Graphene Manufacturing Group

Management's Discussion and Analysis
For the three and nine month periods ended
March 31, 2023 and 2022

(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 nine month periods ended March 31, 2023 and 2022. This MD&A should be read in conjunction with the unaudited condensed consolidated financial statements for the three and nine month periods ended March 31, 2023 and 2022. The purpose of this document is to provide information on GMG's activities. The information contained herein is dated as of May 26, 2023.

Further information about GMG, including the Company's annual information form dated October 18, 2022, that does not form part of, nor is incorporated within this MD&A, is available 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 January 1, 2023 to March 31, 2023 has been referred to as Q3FY23 and the period from January 1, 2022 to March 31, 2022 has been referred to as Q3FY22. The period from July 1, 2022 to March 31, 2023 has been referred to as 9MFY23 and the period from July 1, 2021 to March 31, 2022 has been referred to as 9MFY22. The financial year ending 30 June 2023 has been referred to as FY23 and the financial year ended 30 June 2022 has been referred to as FY22.

The financial statements of GMG and extracts of those financial statements provided in this MD&A have been prepared in accordance with IAS 34 *Interim Financial Reporting* as issued by the International Accounting Standards Board ("IFRS"). The Company has consistently applied the accounting policies used in the preparation of its IFRS financial statements from period to period, 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 and presentation 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.

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

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 using 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 Brief

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, scalable, 'tuneable' and low/no contaminant graphene with low cost inputs suitable for use in clean-technology and other applications. The Company's present focus is to de-risk and develop commercial scale-up capabilities, while continuing to develop and expand 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. 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.

Within energy savings, GMG has focused on THERMAL-XR®, a graphene enhanced heating, ventilation, air conditioning and refrigeration ("HVAC-R") coating (protective and energy-saving paint), and G® LUBRICANT, a graphene enhanced lubricant additive that seeks to reduce fuel consumption and carbon emissions by reducing internal friction in engines.

Since the recent Australian Government approval for GMG to produce and sell THERMAL-XR® at scale in early 2023, the Company has driven sales activities and is in the process of bolstering related production capacity. Important first sales at scale have recently been secured and the Company's efforts to widen potential market segments is finding positive reception providing strong encouragement for continued sales focus targeting notable near term revenues. GMG sales of THERMAL-XR® in the Heating, Ventilation and Air-Conditioning-Refrigeration (HVAC-R) market is growing in various countries in direct sales to HVAC-R Contractors, with efforts to identify and strike arrangements with local HVAC-R distributors ongoing. The Company has identified a number of markets outside the HVAC-R segment, where it also sees expanded opportunities for THERMAL-XR® applications.

In the energy storage segment, GMG and The University of Queensland are working collaboratively with financial support from the Australian Government to progress further research and development ("R&D") and commercialization of graphene aluminium-ion batteries ("G+Al Batteries"). The Company is pleased overall with its progress and its growing ability to manufacture battery prototypes in-house. As announced on May 17, 2023, GMG and Rio Tinto have signed a binding Joint Development

Agreement with the goal of accelerating the development and application of GMG's Graphene Aluminium-Ion batteries in the mining and minerals industry (refer to page 9 for further details).

As at March 31, 2023, GMG had a cash position of $8,771K and no debt other than lease liabilities. The net loss for the quarter was $2,634K, including the change in fair value of warrants. As outlined in more detail below, the quarterly adjustments included in the net result, required by IFRS to account for certain warrants on issue, are a non-cash item and largely result from movements in GMG's share price during the period. Q3FY23 EBITDA was a loss of $3,778K (refer page 15 for details for non-IFRS adjustments).

In addition, the Chief Financial Officer, Frederick Kotzee, after leading a successful raise last year and supporting the company's strategic steps of establishing sales and selecting a battery development focus, has decided to leave the company and resign as a Director due to a desire to move back to the resources sector and/or more flexible work arrangements effective on the 31 July 2023 and hence the company has commenced an executive search for his replacement.

Business Objectives

GMG continues to be focused on four critical objectives:

1. **Produce Graphene & Improve/Scale Production Process.**
2. **Build Revenue from Energy Savings Products.**
3. **Develop Next-Generation Battery.**
4. **Develop Supply Chain, Partners & Project Execution Capability.**

Business Objective 1: Produce Graphene & Improve/Scale Production Process

GMG expects ongoing iteration and improvement over time of both the graphene quality from the GMG graphene production process, as well as the G+AI Battery performance as GMG further tests, develops, deploys and scales both of these technologies. GMG has increasing confidence that it has found an economically sustainable path to scale the graphene manufacturing and treatment process.

The Phase 1 expansion project to the Company's Graphene manufacturing facilities announced in August 2022 is currently in its final construction phase and is expected to provide additional graphene supply for the ongoing development of Company's graphene aluminium-ion battery prototypes ("G+AI Battery"), as well as the Company's energy saving products. The initial scope of the Phase 1 project has been continuously optimised to be fit for purpose and along with inflation impacts has an updated budget of approximately $2 million (previous estimate $1.5 million) and is expected to commence operations in the second half of 2023 (previous estimate mid 2023).

As announced on February 13, 2023, GMG received full and final approval for all its Graphene products from the Australian Industrial Chemicals Introduction Scheme ("AICIS") of the Australian Government Department of Health and Aged Care under Assessment statement CA09624. This AICIS approval allows GMG to significantly increase the production and sale of GMG graphene-enhanced products to industrial customers in Australia and in countries where no further international approvals are needed. Prior to this approval only smaller volumes to a restricted customer list were permitted (please refer to the full announcement for all terms and conditions).

Business Objective 2: Build Revenue from Energy Savings Products

THERMAL-XR®

As announced in September 2022, GMG has completed the acquisition of the manufacturing intellectual property and brand rights of OzKem Pty Ltd.'s ("OzKem") THERMAL-XR® coating products (the "OzKem Transaction"). Since September, good progress has been made in establishing the in-house blending capability to manufacture THERMAL-XR®. A project is now underway to install and commission the required equipment to manufacture THERMAL-XR® in-house with first production expected to align with the completion of the Phase 1 graphene expansion project, and is not expected to hinder the anticipated TXR sales in the interim period. This blending plant is expected to have the capacity to produce up to two thousand litres of THERMAL-XR RESTORE® coating per eight-hour shift, providing the ability to service growth well into the future. GMG has also procured new laboratory equipment for quality assurance requirements, and to carry-on research and development of extensions and enhancements to the THERMAL-XR® portfolio into an even wider range of applications.

During April 2023, the Company received a sales order for over AU$130,000 (including GST) for THERMAL-XR® sales and service for a large Australian eco-friendly resort for the coating of nearly 200 air conditioners. This is the largest single order for THERMAL-XR® which the Company believes shows increased market acceptance of the graphene-enhanced coating system. Further TXR development work is ongoing, geared towards customer needs and accelerating conversion GMG's existing sales pipeline. This is on the back of other local Australian projects converting into revenue. The Company has also run a direct business to business marketing campaign in Australia for the HVAC-R market with the goal of strengthening brand awareness. Furthermore, GMG continues to progress and negotiate Distributor Agreements for the purchase and resale of THERMAL-XR® for the HVAC-R market in the major demand centres of North America and Asia Pacific. A number of distributor agreements were announced May 24, 2023, with others under negotiation, in particular, with a prominent nationwide American distributor are advanced with the aim to move to significant sales soon.

Following the growing market success of THERMAL-XR® for HVAC purposes the Company is increasing efforts to demonstrate heat management benefits for other applications. THERMAL-XR® sales and third-party service projects in Southeast Asia have occurred – with applications in the data centre cooling sector representing a significant opportunity as according to the IEA it represents up to 1.3% of global electricity demand. Accordingly, the Company has commenced first discussions regarding projects with a number of data centre operators.

The Company is also in discussions with various mining, energy and gas producers in Australia, North America and Asia about the potential for application of THERMAL-XR® to provide increased heat transfer and corrosion resistance for operations, including gas processing heat exchangers, notably liquefied natural gas (LNG) plants. GMG made an initial sale of THERMAL-XR® and coating by GMG for a micro-LNG plant in Australia in late 2022.

GMG's confidence in the success of THERMAL-XR® to shift heat faster than would generally be expected is reinforced by the tests published by the Company in the December 2022, outlining the THERMAL-XR® heat transfer outcomes verified by University of Queensland. Further independent testing is underway, the results of which will be shared as appropriate, when available.

G® LUBRICANT

GMG continues to work with various Southeast Asian customers for infield testing and initial customer orders.

Further Research and Development assessment is in progress.

G® LUBRICANT is a concentrate of GMG Graphene and lubricating oil that is designed for ENERGY SAVINGS and EMISSION SAVINGS and wear prevention. The concentrate can be added to an existing fully formulated lubricant or tailored by Graphene Manufacturing Group as an addition to the client's choice of fluid. G® LUBRICANT protects the friction surfaces and reduces the friction coefficient by forming a protective layer between metal interfaces.

Business Objective 3: Develop Next-Generation Battery

GMG's Battery Development Centre ("BDC") for its G+AI Batteries has been operational since Q2FY22 and was further upgraded during Q3FY22 enabling the research and development of battery prototypes in a spacious, fully integrated work environment. The BDC also incorporates the equipment required to assemble and test battery prototypes. The Company has also successfully increased its organisational capability by attracting new staff experienced in pouch cell development, thereby enabling the acceleration of its battery development and performance optimisation programme.

During Q4FY22, GMG commissioned additional pouch cell development equipment and produced the first single layer working pouch cell prototype.

During Q3FY23, GMG received regulatory and local council approvals for the commercial scale manufacturing of batteries at its existing Richlands site in Brisbane Australia. To date GMG has been adhering to a research and development regulatory approval to make battery cell prototypes. In addition, this site already has council approvals that allow GMG to manufacture its graphene. These regulatory approvals are an important step in GMG's consideration at an appropriate future time to build and operate a battery manufacturing plant at the GMG Headquarters at Richlands.

In December GMG provided a further update on its ongoing investment in the Company's BDC including an additional $600,000 in capital expenditure, to accelerate the progress of semi-automatic pouch cell prototype production. At that time key members of GMG's Battery Team visited its United Kingdom partners to inspect the partially built automated cell assembly equipment, and again in May 2023 for final acceptance testing and sign-off.

The additional CAPEX expenditure will assist with future optimisation, prototype development and production, consistency in performance and assembly times in the BDC. The additional equipment is expected to be operational mid 2023.

RIO TINTO JOINT DEVELOPMENT AGREEMENT

On May 17, 2023, GMG and Rio Tinto signed a binding Joint Development Agreement ("JDA") with the goal of accelerating the development and application of GMG's Graphene Aluminium-Ion batteries in the mining and minerals industry. Rio Tinto will contribute technical and operational performance criteria and up to AU$6 million, in exchange for preferential access rights.

The JDA builds on the existing collaboration for Rio Tinto to explore the use of GMG's Energy Saving and Energy Storage solutions (see Company announcement on May 18, 2022). This JDA is effective immediately and is expected to last 2 years with payments spread over the term of the agreement. The JDA aims to co-develop GMG's Graphene Aluminium-Ion battery pouch cell into an initial battery pack/module for a proof-of-concept trial.

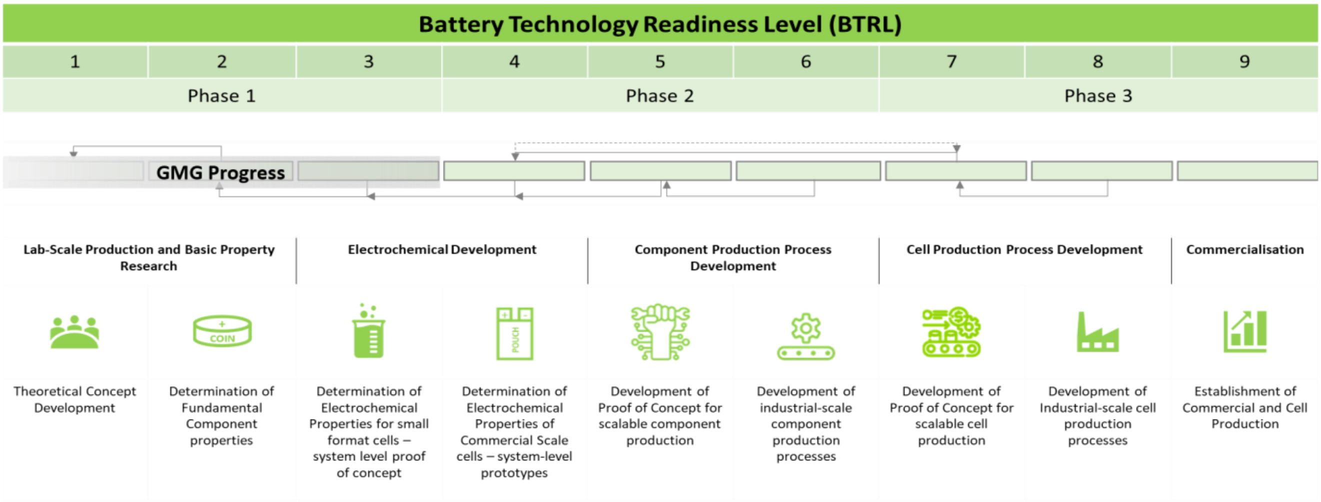
Rio Tinto will seek to involve Original Equipment Manufacturers ("OEM"), including Heavy Mobile Equipment OEMs, to work with GMG and Rio Tinto to align the battery pack development requirements. Success could see performance enhancements for Rio Tinto, including faster charging and longer-life batteries for heavy mobile equipment and grid energy storage, as well as supporting Rio Tinto's decarbonisation ambitions.

GMG will retain ownership of the intellectual property of the GMG Graphene Aluminium Ion Battery Pouch Cell and Battery Pack. On successful completion of the joint project, Rio Tinto would have the right to procure and use the batteries in their operations.

More broadly, significant customer feedback to GMG has reinforced the opportunity of the pouch cell battery format and this JDA with Rio Tinto is another example. Pursuant thereto, GMG will now re-prioritise its energies to developing Pouch Cell prototypes and will no longer pursue the commercialisation of coin cell batteries in the short to medium term.

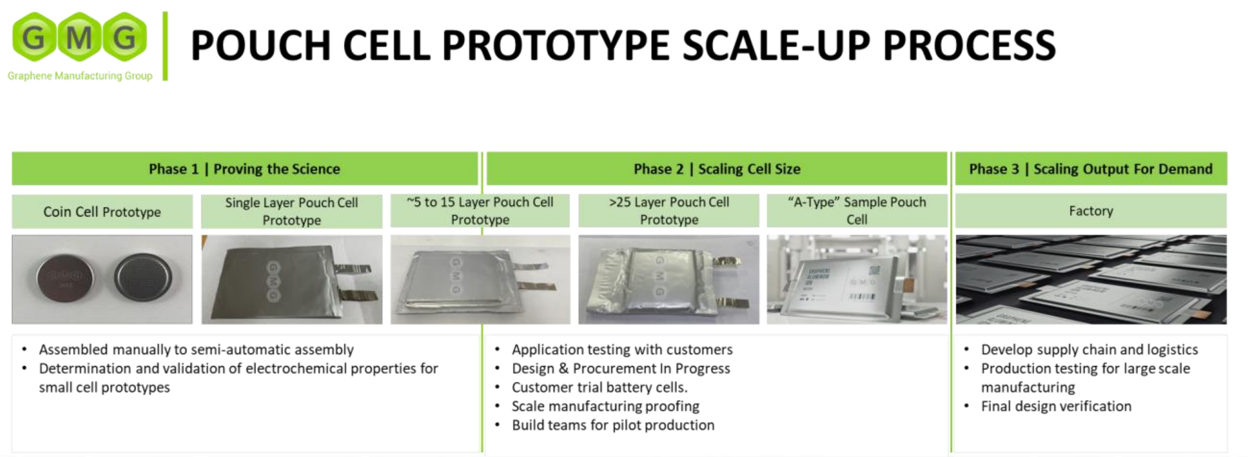
POUCH CELL DEVELOPMENT

The Battery Technology Readiness Level ("BTRL") of the pouch cell technology has been assessed by the Company and its Technical Advisory Committee ("TAC") members as iterating between BTRL levels 2 and 3, which is focused on the determination of electrochemical properties, including new and different materials, of the different component of the batteries.



Source: "The Battery Component Readiness Level (BC-RL) Framework: A technology-specific development framework", Matthew Greenwood et al

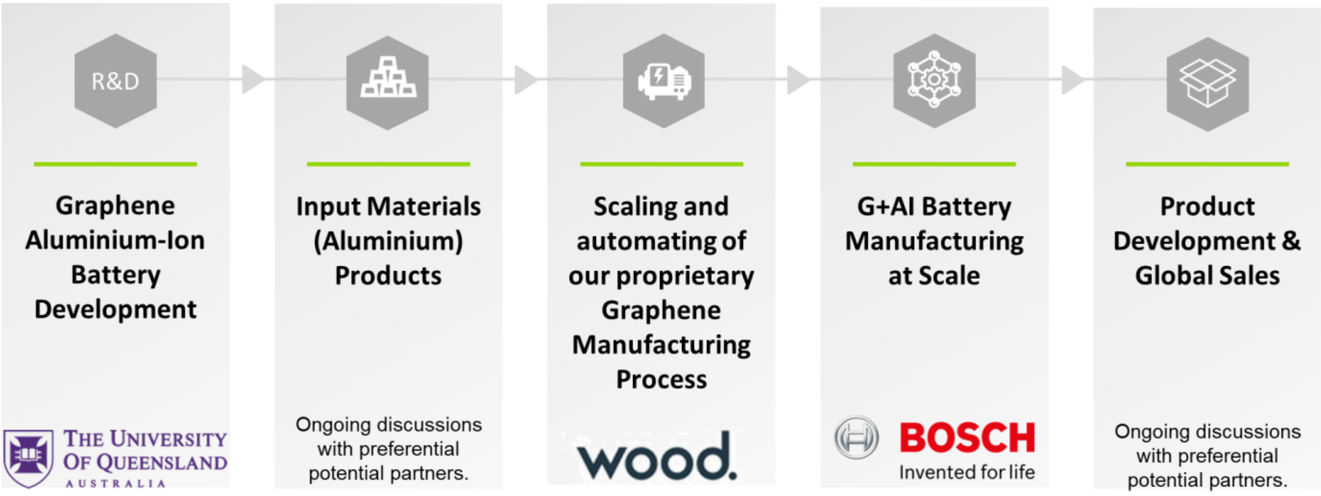
The Company is currently within phase 1 (as the TAC has assessed GMG's BTRL at between 2 and 3) in the development of the pouch cell, where it is developing single layer pouch cells for testing. Following delivery and commissioning of its semi-automated stacker, focus will shift to make multi layer pouch cells. Focus is on achieving BTRL level 3 and thereby completing phase 1.



GMG continues to focus on scientific, technical and engineering methods to optimise capacity, energy and power density, other standard battery performance criteria and overall design of pouch cells. With this progress and current plans the company aims to progress from the current pouch cell "proof of concept" prototypes to early pouch cell viability prototype stages and subsequent stages of commercial cell development(s).

Business Objective 4: Develop Supply Chain, Partners & Project Execution Capability

GMG continues to focus on developing and strengthening its battery value chain partnerships. GMG believes this approach will derisk, optimise, position and accelerate GMG's G-AI Battery technology success.



Ongoing engagement between our partners continued throughout the quarter.

The GMG Battery Team and Key Management, GMG's Technical Advisors, along with UQ Australian Institute for Bioengineering and Nanotechnology ("AIBN") battery experts, congregated for a Technical Deep Dive workshop for further progression for the Graphene Aluminium-Ion Battery. Further development, engineering, design, material sourcing, and trial battery prototype components to achieve the user-required performance data were some of the many agenda items that were tabled.

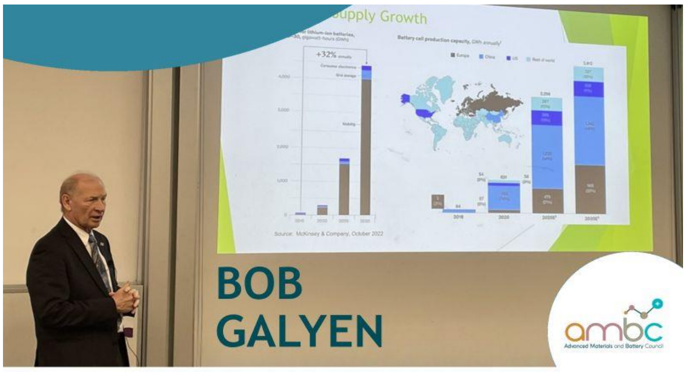
Wood is supporting the recently announced graphene manufacturing expansion and the Company is currently engaging with Bosch to further develop its understanding and framing of the automated battery manufacturing project for pouch cell batteries.

In addition to the Rio Tinto JDA, non-disclosure agreements have been signed with a number of international, high profile potential customers across a wide range of industry segments to explore opportunities to collaborate, understand their application requirements and priorities for the subsequent development and commercial production of GMG's battery prototypes.

The Company continues to assess the appropriate battery development and commercialisation pathway taking into account technical, engineering and customer perspectives.

GMG is a founding member of the Australian Advanced Material and Battery Council ("AMBC") that was officially launched at Queensland Parliament House in October, 2022. Craig Nicol is the council's Chair.

GMG Battery Technical Committee member Bob Gaylen addressed members of the Advanced Materials & Battery Council as part of his battery technical tour in Australia.



ENVIRONMENTAL, SAFETY, GOVERNANCE COMMITTMENT

"No Harm to People or Environment" remains at the core of GMG's values. The board appointed Sustainability Committee continues to take a holistic view of sustainability factors with a vision to enrich our environment and society. The United Nations 17 Sustainable Development Goals ("SDGs") were identified as the benchmark for goal alignment and enabled the Sustainability Committee to identify key focus areas.

GMG is committed to focus on targeted SDGs where the Company can best contribute. These are currently identified as:

- # 7 Ensure access to affordable, reliable sustainable and modern energy for all.
- # 13 Take urgent action to combat climate change and its impact.
- # 9 Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

These goals form part of the standing agenda within the Sustainability Committee and are aligned with goals in GMG's business plan.

GMG is committed to providing transparent reporting on the Company's carbon emissions footprint from its operations, verified by an independent party using the National Greenhouse and Energy Reporting Framework and guidance notes on estimating emissions and energy from industrial processes. Once GMG's baseline carbon emissions are verified, GMG is committed to continued focus on Environmentally Sustainable Governance practices to ensure ongoing improvement within its business activities. Through the application and use of GMG's products and services the Company will continue to maintain transparent reporting on its carbon footprint and carbon footprint reductions through the application of energy saving products and services with our customers.

FINANCIAL HIGHLIGHTS

Income Statement

$'000 unless otherwise stated	3 month period ended March 31 2023	2022	9 month period ended March 31 2023	2022	Variation $'000	%
Revenue from operations	24	9	114	37	*77*	*208%*
Other income including subsidies, grants and incentives	25	6	168	49	*119*	*243%*
Employee expenses	(2,350)	(1,152)	(6,623)	(3,320)	*(3,303)*	*99%*
Plant expenses	(85)	(86)	(363)	(199)	*(164)*	*82%*
Occupancy expenses	(97)	(59)	(275)	(141)	*(134)*	*95%*
Overheads expenses	(1,295)	(489)	(3,097)	(1,699)	*(1,398)*	*82%*
Change in fair value of warrants	1,493	3,777	3,067	(8,011)	*11,078*	*(138%)*
Finance costs	(28)	(20)	(151)	(34)	*(117)*	*344%*
Depreciation and amortisation	(321)	(109)	(814)	(216)	*(598)*	*277%*
Profit / (loss) before income tax	**(2,634)**	**1,877**	**(7,974)**	**(13,534)**	***5,560***	***(41%)***
Income tax expense	-	-	-	-	-	-
Profit / (loss) for the period	**(2,634)**	**1,877**	**(7,974)**	**(13,534)**	***5,560***	***(41%)***
Basic and diluted profit / (loss) per share (cents)	(3.22)	2.42	(9.93)	(17.98)	*8.06*	*(45%)*
Non-IFRS financial measures [(1)]						
EBITDA	(3,778)	(1,771)	(10,076)	(5,273)	*(4,803)*	*91%*
Adjusted loss before income tax	(4,127)	(1,900)	(11,041)	(5,523)	*(5,518)*	*100%*
Adjusted basic and diluted loss per share (cents)	(5.04)	(2.45)	(13.74)	(7.34)	*(6.40)*	*87%*

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

Balance Sheet

$'000	As at 31 March, 2023	As at 30 June, 2022
Cash and cash equivalents	8,771	12,258
Trade and other receivables	215	143
Research and development grants receivable	-	1,412
Inventories	333	350
Other current assets	179	318
Property, plant and equipment	3,893	2,162
Intangible assets	1,797	33
Total assets	**15,188**	**16,676**
Trade and other payables	1,291	804
Lease liabilities	265	137
Financial liabilities	2,644	4,410
Employee benefit liabilities	229	207
Provisions	19	20
Long term liabilities	1,303	998
Total liabilities	**5,751**	**6,576**
Total equity	**9,437**	**10,100**

Summary of Cash Flows

$'000	9 month period ended March 31 2023	2022	Variation $'000	%
Net cash used in operating activities	(7,043)	(4,308)	*(2,735)*	*(63%)*
Net cash used in investing activities	(2,688)	(631)	*(2,057)*	*(326%)*
Net cash from financing activities	6,276	15,749	*(9,473)*	*(60%)*
Net increase / (decrease) in cash and cash equivalents	**(3,455)**	**10,810**	*(14,265)*	*(132%)*

Selected Quarterly Financial Information

The following table contains selected reviewed consolidated quarterly financial information for the last eight quarters through to March 31, 2023:

IFRS

$'000 unless otherwise stated		**Revenue**	**Other income**	**Profit / (loss)**	**Basic and diluted profit / (loss) per share (cents)** (1)	**Notes (IFRS)**
Q3-2023	March 31, 2023	24	26	(2,634)	(3.22)	1
Q2-2023	December 31, 2022	4	-	(1,781)	(2.22)	2
Q1-2023	September 30, 2022	85	143	(3,559)	(4.51)	3
Q4-2022	June 30, 2022	17	1,413	1,764	2.25	4
Q3-2022	March 31, 2022	9	6	1,877	2.42	5
Q2-2022	December 31, 2021	15	39	(16,252)	(21.22)	6
Q1-2022	September 30, 2021	13	4	841	1.18	7
Q4-2021	June 30, 2021	38	798	(5,384)	(7.91)	8

NON-IFRS

$'000 unless otherwise stated		**Profit / (loss)**	**Less: Adjustment items** (2)	**Adjusted Profit / (loss)**	**Adjusted basic and diluted profit / (loss) per share (cents)** (1)
Q3-2023	March 31, 2023	(2,634)	(1,493)	(4,127)	(5.04)
Q2-2023	December 31, 2022	(1,781)	(2,267)	(4,048)	(5.04)
Q1-2023	September 30, 2022	(3,559)	693	(2,866)	(3.63)
Q4-2022	June 30, 2022	1,764	(3,452)	(1,688)	(2.15)
Q3-2022	March 31, 2022	1,877	(3,777)	(1,900)	(2.45)
Q2-2022	December 31, 2021	(16,252)	14,190	(2,062)	(2.69)
Q1-2022	September 30, 2021	841	(2,403)	(1,562)	(2.18)
Q4-2021	June 30, 2021	(5,384)	4,058	(1,326)	(1.95)

(1) Adjusted for the impact of the Share Split Transaction as disclosed in the unaudited condensed consolidated financial statements for the three months ended September 30, 2022 and 2021.

(2) Refer to Non-IFRS financial measures for further information. Adjustment items relate to the change in fair value of warrants, in addition to, a listing expense associated with Cuspis Capital Ltd of $2,226K (in the three month period ended June 30, 2021).

Notes (IFRS):

1. The loss of $2,634K in Q3FY23 was primarily $3,827K of operating expenses, primarily due to continued expansion of staff resources and increased costs of R&D for product development, offset by a gain from the reduction of in the fair value of financial liabilities of $1,493K arising from changes in GMG's share price since the prior reporting date at December 31, 2022.
2. The loss of $1,781K in Q2FY23 was primarily $3,682K of operating expenses, that were higher due to increases in staff resources, offset by a gain from the reduction of in the fair value of financial liabilities of $2,267K arising from changes in GMG's share price since the prior reporting date at September 30, 2022.
3. Revenue during the quarter included $85K for TXR sales and installation, in addition to $143K of additional refundable R&D tax offset, recoverable from further assets qualifying for immediate tax write-off. The higher loss in Q1FY23 is driven by increased staff employed, premises occupied and plant and equipment compared to Q1FY22. This accelerated growth is reflected in the higher employee, overhead and depreciation expenses, in addition to a $693K increase in the fair value of financial liabilities due to the higher share price since FY22.
4. The profit in Q4FY22 was driven by higher revenue, mainly comprised of the refundable R&D tax offset of $1,412K for FY22, as well as the gain recognised from the reduction in the fair value of financial liabilities. The reduction in fair value was attributable to GMG's lower share price at reporting date compared to the prior quarter end on March 31, 2022. Higher operating expenses were mainly driven by the increase in staff resources in line with the strategic growth of the business.
5. The profit in Q3FY22 was driven by a reduction in the fair value of financial liabilities due mainly to changes in GMG's share price compared to the prior reporting date at December 31, 2021. Lower revenues are considered a normal fluctuation given GMG's various products being at an early stage of commercialisation.
6. The increase in Q3FY22 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.
7. The 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 and other income were due mainly to the refundable R&D tax offset of $736K and the $84K Export Market Development Grant in the prior quarter and conclusion of a quarterly take or pay customer contract at 30 June 2021.
8. Revenue and other income in Q4FY21 was mainly 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.

OPERATIONS

Non-IFRS financial measures

This MD&A refers to measures of EBITDA and 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. Management considers these measures appropriate as they reflect the underlying operational performance of the business.

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 March 31		9 month period ended March 31	
$'000 unless otherwise stated	**2023**	**2022**	**2023**	**2022**
Loss for the period	(2,634)	1,877	(7,974)	(13,534)
Less:				
Change in fair value of warrants	(1,493)	(3,777)	(3,067)	8,011
Total adjustment items	(1,493)	(3,777)	(3,067)	8,011
Adjusted loss for the period	**(4,127)**	**(1,900)**	**(11,041)**	**(5,523)**
Loss per share (1)				
Basic and diluted (cents) (2)	(3.22)	2.42	(9.93)	(17.98)
Adjusted basic and diluted (cents) (3)	(5.04)	(2.45)	(13.74)	(7.34)
Weighted average number of ordinary shares - basic and diluted	81,805,717	77,703,832	80,344,564	75,257,198

(1) *Due to the loss recognised for the years, all outstanding stock options, warrants, broker warrants, restricted share units and performance share units 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 March 31		9 month period ended March 31		Variation	
$'000	**2023**	**2022**	**2023**	**2022**	**$'000**	**%**
Revenue from operations	24	9	114	37	*77*	*208%*
Grants, subsidies and tax incentives	-	6	142	31	*111*	*358%*
Interest, sundry and forex gains	25	-	26	18	*8*	*44%*

Revenue from operations were higher at $24K in Q3FY23 compared to $9K in Q3FY22, compromising TXR kits sold to domestic HVAC service providers and internationally.

Since the recent Australian Government approval for GMG to produce and sell THERMAL-XR® at scale, the Company has driven sales activities and is in the process of bolstering related production capacity. Important first sales at scale have recently been secured and the Company's efforts to widen potential market segments is finding positive reception providing strong encouragement for continued sales focus targeting notable near term revenues. GMG sales of THERMAL-XR® in the Heating, Ventilation and Air-Conditioning-Refrigeration (HVAC-R) market is growing in various countries in direct sales to HVAC-R Contractors, with efforts to identify and strike arrangements with local HVAC-R distributors ongoing. The Company has identified a number of markets outside the HVAC-R segment, where it sees expanded opportunities for TXR applications.

Other income

Other income mainly comprised $25K of foreign exchange gains, with the 9MFY23 result including $142K of additional refundable R&D tax offset recovered during the year. In comparison, the prior Q3FY22 period included mainly grants received, including an Export Market Development Grant as well as Entrepreneur Programme Government Grant.

Operating costs

Global economic market conditions have resulted in an increase in operating expenses. Management continues to monitor these inflationary pressures and strictly control operating expenses where feasible.

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

	3 month period ended March 31		9 month period ended March 31		Variation	
$'000	**2023**	**2022**	**2023**	**2022**	**$'000**	**%**
Employee expenses	2,350	1,152	6,623	3,320	*3,303*	*99%*
Plant expenses	85	86	363	199	*164*	*82%*
Occupancy expenses	97	59	275	141	*134*	*95%*
Overheads expenses	1,295	489	3,097	1,699	*1,398*	*82%*
Total operating expenses	**3,827**	**1,786**	**10,358**	**5,359**	***4,999***	***93%***

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

Employee expenses

Employee expenses consist of salaries and employee related overheads (primarily superannuation and payroll tax), 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.

Overall employee expenses increased from $1,152K in Q3FY22 to $2,350K in Q3FY23, primarily due to the expansion of staff resources, inclusive of $211K recruitment related costs and $497K of share based payments expense. An increase in staff numbers has resulted in a corresponding increase in other staff related expenses and on-costs.

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 $70K in Q3FY23, with the main difference to the $81K spend in Q3FY22 being reduced machinery consumable costs incurred.

Occupancy

Occupancy expenses relate primarily to lease costs for the production facilities located at Sumner, Queensland held under short-term leases. 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.

The Company's Richlands Headquarters and warehouse lease meets the recognition criteria as a right-of-use ("**ROU**") asset under IFRS 16. The ROU asset and corresponding lease liability are recognised on the balance sheet with lease payments split between lease liability principal repayments and interest expense and therefore do not appear under occupancy expenses. Depreciation of the leased asset is recorded on a straight-line basis.

Overall occupancy expenses increased from $59K to $97K from Q3FY22 to Q3FY23, primarily due to $29K higher rental outgoings and electricity costs associated with the Company's Richlands headquarters lease, including the new warehouse lease from July 2022, which has resulted in a corresponding increase in all other occupancy expenses.

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, filing fees and warrant transaction costs will be uncorrelated to the number of employees, product offerings or number of customers. The following are various operational sub-items that constitute 'Overheads', excluding the expensing of transaction costs, for which the change from Q3FY22 to Q3FY23 has been greater than $10,000:

- Consultants and contracting expenses increased from $170K in Q3FY22 to $518K in Q3FY23, reflective of the additional specialist technical consultants engaged throughout the business including for capital projects, North America sales representation and additional contract staff to assist with the expansion of staff resources;
- Accounting and tax planning expenses increased to $77K in Q3FY23 from $16K in Q3FY22 primarily due to additional professional services used and compliance costs incurred in respect of the base shelf prospectus, quarterly reviews and capital raising, including tax advisory and valuation services;

- Legal expenses of $54K in Q3FY23 were higher than the $19K incurred during Q3FY22, due to additional legal consultation for various commercial agreements and matters, as well as base shelf prospectus advisory costs and ongoing general advisory fees;
- Insurance increased from $38K in Q3FY22 to $90K in Q3FY23, mainly due to increases in policy coverage and limits, ongoing business growth, and expansion of business premises since Q3FY22;
- International and domestic travel expenses collectively increased from $6K in Q3FY22 to $138K in Q3FY23 due to travel costs associated with investor engagements, R&D projects, sales representatives, technical advisory, marketing events and corporate planning workshops;
- Testing and quality control expenses increased from $8K in Q3FY22 to $67K in Q3FY23 primarily due to increased costs associated with energy storage testing performed in conjunction with the University of Queensland;
- R&D expenses were $28K higher in Q3FY23 compared to Q3FY22, mainly due to Stanford University expenses which were not yet present in Q2FY22, as well as higher University of Queensland research project costs incurred; and
- Marketing expenses were $21K in Q3FY23 compared to $6K in Q3FY22, due to costs associated with TXR related presentations by GMG sales representatives at various energy expos, as well as the corresponding increase in call centre activity arising from higher product awareness.

Fair value of warrants

The change in fair value of warrant liability of $1,493K was driven by the fair valuation adjustment which is in particular highly sensitive to the share price at each reporting date compared to the previous reporting date among other factors.

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.

FINANCIAL POSITION, LIQUIDITY AND CAPITAL RESOURCES

Cash and cash equivalents have decreased by $3,487K in 9MFY23. Operating cash outflows together with $2,688K spend on acquisitions of plant, equipment and intellectual property rights as part of the planned business growth, were offset primarily by gross proceeds of C$5.75 million raised from the Bought Deal Offering in November 2022, $1.55 million of R&D tax incentive received, as well as proceeds from the exercise of warrants and options. Further information regarding the share capital movements is disclosed in the unaudited condensed consolidated interim financial statements for the three and nine months ended March 31, 2023.

Trade and other receivables of $215K as at March 31, 2023, is primarily $180K of GST receivables at the end of the quarter, $21K of trade receivables from sales of THERMAL-XR® and G® LUBRICANT, $13K held in respect of an insurance claim on flood damage to office space and a minor trade receivable.

Inventories decreased by $17K in 9MFY23 to $333K as at March 31, 2023, mainly due to a reduction in THERMAL-XR® stock from increased sales activity, offset by increases in graphene powder production. The construction for the graphene expansion project at the new Richlands warehouse has been optimised to be fit for purpose, and has an updated budget of approximately $2 million and is expected to commence operations in the second half of 2023.

Other current assets of $179K is largely $170K of prepayments, primarily $46K for leased premises costs including related outgoings, $38K for insurance, $28K prepaid raw materials, $25K filing fees, $19K for investor relations and platform costs, $7K for research and development costs and $6K for upcoming marketing conference costs.

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 $1,291K at March 31, 2023 remains higher than June 30, 2022, mainly due to $500K being the remaining consideration yet to be issued for the OzKem Transaction.

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.

Timing for commercialisation of G+AI Batteries will depend on the further successful development of a commercial G+AI pouch prototype including the process technology required to produce the necessary grade graphene powder. GMG continues to work on various scientific and engineering methods to optimise capacity, energy and power density, other standard battery performance criteria and overall design of pouch cell products. With this progress and current plans the company aims to progress from the current pouch cell viability prototype to early pouch cell commercial prototype stages and subsequent stages of cell development(s).

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. A large part of the strategy will involve identifying and recruiting distribution channel partners and providing them the marketing, product and technical support necessary to grow revenues in their regions. Since the recent Australian Government approval for GMG to produce and sell THERMAL-XR® at scale, the Company has driven sales activities and is in the process of bolstering related production capacity.

In 9MFY23, the Company incurred a loss of $7,974,292 after income tax and net cash outflows from operating activities of $7,043,536. As at March 31, 2023, the Company had net current assets of $5,049,632 (June 30, 2022: $8,902,964).

The ability of the Company to continue as a going concern is principally dependent upon current cash funding held and the ability to raise additional capital or secure other forms of financing, as and when necessary to meet the levels of expenditure required for the Company. This is required to continue its ongoing development and commercialisation of energy saving and energy storage solutions and to meet the Company's working capital requirements.

These conditions give rise to material uncertainty which may cast significant doubt over the Company's ability to continue as a going concern.

Whilst acknowledging these uncertainties, the Directors have concluded that the going concern basis of preparation of the MD&A is appropriate considering the following circumstances:

- As at March 31, 2023, the Company had cash on hand of $8,770,642, which is anticipated to be sufficient to meet the ongoing corporate costs and expected project expenditure in the short to medium term;
- As at the date of this report there are 4,271,233 options and 4,360,480 warrants on issue with exercise prices ranging from AUD$0.36 to AUD$3.02[1]. If exercised these could raise up to $16,793,195 in additional capital;
- On May 17, 2023, GMG and Rio Tinto signed a binding Joint Development Agreement ("JDA") as detailed on page 9, where subject to the terms and conditions of the agreement, Rio Tinto will contribute technical and operational performance criteria and up to A$6 million, in exchange for preferential access rights;
- The Company continues to closely monitor expenditure, and the Board is confident that it will be able to manage its cash resources appropriately;
- The Company continues to engage with potential energy saving products customers with the aim to increase sales; and
- To the extent required, the Company has capacity under the TSXV Listing Rules to raise further funds through the issue or placement of securities and currently has a Base Shelf Prospectus readily available on SEDAR for this purpose.

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

Should the Company be unable to continue as a going concern, it may be required to realise its assets and extinguish its liabilities other than in the ordinary course of business, and at amounts that differ from those stated in the MD&A. This MD&A does not include any adjustments related to the recoverability and classification of recorded asset amounts or classification of liabilities and appropriate disclosures that may be necessary should the Company be unable to continue as a going concern.

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, the companies outstanding warrants and options, and the recently announced "bought deal", Management considers liquidity risk to be low for the 2023 calendar year. 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 March 31, 2023, 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 May 24, 2023, the Company has:

- 81,973,169 ordinary shares issued and outstanding;
- 4,271,233 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, 4,271,233 shares would be issued for proceeds of A$2,148,151[2];
- 4,360,480 warrants outstanding with expiry dates ranging between September 2, 2024 and November 30, 2026, with exercise prices between C$2.05 and C$3.35. If all the warrants were exercised, 4,431,325 shares would be issued for proceeds of A$14,645,043[1]; and
- 975,523 restricted share units and 111,867 performance share units outstanding with a nil exercise price and expiry dates ranging between July 18, 2023 and October 27, 2027.

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. A detailed description of risks and uncertainties is not incorporated herein. For a detailed description of risks and uncertainties, please refer to the Prospectus available on the Company's SEDAR profile.

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