please see the "Forward Looking Statements" section which follows.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This MD&A contains "forward looking statements" that reflect the Company's expectations and projections about its future results. When used in this MD&A, forward looking statements can be identified by the use of words such as "may", or by such words as "will", "intend", "believe", "estimate", "consider", "expect", "anticipate", and "objective" and similar expressions or variations of such words. Forward looking statements are, by their nature, not guarantees of the Company's future operational or financial performance and are subject to risks and uncertainties and other factors that could cause the Company's actual results, performance, prospects or opportunities to differ materially from those expressed in, or implied by, these forward-looking statements. No representation or warranty is intended with respect to anticipated future results, or that estimates, or projections will be sustained.

In developing the forward-looking statements in the MD&A, the Company has applied several material assumptions, including the availability of financing on reasonable terms, the Company's ability and general business and economic conditions. Many risks, uncertainties and other factors could cause the actual results of GMG to differ materially from the results, performance, achievements or developments expressed or implied by such forward-looking statements. These risks, uncertainties and other factors include, but are not limited to the following: overall economic conditions, technical de-risking and market acceptance for GMG's products and solutions, the introduction of competing technologies/products, environmental and regulation requirements, competitive pressures, change in market conditions and other factors that may cause the actual results, performance or achievements to differ materially from those expressed or implied in these forward-looking statements.

Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of the MD&A or as of the date otherwise specifically indicated herein. Due to risks and uncertainties, including the risks and uncertainties elsewhere in this MD&A, actual events may differ materially from current expectations. The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. All forward-looking statements contained in the MD&A are expressly qualified in their entirety by this cautionary statement.

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BUSINESS OVERVIEW

Company Overview

GMG is a clean-technology company which seeks to offer energy saving and energy storage solutions, enabled by graphene, including that manufactured in-house via a proprietary production process.

GMG has developed a proprietary production process to decompose natural gas (i.e. methane) into its elements, carbon (as graphene), hydrogen and some residual hydrocarbon gases. This process produces high quality, low cost, scalable, 'tuneable' and low/no contaminant graphene suitable for use in clean-technology and other applications. The Company's present focus is to de-risk and develop commercial scale-up capabilities, and secure market applications.

GMG is listed on the TSX Venture Exchange ("TSXV") under the ticker "GMG" and is also quoted on Tradegate in Germany under "0GF". GMG understands that its shares may have traded on OTCQB under "GMGMF". This quotation was initiated by third party market participants, not GMG. To date, GMG has not offered or sold any securities to investors in the United States. GMG share warrants trade on TSXV under the ticker "GMG.WT".

GMG's strategy has evolved over time. While GMG graphene may be suitable for a wide range of industries, GMG has narrowed its focus to target select applications and industries. GMG's management team ("Management") believes that focusing on downstream applications will provide a higher return on in-house graphene production. Also, the vertically integrated approach will enable it to build a long-term competitive advantage. In line with this approach, GMG's initial focus has been developing applications for energy savings and energy storage.

In the energy savings segment, GMG has focused on graphene enhanced heating, ventilation and air conditioning ("HVAC-R") coating (or energy-saving paint), lubricants and fluids. In the energy storage segment, GMG and the University of Queensland are working collaboratively with financial support from the Australian Government to progress R&D and commercialization of graphene aluminium-ion batteries ("G+Al Batteries").

GMG and its customers have successfully demonstrated HVAC coating projects, offering customers improved heat transfer in space cooling (air-conditioning) and coolant units. Also, GMG is developing lubricants which reduce friction in engines. Both of these offerings have the potential to enable lower energy consumption, reducing both cost and emissions.

Near-term revenue generation will depend largely on the ability of the company to generate sales of HVAC coating projects ("THERMAL-XR® powered by GMG Graphene" or "TXR"). Medium term, GMG remains focused on R&D and will continue to invest in new product development and commercialisation including G+Al Batteries and graphene enhanced lubricants.

As at 31 December, 2021, GMG had a cash position of $15.1 million which included a capital raise of C$12.5 million in September 2021. Q2FY22 EBITDA was a loss of $1,983K with the net loss for the quarter being $16,252K primarily after adjusting for the non-cash accounting for warrants associated with the capital raise. As outlined in more detail below, the quarterly adjustments required by IFRS to account for certain warrants on issue are a non-cash item and largely result from the significant increase in GMG's share price during the period.

Business highlights

Graphene Enhanced Aluminium-Ion Battery Development Project

During the quarter, GMG's pilot production and testing plant ("Battery Pilot Plant") for its G+AI Batteries") became operational and the first G+AI Batteries in coin cell format were manufactured.

2032 type coin cell prototypes (see Figure 1) have been sent to a number of prospective customers around the world. Coin cell testing to date has demonstrated that the GMG 2032 type G+AI Battery coin cell prototypes are fully rechargeable in several seconds, retain capacity for several thousand charge and discharge cycles, are non-flammable, and are relatively non-toxic and almost fully recyclable. These characteristics compare favourably against typical rechargeable Lithium-Ion 2032 type coin cells which take 3-6 hours to recharge, are toxic and can be quite harmful if ingested, are difficult to recycle, are flammable under certain conditions, and degrade more rapidly in performance.

Figure 1: GMG 2032 1.7V Prototype

Further battery development, in collaboration with the University of Queensland, has increased the capacity of the G+AI Battery coin cells, when compared to earlier proof of concept prototypes. The Company is also currently in the process of developing the technology required to increase the voltage of the coin cell from approximately 1.7 Volts to 3.4 Volts - making the G+AI Battery better suited for interchangeable use in existing everyday personal devices. To de-risk pace and scaling, in addition to graphene development and manufacture by GMG, the Company also continues to test different grades of graphene from various sources for potential use in G+AI Batteries. GMG considers the performance characteristics of these battery prototypes encouraging enough to engage potential customers and industry partners for feedback on their commercial potential assuming subsequent further development.

GMG's graphene manufacturing technology R&D is focussed on developing the process further to manufacture commercial quantities of a grade of graphene required to commercialise G+AI Batteries.

Additional equipment to enable the manufacture G+AI Batteries in pouch pack cell format is expected to arrive in early 2022. The pilot plant will then have the capability to produce batteries in coin cell and pouch pack cell format. It will allow GMG to develop, manufacture and test its own G+AI Battery coin cell and subsequently pouch packs in-house, and enable the Company to accelerate the commercial development of G+AI Batteries, work with future customers and further build on GMG's internal expertise. Pouch pack cells are typically used in personal electronics such as cell phones, laptops, as well as in electric vehicles and grid storage batteries.

GMG intends to invest further using current cash resources in the near term in upgrades to the pilot plant and in operational capabilities necessary to progress battery technology development.

GMG and Robert Bosch Australia Pty Ltd ("BOSCH") signed a non-binding Letter of Intent, with the aim to agree on the terms of binding agreements for BOSCH to design and deliver a Graphene Aluminium Ion Battery ("G+AI Battery") manufacturing plant.

Robert Bosch Australia Pty Ltd is a subsidiary of the BOSCH Group, a global provider of integrated production line solutions, automation, robotics and testing equipment. BOSCH will support GMG in learning and developing the automation of the battery assembly process and use the results from the GMG G+AI Battery pilot plant to support the scaling of these into fully automated plants. The parties' intent is for BOSCH to become GMG's engineering, design and construction contractor for GMG's near and long-term battery cell manufacturing facility needs (both coin cell and pouch pack).

GMG's partner, University of Queensland, through its commercialisation arm, UniQuest Pty Limited, filed a global patent application for the G+AI Battery under the Patent Corporation Treaty following an initial filing on November 25, 2020. The patent application is an important step in securing the intellectual property and global commercialisation rights for the G+AI Battery technology that GMG has rights to develop and deploy under a long term, world-wide Licence Agreement.

Subject to successful commercial prototypes and a final investment decision, GMG aims to construct an initial commercial coin cell G+AI Battery manufacturing facility, followed by first production and sales of G+AI Batteries. The location of this manufacturing facility is not yet decided but will likely be in Australia where GMG's headquarters and existing operations are located. Construction of this facility is intended to be funded from current cash resources and future revenue subject to scale.

THERMAL-XR® powered by GMG Graphene

GMG and its customers continued to successfully demonstrate THERMAL-XR® powered by GMG Graphene's performance (see GMG's website for successful projects). Results verified by GMG management and external parties demonstrate improved heat transfer in space cooling (air-conditioning) and cooling units thereby delivering energy and emission reductions and cost savings.

GMG maintains a particular business development focus on in the Middle East region including working with OPENIA Project Management Services LLC ("Openia") on demonstration projects in the United Arab Emirates which GMG targets to lead to initial material product and service solution sales. GMG has live demonstration projects in progress in other locations and engagement continues with numerous HVAC-R service contractors and providers across Australia, Singapore, and other locations to establish commercial arrangements. GMG has had initial discussions with other route to market potential partners in other countries such as Egypt and USA.

G™ LUBRICANT

GMG blends its graphene into lubricating oil to make G™ LUBRICANT concentrates for lubricant manufacturers to then mix into their lubricant products (e.g. engine oil) for final blending, packaging and sale. GMG has developed mixing equipment, systems and processes at laboratory and commercial scale to make G™ LUBRICANT concentrates. GMG has also developed lubricant product testing equipment, systems and processes to optimize product formulations for graphene quality, lubricant type and customer performance data. GMG has also developed sales and marketing capabilities for selling G™ LUBRICANT concentrates to lubricant manufacturers worldwide.

Third-party coefficient of friction results and GMG dispersion and stability chemistry trials have been positive. Client internal assessments continue to progress, and a number have proven successful in friction reduction and improved performance and energy use reduction. GMG is awaiting further client feedback on unfinished internal reviews and the next round of assessments on those positive results.

GMG is engaging with Tier 1, 2 and 3 lubricant manufacturers in several global locations to further develop and commercialise G ™ LUBRICANT supported with positive feedback and interest in these products.

Graphene powder production

Graphene powder production in Q2FY22 increasingly focussed on further developing the manufacturing process technology related to product quality required for G+AI Battery production. This resulted in a reduction in graphene powder production volumes. Near term production will likely continue to focus on de-risking battery grade graphene quality..

Annual General Meeting

GMG held its inaugural Annual General Meeting on November 26, 2021 (AEST) via video conference which was well attended by 234 shareholders, staff and interested GMG stakeholders and potential investors from several countries around the world.

All resolutions were passed, relating to:

- Financial statements and auditors' report
- Election of directors
- Appointment and remuneration of auditor
- Approval of share incentive plan
- Ratification of RSU and PSU grants

The meeting heard remarks and a presentation from GMG's Chair, Guy Outen, and Founder, MD & CEO, Craig Nicol, respectively. Guy noted GMG's significant opportunities, progress as well as challenges and expressed gratitude to shareholders for their support, and to GMG's employees for their professional skills, creativity, problem solving, teamwork and simple dogged persistence towards delivering our ambition of providing "energy saving and energy storage solutions" which are so vital to society's economic and environmental sustainable prosperity.

Craig presented the highlights of GMG's progress during 2021 including the ongoing focus on repeatable and reliable production of battery grade graphene, the success of multiple TXR demonstrations, identification of lubricant performance benefits, the commencement of the battery pilot plant, collaborations with University of Queensland and Bosch on G+AI Battery technology and production preparations, the establishment of GMG as an energy saving and energy storage brand, GMG's new headquarters and continued development of a team with experienced delivery professionals.

Craig then outlined key focus areas for 2022, including the route to market for TXR, proof of concept for G™ LUBRICANT and getting 'the science into product' to progress G+AI Battery development, potential sales contracts leading to a manufacturing plant investment decision point.

FINANCIAL HIGHLIGHTS

Income Statement

	3 month period ended December 31		6 month period ended December 31		Variation	
$'000 unless otherwise stated	**2021**	**2020**	**2021**	**2020**	**$'000**	**%**
Revenue from operations	15	44	28	95	*(67)*	*(71%)*
Other income including subsidies, grants and incentives	39	49	43	214	*(171)*	*(80%)*
Total revenue	**54**	**93**	**71**	**309**	***(238)***	***(77%)***
Employee expenses	(1,228)	(674)	(2,169)	(1,188)	*(981)*	*83%*
Plant expenses	(69)	(43)	(113)	(75)	*(38)*	*51%*
Occupancy expenses	(44)	(37)	(82)	(63)	*(19)*	*30%*
Overheads expenses	(696)	(206)	(1,210)	(470)	*(740)*	*157%*
Total operating expenses	**(2,037)**	**(960)**	**(3,574)**	**(1,796)**	***(1,778)***	***99%***
EBITDA	(1,983)	(867)	(3,503)	(1,487)	*(2,016)*	*136%*
Change in fair value of warrants	(14,190)	-	(11,788)	-	*(11,788)*	-
Finance costs	(8)	(5)	(13)	(6)	*(7)*	*117%*
Depreciation	(71)	(54)	(107)	(99)	*(8)*	*8%*
Profit / (loss) before income tax	**(16,252)**	**(926)**	**(15,411)**	**(1,592)**	***(13,819)***	***868%***
Income tax expense	-	-	-	-	-	-
Profit / (loss) for the period	**(16,252)**	**(926)**	**(15,411)**	**(1,592)**	***(13,819)***	***868%***
Non-IFRS financial measures [(1)]						
Adjusted loss before income tax	(2,062)	(926)	(3,623)	(1,592)	*(2,031)*	*128%*
Basic and diluted earnings / (loss) per share (cents)	(21.22)	(1.57)	(20.81)	(2.78)	*(18)*	*649%*
Adjusted basic and diluted loss per share (cents)	(2.69)	(1.57)	(4.89)	(2.78)	*(2)*	*76%*

(1) Refer to Non-IFRS Measures for further information.

Balance Sheet

$'000	As at 31 December, 2021	As at 30 June, 2021
Cash and cash equivalents	15,117	3,359
Trade and other receivables	76	56
Research and development grants receivable	-	736
Inventories	358	336
Other current assets	193	184
Property, plant and equipment	1,647	224
Intangible assets	47	49
Total assets	**17,438**	**4,944**
Trade and other payables	369	539
Lease liabilities	126	-
Financial liabilities	13,090	2,189
Employee benefit liabilities	178	162
Provisions	20	20
Long term liabilities	1,057	-
Total liabilities	**14,840**	**2,910**
Total equity	**2,598**	**2,034**

Summary of Cash Flows

$'000	6 month period ended December 31 2021	2020	Variation $'000	%
Cash flows from operating activities	(2,645)	(768)	*(1,877)*	*(244%)*
Cash flows from investing activities	(319)	(180)	*(139)*	*(77%)*
Cash flows from financing activities	14,722	1,914	*12,808*	*669%*
Total cash flows	**11,758**	**966**	*10,792*	*1117%*

Selected Quarterly Information

The following table contains selected unaudited consolidated quarterly financial information for the last eight quarters through to December 31, 2021:

$'000 unless otherwise stated		Total revenue	Profit / (loss)	Basic and diluted profit / (loss) per share (cents)	Note
Q2-2022	December 31, 2021	54	(16,252)	(21.22)	1
Q1-2022	September 30, 2021	17	841	1.18	2
Q4-2021	June 30, 2021	836	(5,384)	(7.91)	3
Q3-2021	March 31, 2021	114	(1,134)	(1.91)	4
Q2-2021	December 31, 2020	93	(926)	(1.57)	5
Q1-2021	September 30, 2020	216	(666)	(1.19)	6
Q4-2020	June 30, 2020	1,202	438	0.80	7
Q3-2020	March 31, 2020	80	(839)	(1.58)	8

Notes:

1. The increase in Q2FY22 losses was mainly due to fair value adjustments required to reflect the higher value of financial liabilities (warrants), due to share price increases during the quarter.
2. Higher profit in Q1FY22 was driven by a reduction in the fair value of financial liabilities due to a lower share price than the prior reporting period at the end of FY21. Lower revenues were due mainly to the refundable R&D tax offset of $736K and the $84K Export Market Development Grant in the prior quarter and completion of a quarterly take or pay customer contract at 30 June 2021.
3. Higher revenue in Q4FY21 was mainly due to the refundable R&D tax offset of $736K and the $84K Export Market Development Grant. The higher loss was due mainly to $2,226K listing expenses related to the Cuspis transaction (due to the premium paid to acquire the listing vehicle Cuspis Capital Ltd.), $1,832K change in fair value of warrants issued and other legal, investor relations, compliance and consultancy costs associated with the Company's listing on the TSXV.
4. Revenue during the quarter included $80K of sales of graphene powder to GMG's TXR Supplier, for the production of TXR. The higher loss in the quarter was due to $275K of legal expenses incurred in preparing for listing, as well as for advisory services related to commercial and research collaboration agreements.
5. Revenue primarily consists of sales of graphene powder, as well as approximately $48K in COVID-19 related government subsidies.
6. Revenue primarily consists of sales of graphene powder, as well as $165K in COVID-19 related government subsidies.
7. Higher revenue in Q4FY20 is due mainly to the refundable R&D tax offset of $934K, as well as $242K associated with grants and COVID-19 related government subsidies.
8. Revenue primarily consists of sales of graphene powder, as well as a $22K Export Market Development Grant. The loss is primarily due to employees' salaries and wages, combined with consultant and contractor costs.

OPERATIONS

Non-IFRS financial measures

This MD&A refers to adjusted profit and loss for the period and adjusted basic and diluted loss per share that are measures with no standardised meaning under IFRS. They are non-IFRS measures and may not be comparable to similar measures presented by other companies. Their measurement and presentation is consistently prepared and is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

Adjusted loss for the period and adjusted loss per share

Adjusted loss for the period and adjusted loss per share are used by management and investors to measure the underlying operating performance of the Company. Adjusted loss for the period, excludes specific items that are significant but not reflective of the underlying operating performance of the Company, such as the impact of changes in the fair value of warrants. Adjusted loss per share amounts are calculated using the weighted average number of shares outstanding on a basic and diluted basis as determined by IFRS.

The following table provides the calculation of the adjusted loss for the period and adjusted basic and diluted loss per share, as adjusted and calculated by the Company:

	3 month period ended December 31		6 month period ended December 31	
$'000 unless otherwise stated	**2021**	**2020**	**2021**	**2020**
Loss for the period	(16,252)	(926)	(15,411)	(1,592)
Less:				
Change in fair value of warrants	14,190	-	11,788	-
Total adjustment items	14,190	-	11,788	-
Adjusted loss for the period	**(2,062)**	**(926)**	**(3,623)**	**(1,592)**
Loss per share (1)				
Basic and diluted (cents) (2)	(21.22)	(1.57)	(20.81)	(2.78)
Adjusted basic and diluted (cents) (3)	(2.69)	(1.57)	(4.89)	(2.78)
Weighted average number of ordinary shares - basic and diluted	76,585,046	58,768,487	74,060,473	57,299,898

(1) Due to the loss recognised for the years, all outstanding stock options, warrants and broker warrants were excluded from the calculation of diluted loss per share due to their anti-dilutive effect.
(2) Calculated using loss for the period over the weighted average number of ordinary shares as per IFRS.
(3) Calculated using adjusted loss for the period over the weighted average number of ordinary shares (non-IFRS measure).

Revenue

	3 month period ended December 31		6 month period ended December 31		Variation	
$'000	**2021**	**2020**	**2021**	**2020**	**$'000**	**%**
Revenue from operations	15	44	28	95	*(67)*	*(71%)*
Grants, subsidies and tax incentives	25	49	25	214	*(189)*	*(88%)*
Interest, sundry and forex gains	14	-	18	-	*18*	-
Total revenue	**54**	**93**	**71**	**309**	***(238)***	***(77%)***

Revenue from operations was $15K in Q2FY22 compared to $44K in Q2FY21. Q2FY22 revenue was mainly preliminary sales revenue for TXR with new customers. In comparison, Q2FY21 revenue was primarily sales of graphene powder, of which $20K included a 'take or pay' style customer agreement for graphene powder sold for a research project for a fixed quarterly fee. This research project ended on 30 June 2021.

Other income

Other income for Q2FY22 was $39K, being mainly $25K in grants received and $9K in foreign exchange gains. The 6MFY22 result is lower than 6MFY21 primarily due to the prior comparative period including $213K of government subsidies received relating to COVID-19.

Operating costs

Shown in the table below are total operating expenses, which exclude finance costs and depreciation and amortization.

	3 month period ended December 31		6 month period ended December 31		Variation	
$'000	**2021**	**2020**	**2021**	**2020**	**$'000**	**%**
Employee expenses	1,228	674	2,169	1,188	*981*	*83%*
Plant expenses	69	43	113	75	*38*	*51%*
Occupancy expenses	44	37	82	63	*19*	*30%*
Overheads expenses	696	206	1,210	470	*740*	*157%*
Total operating expenses	**2,037**	**960**	**3,574**	**1,796**	***1,778***	***99%***

Following is a description of, and commentary on the high-level expense categories of GMG:

Employee expenses

Employee expenses consist of salaries, on-costs (e.g. superannuation), and share based payments for all employees, directors and certain contractors. The total amount to be expensed as share based payments is determined by reference to the fair value of any options granted under the employee share option plan, and share units granted under the Share Incentive Plan:

- including any market performance conditions (e.g. the entity's share price); and
- excluding the impact of any service-based vesting conditions (for example, remaining an employee of the entity for a period of time).

The total expense is recognised over the vesting period, which is the period over which all of the specified vesting conditions are to be satisfied. Total salary costs have increased with increases in the number of employees and any adjustments to salaries of existing employees during the relevant period.

Plant expenses

This includes raw materials and production inputs, general warehouse expenses, Health, safety and environment ("HSE"), machinery parts and consumables, repairs and maintenance ("R&M") and other costs. While expenses on items such as consumables can be estimated, there are various expenses relating to R&M, machinery spares and components for battery prototype development that are variable and cannot be estimated with a high degree of certainty.

Plant expenses, excluding raw materials and production inputs, were $53K in Q2FY22 and $36K in Q2FY21. The $17K increase was primarily $10K in battery consumables, repairs and maintenance, as well as $7K in in general warehouse expenses including health and safety equipment. The remainder of plant expenses of $16K includes cost of goods sold, sales rebates for TXR customer trials and sample products used for research and product development trials.

Occupancy

Occupancy expenses relate primarily to lease costs for the production facilities located at Sumner, Queensland. These are short-term leases to which the IFRS 16 *Leases* exemption has been applied, and as such, lease costs are recognised on a straight-line basis as an expense.

In November 2021, the Company entered a lease agreement for the new Richlands Headquarters. This lease meets the recognition criteria as a right-of-use ("ROU") asset under IFRS 16. The ROU asset and corresponding lease liability have been recognised on the balance sheet in Q2FY22. Future costs relating to the lease liability will be split between lease liability principal payments and interest expense, and depreciation of the leased asset on a straight-line basis.

Overall occupancy expenses increased from $37K to $44K from Q2FY21 to Q2FY22, primarily due to $12K higher rental outgoings costs associated with the Company's new headquarters lease.

Other expenses in this category include cleaning, light, power, heating, telephone internet and R&M which all had minor decreases in costs.

Overheads

Insurance, IT, legal, travel, sponsorships, other R&D related expenses, and various other expenses have been classified as 'Overheads'. While expenses such as IT related expenses, travel and marketing are expected to increase as the business grows, others such as licensing and registration, website, other R&D, and filing fees will be uncorrelated to the number of employees, product offerings or number of customers. Following are various sub-items that constitute 'Overheads', for which the change from Q2FY21 to Q2FY22 has been greater than $10,000:

- Accounting and tax expenses increased from $23K in Q2FY21 to $125K in Q2FY22 mainly due to additional technical advice on FY21 financial year-end reporting, capital raising and economic modelling;
- Legal expenses increased from $82K in Q2FY21 to $97K in Q2FY22 mainly due to Annual General Meeting ("AGM") expenses;
- Investor relations expenses of $146K were incurred in Q2FY22 associated with the Company's transition to public markets and Annual General Meeting preparation;
- Share registry expenses of $19K were incurred in Q2FY22 compared to nil in Q2FY21 mainly due to software platform expenses;
- Filing fees increased to $23K in Q1FY22 from nil in Q2FY21 for financial year-end filings;
- Insurance increased from $6K in Q1FY21 to $40K in Q2FY22, mainly due to increases in policy coverage limits, and insurance for substantial new business premises;
- Research and development expenses increased from $5K in Q1FY21 to $33K in Q2FY22 due to battery technical development and more R&D being conducted in house following commissioning of the G+AI Battery pilot plant; and
- Consultants and contracting expenses increased from $42K in Q2FY21 to $133K in Q2FY22, mainly due to higher costs associated with regulatory compliance costs post listing, commencement of director fees and specialist technical consultants engaged to accelerate product development and sales.

Fair value of warrants

The change in fair value of warrants expense of $14,190K in Q2FY22 was mainly driven by the significant increase in GMG's share price from Q1FY22 to Q2FY22, which resulted in a significant increase in the fair value assessment of the warrant liability at the end of the quarter.

The share purchase warrants impacted by this adjustment are certain warrants that are recognised by the Company as a derivative liability due to their Canadian dollar denominated, fixed exercise price being different to the Company's functional currency which is Australian dollars. IFRS requires such instruments to be treated as a derivative liability and not equity, until the warrants are exercised or expire. The fair value of the warrants is determined using the Black Scholes option pricing model at the period-end date, or the market trading price in respect of GMG's traded warrants.

There are no cash obligations for the Company relating to this liability. Changes in fair value will continue to be reported in subsequent periods until the warrants are exercised or expire at which time the derivative liability ceases.

A number of factors influence the warrant liability valuation including share price, interest rates and a volatility assumption. For example, share price increases may result in an expense recorded in the profit and loss in conjunction with any increase in the fair value of the warrant liability, while share price decreases, warrant exercises or a reduced time to expiry with the passage of time would result in a gain and decrease in the fair value of the warrant liability.

For warrants exercised, the cumulative difference between the fair value of the warrant liability recognised at grant date, and the fair value based on the GMG share price at exercise date, which is applied to profit or loss, is then extinguished as a liability, with the offsetting entry applied to equity.

Projects

The Company has not generated significant revenue to date. Graphene powder is a commercialized product that has generated revenue, but sale of graphene powder is not the Company's core strategy. The G+AI Battery Project has been described in detail above. TXR is a product in early commercial production stage (produced by TXR Supplier), and the business is focusing on developing the market for TXR. The Company is also undertaking significant product development activities to commercialize various other products. This section provides a summary of projects (each project corresponds to a product under development). These are not capital-intensive projects with well-defined project plans, but are ongoing initiatives driven by certain employees, with the cost of the employees being the key expense associated with the projects.

G™ LUBRICANT

This product is under development and testing internally and with prospective customers. Results achieved so far are encouraging. The research and development for this product is being undertaken in-house. Research is ongoing and there is no fixed end date. Customer engagement is taking place simultaneously, and hence timing of commercial production will be based on customer accepted scientific results, energy savings calculations and receipt of substantial orders. In a business-to-business environment with large corporate counterparties, the timeline for product validation and acceptance is uncertain. There is no significant operating cost for development, other than part of the salary costs of the Head Product Scientist and Marketing Manager. Necessary capital equipment has already been acquired for current activities.

Several large global lubricant blending and marketing companies and original equipment manufacturers are either testing or have expressed interest in testing G™ LUBRICANT concentrates for their performance characteristics for potential adoption as an additive for their products. Some smaller lubricant blending and marketing companies have purchased GMG's graphene for initial trials and/or early-stage small scale commercial production. The Company intends to pursue these opportunities for commercialization of G™ LUBRICANT. The Company's staff undertake multiple projects simultaneously and a project cost tracking system has not been required to date. Expenditures made to date on each project are not separately identified.

G™ COOLANTS and G™ FLUIDS

These products are currently under development and testing. The research and development for this product is being undertaken in-house. Research is ongoing, but with lesser focus than on G™LUBRICANTS, and there is no fixed end date. Customer engagement is taking place simultaneously, and therefore timing of commercial production will be based on customer accepted scientific results, energy savings calculations and receipt of substantial orders. There is no significant operating cost for development, other than part of the salary costs of the Chief Scientific Officer responsible for development. Necessary capital equipment has already been acquired for current activities.

The Company intends to continue to develop these products with a view to commercialization in the future. The Company's staff undertake multiple projects simultaneously and a project cost tracking system has not been required to date. Expenditures made to date on each project are not separately identified.

G™DIESEL and bio-Diesel

This application is still in the early stages of development and testing, which has not been prioritized in the near term. The potential for this product has been identified from third party research studies conducted using graphene in diesel and bio-diesel. Research will likely require use of local university facilities to enable performance testing in a controlled environment. As of now, the Company remains interested in this product and is engaged with potential collaboration partners towards the progression of this project, but at this time does not plan to spend significant resources on this project in the next 12 months. There is no timeline or end date for development of this product. The Company's staff undertake multiple projects simultaneously and a project cost tracking system has not been required to date. Expenditures made to date on each project are not separately identified.

FINANCIAL POSITION, LIQUIDITY AND CAPITAL RESOURCES

Cash and cash equivalents have increased by $11,758K due to cash outflows being offset primarily by the Offering and Private Placement in September 2021, raising gross proceeds of C$11.55 million and C$909K respectively, and proceeds from the exercise of warrants and options. Further information regarding the share capital movements, as well as warrants and options exercised during Q2FY22, is disclosed in the condensed consolidated interim financial statements for the three and six month periods ended December 31, 2021.

Trade and other receivables were low at 31 December 2021, due to the level of sales achieved to date. The balance is primarily $58k of GST receivables at the end of the quarter.

The gross R&D tax incentive relating to FY21 of approximately $736K was received in cash in Q2FY22.

Inventories increased by $22K to $358K as at 31 December 2021, due to purchase of TXR also linked to expanded distribution rights in Singapore and Malaysia.

Other current assets of $193K is largely $178K of prepayments, primarily $67K for insurance and $56K for consultancy costs and health and safety projects, $27K for lease payments made in advance including related outgoings, as well as $25k for investor relations.

The trade and other payables relate to expenses in the ordinary course of business, including accounts payable, wages payable, PAYG withholding tax payable, superannuation payable, and other accrued expenses. The balance of $369K as at 31 December 2021, was lower than 30 June 2021 mainly due to payments released for the invoices which were billed and the services completed by the end of the quarter.

The financial liability relates to certain share purchase warrants issued with an exercise price denominated in Canadian dollars (as described in detail in a previous section).

Liquidity and capital resources

GMG has generated limited revenue to date. Cash expenses mainly relate to R&D activities and other operational expenses. Capital raised has been mainly used to fund the development of the Company's proprietary graphene powder production technology, graphene enhanced products and solutions, and plant and equipment and expenses for developing, testing, manufacturing and marketing these products. Development of G+AI Battery technology, production and commercialisation planning has been an increasing focus area for GMG's employees and intended use of current cash resources.

Revenue in the near term is targeted to be generated from TXR. Growth in customer demand for this and other product offerings, and timing for commercialisation of G+AI Batteries, will influence the future funding requirements for GMG. The go-to-market strategy for TXR will evolve as GMG receives more feedback from customers, has more referenceable energy savings data from its energy savings products and solutions and more customer success stories. Based on these parameters, GMG will determine how much to invest to achieve rapid market penetration of TXR in different geographies. A rapid penetration strategy may require additional capital, but deployment of capital for marketing purposes would be controllable by Management. Timing for commercialisation of G+AI Batteries will depend on the successful development of a commercial G+AI Battery prototype including the process technology required to produce the necessary grade graphene powder or sources to acquire it from third parties, timing for completion of front end design and construction of a battery manufacturing facility (subject to a final investment decision).

As at December 31, 2021, cash and cash equivalents were $15,117K with the increase in funds since FY21 due mainly to the Offering and Private Placement in September 2021, raising gross proceeds of C$11.55 million and C$909K respectively and proceeds from exercises of warrants and options.

Management believes GMG has sufficient cash to meet its objectives for at least 12 months. To date, the Company has relied on funding from equity investors and also grants, subsidies and R&D incentives. There is no guarantee that revenue generated by the business will be sufficient to fund the business for a longer period of time. There can be no assurance that adequate funding will be available in the future, or on terms that are favourable to the Company.

Although the operating and investing cash flow for FY21 were negative, it is assumed that the Company has neither the intention nor the need to liquidate any of its assets to discharge its liabilities and commitments in the normal course of business. Though not guaranteed, Management believes that investors will continue to support the business to fund its expansion and development of products and solutions until the business becomes profitable.

Financial instruments and risk management

Financial assets and financial liabilities are recognised in the balance sheet when the Company becomes party to the contractual provisions of the financial instrument. GMG's financial instruments are its cash and cash equivalents, trade and other receivables, trade and other payables. The Company is exposed to a variety of financial risks, which result from its financing, operating and investing activities. The objective of financial risk management is to contain, where appropriate, exposures in these financial risks to limit any negative impact on the Company's financial performance and position.

The risks arising from the Company's financial instruments are mainly credit risk and foreign currency risk. The risk management policies employed by the Company to manage these risks are discussed below:

Credit risk

Credit risk arises when a failure by counterparties to discharge their obligations could reduce the amount of future cash inflows from financial assets on hand at the balance sheet date. The maximum exposure to credit risk at balance date in relation to each class of recognised financial assets is the gross carrying amount of those assets.

As the company expands and increases sales, this will become a larger consideration. Management closely monitors, the activities of its counterparties and potential counterparties.

Liquidity risk

Liquidity risk is the risk that arises when the maturity of assets and the maturity of liabilities do not match. Some financial assets may not be able to be monetised in a timely manner. Based on current cash resources, Management considers liquidity risk to be low for at least 12 months. While the company does not have any credit facilities from banks, GMG ensures it maintains enough cash, to fulfil its near-term liabilities.

Currency risk

Currency risk is the risk that the value of financial instruments will fluctuate due to changes in foreign exchange rates. Currency risk arises when future commercial transactions and recognized assets and liabilities are denominated in a currency that is not the Company's functional currency. The Company is exposed to foreign exchange risk, however, at present, this risk is relatively low as revenue is limited and most expenses are denominated in Australian dollars. However, in the past, the Company has sourced funding from investors and will increasingly source capital equipment from overseas. Because of the short term nature of these foreign currency exposures to date and low level of associated risk, the Company has not considered it necessary to enter into any currency hedging transactions. More recently the Company has become exposed to currency risk relating to the financial liability required by IFRS to be recognised in relation to certain warrants with exercise prices denominated in Canadian dollars. As there is no cash obligation associated with this liability, the Company considers the associated currency risk to be low.

Off-balance sheet arrangements

As of the date of this MD&A, the Company did not have any off-balance sheet arrangements, except for the non-cancellable operating leases for the Sumner warehouse and portable office units. The Company has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets, as well as short-term leases, including for leased premises and portable office units, and recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

The Company recognises a contingent liability as at December 31, 2021 of approximately C$102,195 relating to the repatriation of cash acquired in the Cuspis transaction at the time of listing, prior to the dissolution of Cuspis Capital Ltd on August 12, 2021. The contingent liability relates to a potential withholding tax obligation in Canada at the rate of 5% of the amount of cash distributed. The transaction is being treated as a return of capital for Australian tax purposes. At the date of this report, GMG is consulting with the Canadian tax authorities in relation to this amount.

Outstanding shares

As at January 31, 2022, the Company has:

- 77,677,431 ordinary shares issued and outstanding;
- 5,178,427 options outstanding with expiry dates ranging between March 12, 2024 and March 11, 2028, with exercise prices between A$0.36 and C$1.00. If all the options were exercised, 5,178,427 shares would be issued for proceeds of A$2,771,929[1];
- 3,468,218 warrants outstanding with expiry dates ranging between October 12, 2022 and September 2, 2024, with exercise prices between C$0.65 and C$2.60. If all the warrants were exercised, 3,477,578 shares would be issued for proceeds of A$8,387,067[5]; and

[5] Assuming a C$/A$ exchange rate of 1.11.

- 197,622 restricted share units and 77,359 performance share units outstanding with a nil exercise price and expiry dates ranging between October 20, 2026 and December 5, 2026.

For further details on recent issues of shares and other securities, please refer to the final short form prospectus of the Company dated August 27, 2021 (the "Prospectus") available on the Company's SEDAR profile.

RISKS AND UNCERTAINTIES

The Company's business is subject to numerous risks and uncertainties, including those described elsewhere in this MD&A, as well as general economic and market risks. These risk factors could materially affect the Company's future operating results and could cause actual events to differ materially from those described in forward-looking information relating to the Company.

For a detailed description of risks and uncertainties, please refer to the Prospectus available on the Company's SEDAR profile.

CRITICAL ACCOUNTING JUDGEMENTS AND ESTIMATES

The key reported numbers requiring the use of estimates and critical judgments that may potentially have a significant impact on the Company's earnings and financial position are the useful life of property and equipment and the recognition and amortization of intangible assets.

Intangible assets and property and equipment are amortized or depreciated over their useful lives. Useful lives are based on Management's estimates of the period that the assets will generate revenue, which are periodically reviewed for continued appropriateness. Changes to estimates can result in significant variations in the amounts charged to the statement of comprehensive income in specific periods.

Intangible assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount.