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Spotlight - Update

Applied Graphene Materials

Tech hardware & equipment

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Customer engagement intensifying

Applied Graphene Materials' (AGM's) FY21 results advise of a doubling in the number of ongoing customer engagements and cumulative number of products launched by customers during the year, demonstrating market adoption of the group's dispersions of nanoplatelets is accelerating. Revenue growth for the whole year was not as fast (48%) because coronavirus-related travel restrictions prevented some customers from deploying their graphene-enhanced coatings on projects. Growth accelerated in H221 (67% vs 20% H121) as restrictions eased.

Revenue growth accelerates during H221

Revenues grew by 48% year-on-year during FY21 to £0.1m, reflecting intensifying customer engagement. Growth accelerated in H221, as restrictions on travel related to the coronavirus pandemic eased. These restrictions had adversely affected AGM's customers' ability to test and deploy graphene-enhanced coatings. EBITDA losses were similar to the prior year at £3.1m. The results were broadly in line with the FY21 consensus estimates. AGM raised £5.5m (net) in January at 41p/share. Management estimates the funds raised have extended the cash runway beyond January 2023, enabling it to convert the opportunity pipeline into meaningful annual revenues during the period.

Pace of customer adoption accelerating

AGM's customers have collectively launched 11 new products during FY21, primarily in the car care sector. A further three have been launched since end FY21 suggesting that the pace of adoption is accelerating. AGM is helping market adoption with the launch of eco-friendly graphene nanoplatelet dispersions that enable its customers to improve the sustainability of their product formulations. It has also expanded its distribution network to cover South Korea and Turkey and introduced an end-to-end research and development service to support businesses in harnessing the potential of graphene in their products.

Scenario analysis

The scenario analysis in our September note extends to annual revenues of £25m, which is a very small proportion of the total global protective coatings market (2019: US$146.2bn). This analysis shows that the pipeline at end FY21 (£3.7m on a probability weighted basis) is not sufficient to take AGM to cash break-even, which is reached at annual revenues of around £10m. We note that AGM will require additional capital investment of around £2m to support £10m annual revenues.

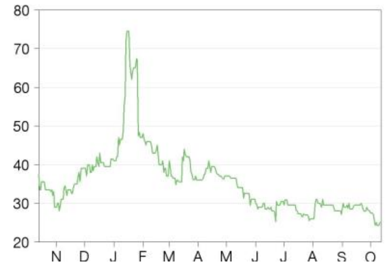
Historical financials

Year end	Revenue (£m)	EBITDA (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)
07/18	0.1	(4.0)	(4.2)	(7.5)	0.0	N/A
07/19	0.1	(4.6)	(4.8)	(7.9)	0.0	N/A
07/20	0.1	(3.1)	(3.5)	(6.1)	0.0	N/A
07/21	0.1	(3.2)	(3.6)	(6.3)	0.0	N/A

Source: Company accounts. Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Price	25.0p
Market cap	£16m

Share price graph



Share details

Code	AGM
Listing	AIM, OTCQX
Shares in issue	64.3m
Net cash (£m) at end July 2021 excluding finance leases	6.3

Business description

Applied Graphene Materials develops graphene dispersions that are used by customers to enhance the properties of coatings, composites and functional materials. It also manufactures high-purity graphene nanoplatelets using readily available raw materials instead of graphite.

Bull

- Understanding of dispersion technology enables AGM to support customers developing commercial applications.
- Standardisation of some graphene dispersion products reduces length of sales cycle.
- Expansion of distribution network accelerates the pace of introducing AGM's dispersions.

Bear

- Revenue development dependent on success of individual customer product launches.
- Extensive testing required prior to customer acceptance.
- COVID-19 pandemic prolonged sales cycles and dampened demand from end-users who cannot access sites to deploy coating products.

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Edison profile page

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FY21 performance affected by lockdown restrictions

Revenues grew by 48% year-on-year in FY21, albeit from a low base, reflecting intensifying customer engagement. Growth would have been even stronger had it not been for the restrictions on travel related to the coronavirus pandemic. AGM was not directly affected by pandemic, with management deciding not to furlough staff so it could continue with its long-term test programmes. However, some of its customers were adversely affected. For example, the launch of Teal & Mackrill's industrial epoxy primer was delayed, Blocksil was prevented from accessing some customer sites where it had planned to refurbish structures with graphene-enhanced paint and the programmes evaluating graphene-enhanced composite tooling and mass transit interiors with superior fire-performance were delayed because customers did not have the staff available to complete on-site activity. Significantly, revenues were much stronger in the second half (£81k vs £42k), as was year-on-year growth (67%) demonstrating the beneficial effect of the easing of coronavirus related restrictions.

Exhibit 1: FY21 and FY20 P&L summary

£000s	FY21	FY20	Notes
Sales revenue	123	83	Production orders of graphene and evaluation quantities of graphene to commercial partners
Cost of sales	(363)	(215)	Including some staff costs
Gross loss	(240)	(132)	Negative gross margin as very low levels of utilisation
Normalised operating expenses	(2,942)	(2,938)	
Share-based payments	32	(14)	
EBITDA	(3,150)	(3,084)	
Exceptional items	0	(168)	Restructuring costs
Depreciation and amortisation	(409)	(446)	
Reported operating loss	(3,559)	(3,698)	
Finance costs (net)	(6)	33	Smaller average cash balances and low interest rates
Reported loss before tax	(3,565)	(3,665)	
Tax	391	476	Accrued R&D tax credits. Lower as costs reduced.
Reported loss after tax	(3,174)	(3,189)	
Adjusted EPS (p)	(5.6)	(6.1)	

Source: AGM

EBITDA losses were similar to the prior year. Operating expenses (adjusted for exceptional items and share-based payments) were similar to prior years and the widening in gross loss associated with higher sales was offset by a favourable movement in share-based payments. The results were broadly in line with the FY21 consensus estimates of £0.2m revenues and a £3.2m EBITDA loss.

Cash runway extended beyond January 2023

Net cash (there was no debt and £0.1m IFRS 16 lease liabilities at end FY21) increased £2.6m during FY21 to £6.3m at the year end. Investment in tangible assets including the capital element of lease obligations was similar to the previous year at £0.2m. £0.2m was invested in intangibles related to patents as all R&D is expensed. Cash flow was flattered by a £0.1m decrease in working capital, primarily an increase in payables, which did not unwind entirely during H221. The FY21 year-end balance benefitted from £5.5m (net) raised during January through a placing, subscription and PrimaryBid offer at 41p/share. Management estimates the funds raised have extended the company's cash runway beyond January 2023, enabling it to convert the opportunity pipeline into meaningful annual revenues during the period.

Commercial progress: Pipeline expansion

Exhibit 2: Pipeline development

Date	Agreement on scope of sampling and engagement	Initial testing and interpretation of results	Repeat testing for consistency and review of results	Final product trials, formulation and specification	Final commercial agreement	Launched	Total
End FY21	79	70	15	9	8	19	200
End FY20	19	57	18	12	3	8	117
End FY19	12	45	14	13	8	5	97

Source: Company data

An examination of AGM's sales pipeline demonstrates the progress AGM is making in expanding its sales pipeline, with the total number of engagements in the pipeline and the cumulative number of launched products both doubling in FY21. This intensifying engagement is partly attributable to the establishment of a distribution network from April 2018 onwards that covers Canada, western Europe, Japan, South Africa, South Korea, Turkey and the US, as approximately 41% of engagements are now being handled by distributors. The pipeline at the end of FY21, including launched products, totalled £3.7m on a probability-weighted basis. This is similar to the £3.6m at end FY20, even though the number of engagements is double, because management is applying a more conservative approach to distributor engagements in their earlier stages given the extra steps involved in the route to a successful product launch with a customer through a distributor.

Significant developments since our September initiation note include:

- **Exfoliated graphene**: AGM has extended its expertise in dispersing its own synthesised graphenes to exfoliated graphenes supplied by third parties, broadening the range of applications where its dispersions may be used.
- **New customer win in India**: Stanvac is developing a coating for use on power lines that combines electrical conductivity with barrier protection. Stanvac is in the final stages of customer field trials, which AGM expects will lead to volume demand for graphene dispersions once completed.
- **Floor coatings**: AGM is working with a leading floor coatings manufacturer on protective barrier floor coatings for concrete. AGM's management anticipates strong uptake of this product once launched, which could be as early as CY Q122.
- **UK Environment Agency**: AGM has developed a paint that it originally used in-house to test formulations for their ability to withstand corrosion in harsh environments. The UK Environment Agency is about to start field tests of this paint on coastal structures in the north-east of England, trialling AGM's conventional and biofriendly formulations.

Scenario analysis

While management has not provided any guidance regarding revenue growth, we believe it is reasonable to assume the probability-weighted sales opportunity pipeline at end FY21 totalling £3.7m annual revenues should be converted in the next year or two. The scenario analysis presented in our September note extends to annual revenues of £25m, which is a very small proportion of the total global protective coatings market (US$146.2bn in 2019, according to Grand View Research). While higher revenues are possible, we are not presenting these at present because AGM has yet to achieve product approval with any of the larger players in the protective coatings market, which management notes are highly conservative, and the projects in the aerospace sector have not yet reached the commercial stage. The analysis shows the pipeline is not sufficient to take AGM to cash break even, which is reached at annual revenues of c £10m. We note AGM will require additional capital investment of c £2m to support £10m of revenues.

Exhibit 3: Financial summary

£k	2018	2019	2020	2021
31-July	IFRS	IFRS	IFRS	IFRS
INCOME STATEMENT				
Revenue	77	50	83	123
Cost of Sales	(250)	(472)	(215)	(363)
Gross Profit	(173)	(422)	(132)	(240)
EBITDA	(3,984)	(4,559)	(3,084)	(3,150)
Normalised operating profit	(4,295)	(4,902)	(3,530)	(3,559)
Amortisation of acquired intangibles	0	0	0	0
Exceptionals	(307)	0	(168)	0
Share-based payments	0	0	0	0
Reported operating profit	(4,602)	(4,902)	(3,698)	(3,559)
Net Interest	57	67	33	(6)
Profit Before Tax (norm)	(4,238)	(4,835)	(3,497)	(3,565)
Profit Before Tax (reported)	(4,545)	(4,835)	(3,665)	(3,565)
Reported tax	1,046	908	476	391
Profit After Tax (norm)	(3,192)	(3,927)	(3,021)	(3,174)
Profit After Tax (reported)	(3,499)	(3,927)	(3,189)	(3,174)
Minority interests	0	0	0	0
Net income (normalised)	(3,192)	(3,927)	(3,021)	(3,174)
Net income (reported)	(3,499)	(3,927)	(3,189)	(3,174)
Basic average number of shares outstanding (m)	42.7	49.4	49.4	56.4
EPS - normalised (p)	(7.5)	(7.9)	(6.1)	(6.3)
EPS - normalised fully diluted (p)	(7.5)	(7.9)	(6.1)	(6.3)
EPS - basic reported (p)	(8.2)	(7.9)	(6.4)	(5.6)
Dividend (p)	0.00	0.00	0.00	0.00
Revenue growth (%)	N/A	(35.1)	66.0	48.2
Gross Margin (%)	N/A	N/A	N/A	N/A
EBITDA Margin (%)	N/A	N/A	N/A	N/A
Normalised Operating Margin	N/A	N/A	N/A	N/A
BALANCE SHEET				
Fixed Assets	1,959	1,800	1,696	1,702
Intangible Assets	78	155	276	427
Tangible Assets	1,881	1,645	1,420	1,275
Investments & other	0	0	0	0
Current Assets	11,111	7,681	4,522	7,090
Stocks	56	52	74	93
Debtors	197	171	281	276
Cash & cash equivalents	10,443	6,135	3,685	6,308
Other	415	1,323	482	413
Current Liabilities	(949)	(993)	(929)	(1,097)
Creditors	(949)	(993)	(908)	(1,023)
Short term borrowings	0	0	0	0
Finance leases	0	0	(21)	(74)
Long Term Liabilities	0	0	(4)	0
Long term borrowings	0	0	0	0
Lease liabilities	0	0	(4)	0
Other long term liabilities	0	0	0	0
Net Assets	12,121	8,488	5,285	7,695
Minority interests	0	0	0	0
Shareholders' equity	12,121	8,488	5,285	7,695
CASH FLOW				
Op Cash Flow before WC and tax	(3,984)	(4,559)	(3,084)	(3,150)
Working capital	(12)	68	(199)	99
Exceptional & other	44	376	(182)	32
Tax	631	0	1,316	461
Net operating cash flow	(3,321)	(4,115)	(2,149)	(2,558)
Capex	(319)	(193)	(342)	(218)
Acquisitions/disposals	0	0	0	0
Net interest	0	0	41	(6)
Equity financing	9,375	0	0	5,552
Dividends	0	0	0	0
Net Cash Flow	5,735	(4,308)	(2,450)	2,770
Opening net debt/(cash) - excluding lease liabilities	(4,708)	(10,443)	(6,135)	(3,685)
FX	0	0	0	0
Other non-cash movements	0	0	0	(147)
Closing net debt/(cash) -excluding lease liabilities	(10,443)	(6,135)	(3,685)	(6,308)

Source: Company accounts

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