For immediate release **6 October 2022**

Haydale Graphene Industries plc

('Haydale', the 'Company', or the 'Group')

Final Results

Haydale (AIM: HAYD), the global advanced materials group, is pleased to announce its full year results for the year ended 30 June 2022 ("FY22").

Operational Highlights:

- Good progress scaling up operations to take advantage of current commercial opportunities
  - Successfully commissioned the larger HT1400 plasma reactor which is delivering a significant increase in functionalisation capacity to allow production to move to an industrial level in FY23
- Positive progress in the energy, heating and power storage sectors
  - Exclusive supply agreement with High Tech Systems Limited to manufacture a thermal fluid, Hi-Therm®, initially for domestic heating systems. Ahead of contractual volumes at the financial year-end
  - Working with Cadent and the Energy Innovation Centre to develop graphene ink-based heaters for a low power water heater prototype
  - Signed a memorandum of understanding with Viritech Ltd for collaboration on the delivery of advanced hydrogen powertrain solutions for the automotive, aerospace, marine and distributed power industries
- Working in the glucose monitoring and diabetes management sector to develop a biomedical ink that improves the speed and accuracy of test
- Signed a contract with Vittoria Spa, the leading cycle tyre manufacturer, for the supply of one tonne of functionalised graphene nanomaterial
- Focused development of our patented HDPlas® process with key achievements including
  - liquid doping technology that allows graphene to be dosed with microscopic levels of metals to enhance the conductivity and resistivity of our functionalised inks
  - Using graphene inks to develop underfloor heating solutions that may offer an energy efficient, cost effective and easy to install underfloor heating system

Financial Highlights

- Revenue at £2.90 million (FY21: £2.90 million) – robust performance given pull forward of £1.22m silicon carbide and £0.4m one-time reactor sale in prior year
- Investment in sales, marketing, quality assurance and production capability saw adjusted administrative expenses increase by 17% to £5.52 million (FY21: £4.72 million)
- Adjusted operating loss increased by £1.16 million to £3.33 million (FY21: £2.17 million)
- Cash outflow from operations increased by £1.59 million (101%) to £3.17 million (FY21: £1.58 million)

– £5.51 million fundraising completed post period end with 138.8 million warrants issued yielding up to a further £2.8 million when exercised

Commenting on the results David Banks, Non-executive Chair of Haydale, said:

'The clear priorities remain to commercialise our cutting-edge functionalisation technology. The progress we have made during the year and the opportunities that we are seeing gives us confidence that we are on a steady path to more widespread adoption of our technology and the benefits, both performance and environmental, that it can bring.

The Directors remain mindful that the economic backdrop remains uncertain and that risks that could impinge on our operations persist. However, the solid progress made in our core business during the year continues to reinforce the Directors' belief that, whilst navigating the new industrial landscape will remain challenging and forward momentum is unlikely to be smooth, the Company is moving in the right direction.'

For further information:

Haydale Graphene Industries plc

Keith Broadbent, CEO — Tel: +44 (0) 1269 842 946

Mark Chapman, CFO

www.haydale.com

finnCap (Nominated Adviser & Broker)

Julian Blunt/Edward Whiley/George Dollermore - Corporate Finance — Tel: +44 (0) 20 7220 0500
Andrew Burdis, ECM

Notes to Editors

Haydale is a global technologies group and service provider that facilitates the integration of graphene and other nanomaterials into the next generation of industrial materials and commercial technologies. With expertise in graphene, other nanomaterials and Silicon Carbide, Haydale is able to deliver improvements in electrical, thermal and mechanical properties, Haydale has been granted patents for its technologies in Europe, USA, Australia, Japan and China and operates from five sites in the UK, USA and the Far East. For more information please visit: www.haydale.com or Twitter: @haydalegraphene

Caution regarding forward looking statements
Certain statements in this announcement, are, or may be deemed to be, forward looking statements. Forward looking statements are identified by their use of terms and phrases such as "believe", "could", "should" "envisage", "estimate", "intend", "may", "plan", "potentially", "will" or the negative of those, variations or comparable expressions, including references to assumptions. These forward-looking statements are not based on historical facts but rather on the Directors' current expectations and assumptions regarding the Company's future growth, results of operations, performance, future capital and other expenditures (including the amount, nature and sources of funding thereof), competitive advantages, business prospects and opportunities. Such forward looking statements reflect the Directors' current beliefs and assumptions and are based on information currently available to the Directors.

A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements including risks associated with vulnerability to general economic and business conditions, competition, environmental and other regulatory changes, actions by governmental authorities, the availability of capital markets, reliance on key personnel, uninsured and underinsured losses and other factors, many of which are beyond the control of the Company. Although any forward looking statements contained in this announcement are based upon what the Directors believe to be reasonable assumptions, the Company cannot assure investors that actual results will be consistent with such forward looking statements. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Subject to any continuing obligations under applicable law or any relevant AIM Rule requirements, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

CHAIR'S STATEMENT

Introduction

I am pleased to present Haydale Graphene Industries Plc's ("Haydale", the "Group" or the "Company") full year audited results to 30 June 2022 ("FY22").

The Group continued to make positive progress during the year on its journey to delivering sustainable commercial revenues. During H2 FY22 we saw positive sales development, especially within the UK operations, and we anticipate that this momentum will continue into the current financial year.

Summary financials

Commercial revenue for FY22 of £2.90 million (FY21: £2.90 million) remained in line with the prior year which was a robust performance given the exceptional support that we received from our largest customer in FY21. Gross profit marginally reduced to £1.75 million (FY21: £1.98 million) delivering a gross profit margin of 60.0% (FY21: 68.2%) broadly in line with prior year. Other operating income for the year of £0.44 million (FY21: £0.58 million) was lower than the prior year but this reflected the £0.14 million federal support received by our US subsidiary in FY21. Adjusted administrative expenses increased by £0.80 million (16.9%) to £5.52 million (FY21: £4.72 million). Total Administrative Expenses were £7.24 million (FY21: £6.11 million). Loss for the year was £4.81 million (FY22: £3.41 million).

Operational Highlights

The Group made good progress towards its longer-term goals in the year. The priorities of delivery of commercial revenue, focussed investment in our physical and human capacity and development of our technology remains central to our strategy.

During the year we successfully commissioned the new HDPlas® HT1400 plasma reactor which allows us to manufacture functionalised nanomaterials on an industrial scale. In tandem with bringing that capacity on stream we continued to invest in our technical development and submitted a patent for the use of liquid doping technology which will allow us to extend the scope of the enhancements we can bring to products such as our conductive inks. We looked to further strengthen our teams across all Group sites and invested in sales, marketing, quality and production resource to ensure that we are in a position to scale up our operations safely and effectively.

The principal trading impact on the Group of Covid-19 since early 2020 has been the slowdown in the global aviation sector which has reduced demand for the SiC and the ceramic cutting tools produced by our US facility. In H2 FY22 we saw demand for these products begin to recover, and our finished tools are gaining commercial traction within the North American aerospace and automotive sectors.

Staff

I would like to thank the executive management team who continue to drive the difficult transition from an R&D focused organisation to a sustainable commercial operation. I would also like to thank our staff for their continued resilience and flexibility, and it is through their endeavours that we have been able to make the progress that we have in the year.

Funding

On 12 September 2022, the Company completed an equity placing and open offer raising £5.51 million (gross) and I would like to welcome our new shareholders and to thank our existing shareholders for their continued support, especially so against the backdrop of a more turbulent economic landscape.

Outlook

During the year we made significant investments in both our functionalisation capacity and in the wider team that allows us to deliver sustainable revenues for the Company. With the fundamental building blocks in place, the Board remains confident that the Company will be able to take advantage of the commercial traction it is seeing.

David Banks
Chair
5 October 2022

STRATEGIC REPORT

The financial year ended 30 June 2022 ("FY22") has seen the Group deliver a resilient performance in the year against a turbulent economic backdrop and the directors are pleased to report that the commercial progress accelerated in the second half of the year within the core graphene and other nano particle operations in the UK. Revenue has been impacted by the slower than anticipated recovery from the pandemic at the Group's US operation and this has weighed on the overall financial performance in the Year.

The Group continues to transform itself from a research and development organisation into a manufacturing business focussed on commercialising its portfolio of technology and securing profitable outcomes. In the latter part of the year the Company successfully commissioned a larger plasma reactor that, when fully optimised, will deliver a significant increase in our functionalisation capacity and provide the means to move production to an industrial level.

UK & Europe

The UK division made robust progress towards commercialising its proprietary technology in the year. Total sales (excluding reactor sales of £0.40 million in the prior year) increased by £0.46 million (89%) on FY21. Functionalised product sales (goods) increased by 270% over the prior year and project and other consultancy revenues (services) grew by 19% on a like for like basis.

Product Sales & Consultancy Services

Haydale has been working in the energy, heating and power storage sectors for a number of years. Geopolitical events and closer to home severe weather incidents, when set against the backdrop of the UK Government's net zero carbon strategy, have brought an increased urgency to this work. In January 2022 the Company signed an exclusive supply agreement to manufacture a thermal fluid ("Hi-Therm®") for High Tech Systems Limited. Haydale is using its patented plasma functionalisation technology to enhance the thermal conductivity and dispersion of boron nitride in ionised water. Controlled environment tests that maintain a constant heating temperature have shown that the thermodynamic properties of Hi-Therm® deliver up to a 30 per cent energy saving compared with energy required to heat untreated water. Initial sales of Hi-Therm® have been ahead of contractual volumes and whilst the product is still in a development stage, we anticipate that it will represent a significant step forward in the commercialisation of thermally efficient nanomaterials in the energy sector.

Haydale has also been working with Cadent and the Energy Innovation Centre to develop graphene ink-based heaters to generate low power hot water in off-grid situations where customers are left without the means to economically heat water for an extended period of time. The most recent example was Storm Arwen which brought widespread disruption to the UK and resulted in over one million customers losing power. Approximately 40,000 customers were without supply for more than three days and nearly 4,000 customers were off supply for over a week. The aim of this commercial 15 month project with Cadent is to develop an operational Graphene ink-based heater prototype that would provide cost effective and timely relief in these situations.

The graphene inks used in this solution are flexible enough to be printed onto multiple substrates such as metals, plastics, fabrics, and glass. The Company is working to develop this technology into underfloor heating which may be able to offer an energy efficient, cost-effective and easy to install system that can be used to supplement domestic heating systems. Whilst still at an early stage, the prototypes are demonstrating considerable promise as part of an array of solutions that may improve the energy efficiency and reduce the CO_2 impact of heating commercial and domestic buildings. In addition to this application, we are also working with a caravan and motorhome customer with a variation of this heating ink.

Biomedical Inks

We continue to develop our biomedical sensor inks and, in particular, our work during the year with a leader in the glucose monitoring and diabetes management sector on the refining of a bespoke ink has been productive. Haydale's patented plasma functionalisation process allows for the introduction of new chemical substances to the surface of advance materials enabling biomedical inks to have an improved catalytic and electro chemical response. Our tests show that the additions enhance the downstream accuracy of response to analytes and the speed of result. We have collaborated closely with this customer to ensure that the quality control at our Ammanford site meets the stringent requirements for medical products and we are also looking to commence internal tests to validate the shelf life and longer-term efficacy of the product.

Whilst at a less advanced commercial stage, we have worked with a number of other business and academic parties to explore the wider potential for our sensor inks in the field of medical diagnostics. Of particular note in this area is our work with the Wales Kidney Research Unit at Cardiff University to develop a urinary electrochemical microRNA sensor for rapid detection of problems with newly transplanted kidneys. The sensor can potentially accelerate issue detection without the need for an invasive biopsy and potentially opens up a wider and exciting opportunity for the monitoring or detection of other diseases. Haydale was pleased to have directly input into the work of one of the award winners at the Kidney Research UK MedTech Competition earlier this year.

Elastomers and Other Developments

In December 2020 we secured our first sale of our functionalised nano-enhanced rubber masterbatch for use in shoes and the Company continues to progress a number of projects within the leisure footwear and industrial workwear market. Whilst these projects have taken longer than anticipated to move out of the feasibility stage, the work done in this area has been utilised in our collaboration with Vittoria Spa, the leading premium cycle tyre manufacturer, and allowed us to move with speed to prove performance enhancements for functionalised rubber in cycle tyres. We were able to demonstrate substantial improvements in the grip, rolling resistance, puncture resistance and durability of their premium tyres and, in July 2022 we announced that we had received our first order for one tonne of functionalised graphene nanomaterial. Haydale will use its new HT1400 plasma reactor in order to meet Vittoria's production requirements.

The four-year agreement with DLYB[1], which commenced in April 2020, allows them to market Haydale's electrically conductive graphene-enhanced masterbatch in China and Taiwan. The initial stages of the contract were reserved for product validation and although our product has met the initial requirements, further modification and development has been requested by DLYB. Whilst the Company is continuing to develop this product line for use with DLYB and other customers, it is focussing on those products that can deliver commercial returns more rapidly and, as such, at this stage we do not anticipate this contract moving to the commercial phase in the foreseeable future.

Haydale formed part of a dedicated supply chain to deliver a range of advanced wearable technology to British athletes, at the Tokyo games in August 2021. The garments benefited from temperature regulated panels and were designed using Haydale's printed functionalised graphene ink. The Company remains in discussion with a customer who can access the wider market but our focus remains on other graphene ink products that demonstrate a closer commercial potential.

Sale of Plasma Reactors

In April 2021 Haydale partnered with 401 Tech Bridge, Rhode Island, US, to provide a HT200 Plasma Reactor and advanced materials support for their innovation ecosystem. This was the first sale of a plasma reactor since the year-ended June 2019. As noted in the prior year report, each approach is appraised on its merits with the guiding tenet that reactor sales must be demonstrably in the long-term interests of the Company. To this end, the Company has not made any reactor sales in the year under review.

Collaboration with ProMake Limited

On-going cooperation with ProMake (renamed Atomi Limited post year end) continues to progress positively in a number of directions including the previously noted SynerG 3D printing filament, biomedical inks and more recently on developing cleaner, smarter concrete formulations. The Public Health England National Microbiology Framework has not progressed at this time, although work is still underway in this arena it has been impacted by changing UK government priorities.

North America

Revenue at our US SiC and blanks manufacturing facility continued to be adversely affected by the lingering impact of the Covid 19 pandemic for much of the year. Reported increases in civilian aviation traffic took time to filter down the aerospace supply chain and it was not until the last quarter of FY22 that we started to see some rebound in demand for our blank tools.

During the year we have looked to drive revenue by expanding our product offering to include certain geometries of finished cutting tools. We have contracted with a third-party company who are taking our blanks and completing the final cut, grind and tool preparation to enable Haydale to sell a finished tool. By taking control of end user sales, we have created a direct dialogue with a number of important aviation customers, and it has also allowed us to extend our sector coverage into the automotive market where we have achieved finished tool sales post year end. We have seen sales of finished tools in both areas post year end and anticipate that, as general demand grows, this will be a key driver for growth within this business unit. We are following a dual distribution strategy to maximise our coverage

---

[1] Dalian YiBang Technology Company Limited ('DLYB')

with a combination of direct to customer sales and indirect sales through well represented distributors and consolidators. During the year we made an agreement with a large US carbide tool distributor to sell our tools in a number of states on the west coast of the country and we are currently in discussions to give non-exclusive rights to distribute our growing range of tools to selected midwest industrial states.

East Asian Sales

In January 2021 Haydale announced an agreement with Qinhuangdao ENO High-Tech Material Development Co., Ltd (“ENO”) which allowed it to act as a non-exclusive sales representative for Haydale’s ceramic and silicon carbide products in China (including Hong Kong) and Taiwan (the “Territory”) for an initial period of two years ending December 2022. Despite the continuing lock downs and other restrictions that are impacting manufacturers and impeding new business development we have seen sales progress in the year although not to the extent anticipated.

During the year Haydale signed a sales representation agreement with Hainan Hongshida Information Technology Co., Ltd., ("Hongshida"). The agreement is for an initial period of two years and allows Hongshida to act as a non-exclusive sales representative for Haydale's ceramic and silicon carbide products in the Territory. First year sales to February 2023 were agreed to be limited and, as expected, we did not receive any orders from Hongshida during the year. Outside of these contracts, Haydale is actively collaborating with a number of other parties that may extend our market penetration in East Asia and may also offer some reciprocal product that will expand our offering in the North American market. We remain of the view that the potential for this business unit’s products in East Asia is significant and, whilst results have been less than we would have hoped for to date, we continue to believe that the prognosis is positive.

European Blanks Sales

We continue to make progress with potential European customers and, whilst we remain optimistic that we will secure further sales within this territory, we have recognised that this will take longer than expected and we have therefore adjusted our cost base with our European Sales Manager moving onto a commission basis during H2 FY22.

Product Diversification

As previously noted, the Company has also diversified beyond its traditional product range and agreed exclusive distribution arrangements for the UK market for CeramycGuard™, a one stop solution that can be used in new concrete applications and also renews and restores old or partly decaying concrete in-situ in certain applications as well as preventing water loss. Earlier this year, CeramycGuard™ won the ‘Materials Application of the Year’ category at the prestigious British Engineering Excellence Awards and was recognised for its ability to significantly extend the surface life of concrete assets and its potential to reduce the anthropogenic impact of cement usage.

Haydale continues to work closely with a number of UK water utilities, other water facility management companies and more general civil engineering contractors who require a solution to concrete degradation. Post year end the Group employed a sales manager to specifically drive sales of CeramycGuard™, and this has led to some early positive results. Whilst there is a substantial wider market for this product, we believe that Drinking Water Inspectorate 31 (Clean Water) accreditation is important to securing sales of this product within the water industry and, despite delays outside of our control, we are working towards results by the end of 2022.

Historic Sales

Historically this division has been dependent on SiC whisker sales to two long term customers and, as previously noted, we saw very different responses to the pandemic from these customers. The business received a commitment from its largest customer to underpin the SiC whisker volume by increasing its short-term order patterns during FY21. This was on the understanding that this would likely see a significant reduction in sales through FY22 and FY23. As expected, during the year we have not made any sales to this customer, but we anticipate that sales will resume in FY23 when their inventory levels are brought into balance. We were pleased to reach a settlement with our second largest historical whisker customer over the contractual dispute which adversely impacted revenue in the prior year. The settlement with the US group, which sells silicon carbide tools and wear resistant solutions, secures revenue in both FY22 and FY23 at which point the five-year contract dated September 2018 will come to an end. In FY22 this customer accounted for £0.58 million/20.1% of total group revenue and we expect a similar level of revenue in FY23.

Asia Pacific

Our operation in Thailand was instrumental in securing the first orders from Vittoria for functionalised graphene powder for use in cycle tyres. As announced in July, Vittoria and Haydale have agreed to investigate the possibility of producing functionalised graphene in Thailand and a Letter of Intent was signed post year end between Haydale and Vittoria's co-owned Thai nanotech subsidiary, Graphene Creations Limited, that will allow the parties to assess the merits of combining Haydale's technical expertise with Graphene Creations' market access. This assessment is on-going but should reach a conclusion during the current year. Outside of this, Haydale. is actively collaborating with a number of well-known international operations who have shown interest in the potential applications of our product range and the team continues to search for opportunities for the commercialisation of graphene and other nanomaterials into various industries.

Our sales office in South Korea did not meet our expectations this year. The three-year exclusive agreement with iCraft has delivered on the contractual requirement of three tonnes by the end of year two but, subsequent to the year end, we have been informed that it is reviewing its on-going involvement in the nanomaterial sector. We are maintaining a proactive dialogue with iCraft to ensure that it understands its contractual obligations with respect to the final year of the contract. Outside of iCraft, we have started working with a number of new customers and we hope to be able to leverage these opportunities in the current year to improve the financial performance of this sales office.

Focussed R&D investment

The HDPlas® functionalisation process continues to be the cornerstone of the Group's offering underpinning its future growth prospects. During the year, good progress has been made with several new and different treatments enabling more tuneable and enhanced offerings to meet customers' requirements. This manipulation enables a much greater range of graphene and other nanomaterial treatments and facilitates potential improvements in dispersion and mechanical strength, electrical conductivity and thermal conductivity. Amongst other developments, Haydale has:

- Developed liquid doping technology that allows for graphene to be dosed with microscopic levels of metals which allows us to markedly enhance the conductivity and resistivity of our next generation functionalised inks This lower level resistivity potentially allows our inks to replace silver, copper and aluminium etch in certain metal antenna elements of the growing RFID and NFC sectors and provides a cost effective and environmentally friendlier application. Existing 'tags' are generally single use and as such are consigned to landfill after use. Haydale functionalised inks are manufactured using a clean process and there is reduced waste to landfill on disposal. Subsequent to the year end this work has directly led to a collaboration with a leading supplier of digital identification solutions who is investing in the RFID of the future; and
- Haydale was awarded funding to develop hydrogen fuel storage tanks by the Advanced Propulsion Centre in 2020 and this work directly led to the signing of a memorandum of understanding with Viritech Limited in September 2021. Haydale has subsequently worked on two projects to deliver advanced hydrogen powertrain solutions for the automotive, aerospace, marine and distributed power industries and we continue to provide consulting engineering support services, including type IV and V pressure vessel design and material science analysis.

The core thread running through our continued investment in R&D is the focus on creating and maintaining technological advantage where we see a clear commercial pathway. Whilst the gestation period for some of these developments is defined by long product life cycles, we are focussing on areas such as our biosensor inks and other functionalised inks which can be delivered to market in a shorter time horizon. It remains core to our strategy that we invest for the long term whilst taking advantage of the numerous short-term commercial applications presented by our technology.

Grant Funded Projects

Collaboration on grant funded projects has continued over the last twelve months with the continued emphasis that only projects that have a clear commercial pathway or add significantly to the Group's knowledge bank on applications are undertaken. Whilst we give priority to commercial projects, this does not diminish the importance of grant funded work in support of the R&D investment made by Haydale. Grants received were from either UK or European quasi-governmental bodies and 'promoting the green economy' and 'cleantech' were the overarching themes for the funding awarded in the year. Haydale's involvement in several of these projects relates to its long-standing expertise in a number of fields and amongst other projects awarded in the year, the following commenced:

- *HiBarFilm2* – the project aims to develop the next generation of high barrier films for food packaging using HDPlas® plasma functionalisation through the redesign of multilayer films into 100% recyclable and compostable mono-material solutions for the food industry. Key project deliverables are intended to reduce the environmental impact of packaging plastics and offer more sustainable barrier solutions to combat food waste. We are already seeing commercial spin offs from this work with the South Korean customer, NeoEnpla; and

- *Anti-Counterfeiting technology* – Haydale was awarded a SMARTCymru grant, part-funded by the European Regional Development Fund, to further develop PATit, its anti-counterfeiting technology that uses graphene-enhanced, high-performance conductive inks and proprietary software codes for brand and security protection that is non-copiable and does not require expensive printing processes or electronic chips (NFC/RFID). PATit aims to provide a mass market anti-counterfeiting technology that addresses the current market need for secure low-cost anti-counterfeiting technologies.

This structured approach to development is facilitating the internal learning experience and creating potential products to fit with the organic growth momentum at the centre of our strategic drive.

During the year the Company successfully completed the European Space Agency ("ESA") demisable fuel storage project and Haydale was encouraged to apply for further ESA funds to develop proof of concept with phase 2 funds being approved at the end of the financial year. Haydale was awarded funding to develop hydrogen fuel storage tanks by the Advanced Propulsion Centre in FY21 and this work has led to commercial projects for the development of type IV and type V hydrogen storage tanks in FY22 with partners such as Viritech Ltd.

Increasing Production Capacity at Ammanford

Haydale has consistently increased its capacity to functionalise graphene ahead of the production curve at its Ammanford facility. In May 2021 we ordered a new HT1400 HDPlas® reactor which has the potential to increase our capacity to functionalise nanomaterial up to 90 tonnes per annum depending on factors such as the bulk density of the material and the specific enhancement required. The new reactor was delivered on site in March this year and has been successfully commissioned. Various plasma treatments and nanomaterials are currently being optimised through the reactor and this process will continue through FY23. In addition to the new reactor, Haydale invested to:

- support the production scale-up and ordered ancillary machinery to increase our powder handling capacity; and
- leased a further unit at the Ammanford site and invested in ink handling facilities that will allow the business to meet the stringent quality assurance standards required for the production of bio medical and other functionalised inks.

As noted previously, we believe that the significant capital expenditure which commenced in FY21 and completed through FY22 will allow us to meet our production requirements for the foreseeable future in the UK but we will, where appropriate, look to make further smaller 'add on' investments as production volumes demand in order to lower our cost performance ratio further.

Investing in the Group's human capital

Alongside the investment in physical capacity during the year, the Directors have invested in the human capital across the wider business and have strengthened the teams across all Group sites and across the spectrum of sales, marketing, human resources, quality control and production. Whilst the Group has in the three years to June 2021 secured substantial savings in its administrative costs, some of which were specifically linked to the uncertainty surrounding the length and impact of the Covid-19 pandemic, the Directors saw the need this year to put in place the building blocks that will underpin the Group's growth plans. To that end, administrative costs have increased during the year and the annualised impact of this investment should see that trend continue into the next financial year. The cost savings achieved over that three year period were secured in a timely manner and likewise the Directors remain prudent when they are increasing the operational cost base of the business in what have become more turbulent and changeable economic times.

FUTURE STRATEGIC DIRECTIONS

The clear priorities remain to commercialise our cutting-edge technology and the progress we have made during the year and the opportunities that we are seeing gives us confidence that we are on a steady path to more widespread adoption of our technology and the benefits, both performance and environmental, that it can bring.

The Directors remain mindful that the economic backdrop remains uncertain and that risks that could impinge on our operations persist. However, the solid progress made in our core business during the year continues to reinforce the Directors' belief that, whilst navigating the new industrial landscape will remain challenging and forward momentum is unlikely to be smooth, the Company is moving in the right direction.

FINANCIAL REVIEW

Statement of Comprehensive Income

In the year under review, the Group's principal areas of income were sales of specialty inks, fluids and graphene enhanced composites and associated consultancy services from the UK and APAC operations and sale of SiC fibres, whiskers, particulate and blanks from the US operation. The Group's revenue for the year ended 30 June 2022 of £2.90 million (FY21: 2.90 million) was consistent with the previous year. Revenue derived from product sales increased by £0.43 million during the year but this was offset by the reduction to reactor sales of £0.40 million (See Note 3 – Segmentation Analysis).

Other operating income, which is principally grant funded projects, was £0.44 million (FY21: £0.58 million). The Group received £0.06 million (FY21: £0.14 million) from US Covid Government Support packages and this is included in Other Operation Income. Excluding US Government support other operating income was comparable with the prior year.

The Group's Gross Profit, which excludes Other Operating Income declined marginally to £1.75 million (FY21: £1.98 million) delivering a Gross Profit margin of 60% (FY21: 68%).

Adjusted Administrative Expenses increased by £0.80 million (17.0%) to £5.52 million (FY21: £4.72 million). Total administrative expenses for the year were £7.24 million (FY21: £6.11 million). During the year the Group took the decision to impair the residual intangible assets relating to its 2015 acquisition of Innophene Co Ltd (now Haydale Technologies Thailand Limited) and the non-cash charge of £0.38 million is included in total administrative expenses.

The Loss from Operations was £5.06 million (FY21: £3.56 million). Finance costs, which include interest payable on the Group's debt, for the year were £0.19 million (FY21: £0.21 million).

The Group continued to direct resource to research and development with the focus for that investment on products and process that could develop into sustainable and profitable revenue streams. R&D spend for the year was £1.45 million (FY21: £1.02 million[2]), of which £0.34 million was capitalized (FY21: £0.26 million). During the year the Group claimed R&D tax credits of £0.43 million (FY21: £0.36 million) and it is expected that this claim will be received during the current financial year.

Total comprehensive loss for the year, including the £0.38 million non-cash charge for the impairment of intangible assets, was £4.54 million (FY21: £3.57 million).

The loss per share for the year was £0.01 (FY21: £0.01 loss).

Statement of Financial Position and Cashflows

As at 30 June 2022, net assets amounted to £7.05 million (2021: £6.76 million), including cash balances of £1.19 million (2021: £1.64 million). Other current assets increased to £3.26 million at the year-end (2021: £3.00 million) and this was mainly related to the increase in inventory of £0.11 million at the US facility during the year. Current liabilities reduced to £2.28 million as at 30 June 2022 (2021: £2.78 million) due principally to the reduction in Bank Loans repayable within 12 months.

The Right of Use Asset in respect of its leased premises increased to £2.70 million (FY21: £2.58 million) due to renewed leases in the UK. The Right of Use Liability which is split between Current and Non-Current Liabilities similarly increased to £2.92 million (FY21: £2.74 million). These movements were non-cash items and did not impact the cash outflow in the year. The Company will amortise these balances over the remaining life of the leases which varies across the sites.

The Group's US Pension Obligations of £1.36 million (FY21: £1.03 million) has increased in the year due to a combination of negative movements on investments and exchange rate movements.

Net cash outflow from operating activities before working capital movements for the year increased to £3.42 million (FY21: £2.04 million), the principal contributing factors being the Loss before Taxation of £4.81 million (FY21: £3.41 million). Cash used in Operations increased by £1.59 million in the year to £3.17 million (FY21: £1.58 million). The Group received a R&D tax credit inflow of £0.37 million in the year (FY21: £0.39 million). Net cash used in operating activities increased to £2.80 million (FY21 £1.19 million).

Capital expenditure in the year, excluding the IFRS 16 adjustments, was £1.00 million (FY21: £0.22 million).

---

[2] Based on calculations submitted to HMRC for the R&D tax credit.

Capital Structure and Funding

As at 30 June 2022, the Company had 510,335,691 ordinary shares in issue (2021: 425,279,798). No options were exercised into ordinary shares during the year (FY21: none).

The Group repaid borrowings of £0.84 million during the year under review (FY21: £0.22 million), which almost wholly related to the Group's commercial US borrowing facilities which have now been fully repaid.

The Company received the remaining £0.30 million of a £1.1 million UKRI Innovation Loan during the year to support scale up capital expenditure in the UK. The US operation secured a loan through the COVID-19 Economic Injury Disaster Loan scheme of $0.20 million (£0.14 million). The net result was that the Group's total borrowings at the year-end were £1.35 million (2021: £1.73 million), of which £1.18 million was in the UK and the balance in the Group's US subsidiaries. The UKRI Innovation loan has a quarterly liquidity covenant until April 2024. There are no financial covenants extant in respect of the UK bounceback loan of £0.04 million (FY21: £0.05 million) or the Group's US borrowings.

Post Balance Sheet Event

On 12 September 2022, the Company raised £5.51 million (gross) through the placing, open offer and subscription of 275,516,784 new Ordinary Shares at 2.00 pence per share. The funds raised will be principally used to fund the general working capital needs of the business. Following the close of the Open Offer, the Company issued a total of 138,758,392 Warrants to the subscribers of New Ordinary Shares. These warrants are exercisable at a value of 2.00 pence per share in the period to 12 September 2023.

Key Performance indicators

The Group has historically reported financial metrics of revenues, gross profit margin, adjusted operating loss, cash position and other metrics as its key performance indicators and these are set out below.

	FY22 (£m)	**FY21 (£m)**
Revenue	2.90	2.90
Gross profit margin	60%	68%
Adjusted operating loss	(3.33)	(2.17)
Cash position	1.19	1.64
Borrowings	1.35	1.73

During the year under review, management also used a sales tracker, a non-financial performance metric to monitor the revenue pipeline of the business. The sales tracker monitors the number of accredited leads and assigns a probability of revenue realisation to those leads.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the year ended 30 June 2022

	Note	Year ended 30 June 2022 £'000	Year ended 30 June 2021 £'000
REVENUE	3	2,901	2,903
Cost of sales		(1,156)	(924)
Gross profit		1,745	1,979
Other operating income	4	442	575
Adjusted Administrative expenses		(5,520)	(4,724)
Adjusted operating loss		(3,333)	(2,170)
Adjusting administrative items:			
Share based payment expense		(39)	(119)
Depreciation and amortisation		(1,308)	(1,271)
Impairment		(375)	-
		(1,722)	(1,390)
Total trading administrative expenses		(7,242)	(6,114)
LOSS FROM OPERATIONS		(5,055)	(3,560)
Total administrative expenses		(7,242)	(6,114)
LOSS FROM OPERATIONS		(5,055)	(3,560)
Finance costs		(187)	(211)
LOSS BEFORE TAXATION	5	(5,242)	(3,771)
Taxation		433	363
LOSS FOR THE YEAR FROM CONTINUING OPERATIONS		(4,809)	(3,408)
Other comprehensive income:			
Items that may be reclassified to profit or loss:			
Exchange differences on translation of foreign operations		374	(368)
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit pension schemes		(109)	208
TOTAL COMPREHENSIVE LOSS FOR THE YEAR FROM CONTINUING OPERATIONS		(4,544)	(3,568)
Loss for the year attributable to:			
Owners of the parent		(4,809)	(3,408)
Total comprehensive loss attributable to:			
Owners of the parent		(4,544)	(3,568)
Loss per share attributable to owners of the Parent			
Basic (£)	6	(0.01)	(0.01)
Diluted (£)	6	(0.01)	(0.01)

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 30 June 2022

Company Registration No. 0722893	**30 June 2022 £'000**	**30 June 2021 £'000**
ASSETS		
Non-current assets		
Goodwill	1,131	1,341
Intangible assets	1,312	1,174
Property, plant and equipment	7,579	6,622
	10,022	9,137
Current assets		
Inventories	1,515	1,328
Trade receivables	667	715
Other receivables	646	595
Corporation tax	427	364
Cash and bank balances	1,186	1,644
	4,441	4,646
TOTAL ASSETS	14,463	13,783
LIABILITIES		
Non-current liabilities		
Bank loans	1,341	844
Pension Obligation	1,356	1,026
Other payables	2,440	2,370
	5,137	4,240
Current liabilities		
Bank loans	11	885
Trade and other payables	2,199	1,719
Deferred income	68	180
	2,278	2,784
TOTAL LIABILITIES	7,415	7,024
TOTAL NET ASSETS	7,048	6,759
EQUITY		
Capital and reserves attributable to equity holders of the parent		
Share capital	10,207	8,505
Share premium account	31,912	28,820
Share-based payment reserve	244	250
Foreign exchange reserve	(12)	(386)
Retained losses	(35,303)	(30,430)
TOTAL EQUITY	7,048	6,759

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2022

	Share capital £'000	Share premium £'000	Share-based payment reserve £'000	Foreign Exchange Reserve £'000	Retained losses £'000	Total Equity £'000
At 1 July 2020	6,804	27,764	131	(18)	(27,230)	7,451
Comprehensive Loss for the year						
Loss for the year	-	-	-	-	(3,408)	(3,408)
Other comprehensive loss	-	-	-	(368)	208	(160)
Total Comprehensive loss	6,804	27,764	131	(386)	(30,430)	3,883
Contributions by and distributions to owners						
Recognition of share-based payments	-	-	119	-	-	119
Issue of ordinary share capital	1,701	1,276	-	-	-	2,977
Transaction costs in respect of share issues	-	(220)	-	-	-	(220)
At 30 June 2021	8,505	28,820	250	(386)	(30,430)	6,759
Comprehensive Loss for the year						
Loss for the year	-	-	-	-	(4,809)	(4,809)
Other comprehensive loss	-	-	-	374	(109)	265
Total comprehensive loss	8,505	28,820	250	(12)	(35,348)	2,215
Contributions by and distributions to owners						
Recognition of share-based payments	-	-	39	-	-	39
Share based payment charges – lapsed options	-	-	(45)	-	45	-
Issue of ordinary share capital	1,702	3,401	-	-	-	5,103
Transaction costs in respect of share issues	-	(309)	-	-	-	(309)
At 30 June 2022	10,207	31,912	244	(12)	(35,303)	7,048

CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 30 June 2022

	Year ended 30 June 2022 £'000	Year ended 30 June 2021 £'000
Cash flow from operating activities		
Loss after taxation	(4,809)	(3,408)
Adjustments for:-		
Amortisation and impairment of intangible assets	607	176
Depreciation of property, plant and equipment	1,076	1,096
Profit on disposal of plant and equipment and F&F	8	78
Share-based payment charge	39	119
Finance costs	188	211
Pension – (employer contribution)/net interest expense	(92)	47
Taxation	(433)	(363)
Operating cash flow before working capital changes	(3,416)	(2,044)
(Increase)/decrease in inventories	(187)	384
(Increase) in trade and other receivables	(4)	(90)
Increase in payables and deferred income	435	174
Cash used in operations	(3,172)	(1,576)
Income tax received	371	383
Net cash used in operating activities	(2,801)	(1,193)
Cash flow used in investing activities		
Purchase of plant and equipment	(996)	(220)
Purchase of Intangible Assets	(340)	(260)
Net cash used in investing activities	(1,336)	(480)
Cash flow used in financing activities		
Finance costs	(63)	(95)
Finance costs – right of use asset	(125)	(116)
Payment of lease liability	(548)	(591)
Proceeds from issue of share capital	5,103	2,977
Share capital issues costs allocated against share premium	(309)	(220)
New bank loans raised	454	800
Repayments of borrowings	(842)	(219)
Net cash flow from financing activities	3,670	2,536
Effects of exchange rates changes	9	(42)
Net (decrease)/increase in cash and cash equivalents	(458)	821
Cash and cash equivalents at beginning of the financial year	1,644	823
Cash and cash equivalents at end of the financial year	1,186	1,644

Abbreviated notes to the final results statement

1. General information

Haydale Graphene Industries plc is a public limited company incorporated and domiciled in England and Wales and quoted on the AIM Market, hence there is no ultimate controlling party.

2. Significant accounting policies

Basis of preparation

The Group consolidated financial statements have been prepared in accordance with International Financial Reporting Standards, International Accounting Standards and Interpretations as adopted by the UK (collectively "IFRSs") and with the requirements of the Companies Act 2006.

The Group's financial statements have been prepared under the historical cost convention.

The consolidated financial statements are presented in sterling amounts.

Amounts are rounded to the nearest thousands, unless otherwise stated.

The financial information contained in this announcement does not constitute the Group's statutory accounts for the year ended 30 June 2022 but is derived from those accounts which have been audited and which will be filed with the Registrar of Companies in due course.

The auditors' report on the Annual Report and Financial Statements for the year ended 30 June 2022 was unqualified, did not draw attention to any matters by way of emphasis and did not contain a statement under s498(2) or s498(3) of the Companies Act 2006.

The 2022 Annual Report will be made available on the Company's website for the purposes of the AIM Rules for Companies on 6 October 2022.

Going concern

The Directors have prepared and reviewed detailed financial forecasts of the Group and, in particular, considered the cash flow requirements for the period from the date of approval of the 2022 financial statements to the end of October 2023. These forecasts sit within the Group's latest estimate and within the longer-term financial plan, both of which have been updated on a regular basis. The Directors are also mindful of the impact that the other risks and uncertainties set out in the Annual Report may have on these estimates and in particular the speed of adoption of new technology.

As part of this review the Directors have considered several scenarios based on various revenue, cost and funding sensitivities.

Revenue

Various sensitivities have been applied to forecasted revenue including a stress test scenario which reduces forecasted revenue by circa 25 per cent, to the point where the Group would breach its available cash resources at in December 2023. With respect to this 'stress test' the Group has greater than 30 per cent of that sensitised revenue within forward orders, contractual or some other form of customer assurance which have a high degree of certainty.

Cost Mitigation

The Directors have included some limited assumptions regarding cost savings that might be achievable if the forecast fails to meet the forecasted or sensitised estimates, and these have been phased in gradually over the 12-month period to October 2023.

Customer Solvency

As part of this review the Directors have assessed the solvency of key customers and their ability to deliver on their contractual or other commitments on the basis of both publicly available information and taken account of these assessments in our forecasts. Future revenue related to certain contractual commitments have been heavily discounted given the lack of available data and trading history with the Group.

Summary

Therefore, after due consideration of the forecasts prepared, the sensitivities applied and the Group's current cash resources after the fund raise in September 2022 and the terms of its debt facilities, the directors consider that the Company and the Group have adequate financial resources to continue in operational existence for the foreseeable future (being a period of at least 12 months from the date of this report), and for this reason the financial statements have been prepared on the going concern basis.

3. Segment analysis

IFRS 8 requires operating segments to be identified on the basis of internal reports about components of the Group that are regularly reviewed by the chief operating decision maker (which is the Chief Executive Officer and Chief Financial Officer) as defined in IFRS 8, in order to allocate resources to the segment and to assess its performance.

For management purposes, the Group is organised into the following reportable regions:

- UK & Europe (focussing on functionalisation of nano materials, high performance ink & master batches, elastomers and the composites market in Europe);
- North America (focussing on SiC & blank products for tooling); and
- Asia Pacific (focusing on sales to the Asian markets)

2022	**UK & Europe £'000**	**North America £'000**	**Asia Pacific £'000**	**Adjustments, Central & Eliminations £'000**	**Consolidated £'000**
REVENUE	984	1,673	244	-	2,901
Cost of sales	(356)	(670)	(130)	-	(1,156)
Gross profit	628	1,003	114	-	1,745
Other operating income	373	69	-	-	442
Adjusted administrative expenses	(1,977)	(1,648)	(525)	(1,370)	(5,520)
Adjusted operating loss	(976)	(576)	(411)	(1,370)	(3,333)
Administrative expenses					
Share based payment expense	(20)	(4)	23	(38)	(39)
Depreciation & amortisation	(474)	(629)	(74)	(131)	(1,308)
Impairment	-	-	(23)	(352)	(375)
	(494)	(633)	(74)	(521)	(1,722)
Total administrative expenses	(2,471)	(2,281)	(599)	(1,891)	(7,242)
OPERATING LOSS	(1,470)	(1,209)	(485)	(1,891)	(5,055)
Finance costs					(187)
LOSS BEFORE TAXATION					(5,242)
Taxation					433
LOSS AFTER TAXATION					(4,809)
Additions to non-current assets	1,533	72	36	-	1,641
Segment assets	4,159	7,225	341	2,738	14,463
Segment liabilities	(2,386)	(4,486)	(114)	(429)	(7,415)

2021

	UK & Europe £'000	North America £'000	Asia Pacific £'000	Adjustments, Central & Eliminations £'000	Consolidated £'000
REVENUE	923	1,679	301	-	2,903
Cost of sales	(311)	(379)	(234)	-	(924)
Gross profit	612	1,300	67	-	1,979
Other operating income	427	148	-	-	575
Adjusted administrative expenses	(1,725)	(1,328)	(404)	(1,267)	(4,724)
Adjusted operating loss	(686)	120	(337)	(1,267)	(2,170)
Administrative expenses					
Share based payment expense	(38)	(30)	(3)	(48)	(119)
Depreciation & Amortisation	(376)	(679)	(67)	(149)	(1,271)
	(414)	(709)	(70)	(197)	(1,390)
Total administrative expenses	(2,139)	(2,037)	(474)	(1,464)	(6,114)
OPERATING LOSS	(1,100)	(589)	(407)	(1,464)	(3,560)
Finance costs					(211)
LOSS BEFORE TAXATION					(3,771)
Taxation					363
LOSS AFTER TAXATION					(3,408)
Additions to non-current assets	473	1,667	17	-	2,157
Segment assets	3,473	7,398	404	2,508	13,783
Segment liabilities	(1,727)	(4,697)	(194)	(406)	(7,024)

Geographical information

All revenues of the Group are derived from its principal activities. The Group's revenue from external customers by geographical location are detailed below.

	2022 £'000	2021 £'000
By destination		
United Kingdom	769	370
Europe	685	104
United States of America	1,051	739
China	127	135
Thailand	158	136
South Korea	86	165
Japan	-	1,207
Rest of the World	25	47
	2,901	2,903

During 2022, £0.73 million (25%) (2021: £1.2 million (42%)) of the Group's revenue depended on a single customer. During 2022 £0.58 million (20%) (2021: £0.41 million (14%)) of the Group's revenue depended on a second single customer.

All amounts shown as other operating income within the Statement of Comprehensive Income are generated within and from the United Kingdom, EU and the US. These amounts include income earned as part of a number of grant funded projects in the United Kingdom and EU and a government grant in the US.

Revenue from goods was £2.46 million (85%) of the Group's revenue (2021: £2.43 million or 84% (including Reactor sales)) and revenue from services was £0.31 million (11%) (2021: £0.34 million or 12%).

Dis-aggregation of revenues

The split of revenue by type:	2022 £'000	2021 £'000
Services	306	338
Reactor sales (Goods)	-	403
Reactor rental	134	134
Goods	2,461	2,028
	2,901	2,903

2022	UK & Europe £'000	North America £'000	Asia Pacific £'000	TOTAL £'000
Services	275	-	31	306
Reactor rental	134	-	-	134
Goods	575	1,673	213	2,461
	984	1,673	244	2,901

2021	UK & Europe £'000	North America £'000	Asia Pacific £'000	TOTAL £'000
Services	231	-	107	338
Reactor sales (Goods)	403	-	-	403
Reactor rental	134	-	-	134
Goods	155	1,679	194	2,028
	923	1,679	301	2,903

Services and reactor rental revenues are recognised over time, whereas goods and reactor sales are recognised at a point in time.

The group acquired non-current assets during the year, split by geographical location as detailed below:

Non-current asset additions

	2022 £'000	2021 £'000
By destination		
United Kingdom	1,533	473
United States of America	72	1,667
Thailand	36	17
	1,641	2,157

The carrying value of the group's non-current assets split by geographical location is detailed below:

	2022 £'000	2021 £'000
By destination		
United Kingdom	2,732	3,271
United States of America	7,240	5,749
Thailand	49	116
South Korea	1	1
	10,022	9,137

4. Other Operating Income

	2022 £'000	2021 £'000
Grant Income	373	427
Federal Support Schemes	69	148
	442	575

There are no unfulfilled conditions attached to the above income.

5. Loss before taxation

Loss before taxation is arrived at after charging:

	2022 £'000	2021 £'000
Amortisation of intangibles	232	176
Impairment of intangibles	375	-
Depreciation of property, plant and equipment	1,076	1,096
Foreign Exchange	58	(44)
Operating lease rental : plant and machinery	1	1

6. Loss per share

The calculations of loss per share are based on the following losses and number of shares:

	2022 £'000	2021 £'000
Loss after tax attributable to owners of Haydale Graphene Industries Plc	(4,809)	(3,408)
Weighted average number of shares:		
- Basic and Diluted	483,770,289	408,967,698
Loss per share:		
Basic (£) and Diluted (£)	(0.01)	(0.01)

The loss attributable to ordinary shareholders and weighted average number of ordinary shares for the purpose of calculating the diluted earnings per ordinary share are identical to those used for basic earnings per share. This is because the exercise of share options would have the effect of reducing the loss per ordinary share and is therefore not dilutive under the terms of IAS 33. At 30 June 2022, there were 48,710,000 (2021: 39,734,928) options and warrants outstanding. All of the options are potentially dilutive.

Post year end 275,516,784 of new Ordinary Shares were issued on 13 September 2022, these Ordinary Shares are dilutive. There were also 138,758,392 Warrants issued on 13 September 2022 and these Warrants are potentially dilutive.