Governance

We're making production processes safer with our robotic solutions

Our products deliver superior safety performance in hazardous areas of production. Our robotic solutions can replace operators in the most dangerous parts of our customers' processes.

Name: Jennifer Metoyer Wiese
Role: Human Resources
Location: Cleveland

Name: Melany Serrato
Role: Quality Engineer
Location: Monterrey

Name: Phil Prelosky
Role: Research Technician
Location: Pittsburgh

Board of Directors

N

Carl-Peter Forster

Chairman

Appointed to the Board 1 November 2022, assumed the role of Chairman on 1 December 2022

Four months on the Board

- Extensive Board experience as Chairman and Chief Executive within international listed companies
- Proven strategic and operational skills gained in complex multinational industrial goods and engineering businesses
- Global commercial and engineering experience, including expertise in operational excellence and lean manufacturing

Current external appointments

Carl-Peter is Chairman of Chemring Group plc and Senior Independent Director at Babcock International Group plc. He is also Chairman of StoreDot, Director of The Mobility House AG, LeddarTech, Inc, Gordon Murray Group Ltd, Envisics Ltd, Lead Equities Fund Management Gmbh and associated companies and serves as a Director on the advisory board of Kinexon GmbH.

Career experience

Carl-Peter has spent the majority of his career holding senior leadership positions in some of the world's largest automotive manufacturers, including BMW, General Motors and Tata Motors (including Jaguar Land Rover). Since he stepped down from Tata Motors in 2011, he has served as a director on a wide variety of public and private company boards, including IMI plc from 2012-2021, Rexam plc from 2014-2016 and Geely Automotive Holdings, Hong Kong, as well as Volvo Cars Group from 2013-2019. Until recently he also served as Chair of the Shareholder Committee of Hella KGaA, the German automotive supplier.

Patrick André

Chief Executive

Appointed to the Board 1 September 2017

Five years on the Board

- Global career serving the steel industry
- Strong background in strategic development and implementation
- Customer focus and proven record of delivery, with strong commercial acumen
- Drive and energy in promoting his strategic vision

Current external appointments

None.

Career experience

Patrick joined the Group as President of the Vesuvius Flow Control Business Unit in 2016, until his appointment as Chief Executive in September 2017.

Before joining the Group, Patrick served as Executive Vice President Strategic Growth, CEO Europe and CEO for Asia, CIS and Africa for Lhoist company, the world leader in lime production. Prior to this, he was CEO of the Nickel division, then CEO of the Manganese division of ERAMET group, a global manufacturer of nickel and special alloys.

A N R

Douglas Hurt

Senior Independent Director (SID)

Appointed to the Board 2 April 2015

Seven years on the Board

- Qualified Chartered Accountant, with recent and relevant financial experience
- Highly knowledgeable in operational and corporate financial matters, with significant US and European experience
- Proven management and leadership skills

Current external appointments

Non-executive Director and Chair of the Audit Committees of Hikma Pharmaceuticals PLC and the British Standards Institution.

Career experience

Douglas was Finance Director of IMI plc, a UK listed company, until 2015. He spent 23 years at GlaxoSmithKline plc where he held senior finance and general management positions. Douglas served as SID and Chair of the Audit Committees of Tate & Lyle plc and Countryside Partnerships PLC until 2019 and July 2022 respectively, and he also served as Chairman of Countryside Partnerships PLC from July to November 2022 when it merged with Vistry Group.

Changes to the Board during the year

The Directors named were in office during the year and up to the date of this Annual Report, with the exception of:

- Carl-Peter Forster who was appointed to the Board on 1 November 2022, and assumed the role of Chairman on 1 December 2022
- Carla Bailo who joined the Board on 1 February 2023
- Guy Young who served as Chief Financial Officer from 1 November 2015 until he left the Group on 17 February 2023

In addition, John McDonough stepped down as Chairman and as a Director of the Company on 1 December 2022.

Richard Sykes (formerly Group Vice President, Business Development) currently serves as Interim Chief Financial Officer, but is not a Director of Vesuvius plc.

Mr Mark Collis, currently Chief Financial Officer of the Operations business of John Wood Group PLC, will join the Board as an Executive Director and Chief Financial Officer at the latest on 4 July 2023. Mark has over 20 years of senior financial experience in a number of international businesses including Amec Foster Wheeler plc and Expro International Group. Mr Collis is a Chartered Accountant qualified with the ICAEW.

Guy Young

Chief Financial Officer

Served on the Board from 1 November 2015 to 17 February 2023

Career experience

Guy qualified with the South African Institute of Chartered Accountants. He was Chief Financial Officer of Tarmac and latterly Lafarge Tarmac, the British building materials company, between 2011 and 2015. Prior to this he spent 13 years working at Anglo American plc.

A N R

Carla Bailo

Non-executive Independent Director

Appointed to the Board 1 February 2023

One month on the Board

- Strong engineering and product management experience
- Research and development background gained during >40 years working in the automotive industry
- International experience and extensive knowledge of US markets

Current external appointments

Non-executive Director of EVe Mobility Acquisition Corp., Advance Auto Parts, Inc. and SM Energy Company.

Career experience

Carla spent the past five years serving as President and CEO of the Center for Automotive Research (CAR) in the USA, a position she stepped down from at the end of September 2022. Prior to joining CAR, Carla was Assistant Vice President for Mobility Research and Business Development at The Ohio State University. She spent 25 years working at the Nissan Motor Company where she served in a variety of senior management and engineering roles, culminating as Senior Vice President, Research and Development, Americas and Total Customer Satisfaction. Carla also spent ten years earlier in her career with General Motors.

Key to Board Committee membership

A Audit Committee

N Nomination Committee

R Remuneration Committee

● Committee Chair

Engagement with the workforce

E Jane Hinkley serves as the designated Non-executive Director responsible for overseeing engagement with the workforce.

* Cevian Capital is a shareholder of Vesuvius plc and, at 2 March 2023, held 21.11% of Vesuvius' issued share capital.

A N R

Kath Durrant

Non-executive Independent Director

Appointed to the Board 1 December 2020

Two years on the Board

- 30 years' experience of people management
- Strong operational and strategic track record, gained working at a number of large global manufacturing companies
- Experienced UK governance professional

Current external appointments

Non-executive Director and Chair of the Remuneration Committee of SIG plc, and a Non-executive Director of Essentra plc.

Career experience

Kath held various operational and specialist HR roles at GlaxoSmithKline plc and AstraZeneca plc, and was Group HR Director of Rolls-Royce plc. She was most recently Group HR Director of Ferguson plc and Chief HR Officer of CRH plc. Kath served as a Non-executive Director and Chair of the Remuneration Committee of Renishaw plc from 2015 to 2018 and as a Non-executive Director and Chair of the Remuneration Committee of Calisen plc from 2020 to 2021.

N

Friederike Helfer

Non-executive Director

Appointed to the Board 4 December 2019

Three years on the Board

- An experienced strategist, with strong analytic capability
- Commercial acumen and a strong track record of working with a portfolio of companies to identify scope for operational and strategic improvement

Current external appointments

Partner of Cevian Capital.*

Career experience

Friederike is a Partner of Cevian Capital. She joined Cevian in 2008 and served as a Non-executive Director on the boards of thyssenkrupp AG from 2020 to 2023 and Valmet Oyj from 2013 to 2017. These are both companies in which Cevian was also invested. Prior to joining Cevian, Friederike worked at McKinsey & Company. She is a CFA Charterholder.

A N R

Dinggui Gao

Non-executive Independent Director

Appointed to the Board 1 April 2021

One year on the Board

- Strong operational experience driving performance at a range of multinational companies
- Proven track record of leadership and international commercial experience
- Strong focus on technology and in-depth knowledge of Asian markets

Current external appointments

Non-executive Director Intramco Europe B.V and Operating Partner CITIC Capital Holdings Ltd.

Career experience

Dinggui has nearly 40 years of operational experience having worked in a range of multinational companies including Bosch, Honeywell, Eagle Ottawa and Sandvik AB. He latterly served as Managing Director, China of Formel D Group, the German global service provider to the automotive and components supply industry, joining the company in 2017 and stepping down at the end of October 2021.

A N R E

Jane Hinkley

Non-executive Independent Director

Appointed to the Board 3 December 2012

Ten years on the Board

- Proven track record of managing complex global trading businesses
- Qualified Chartered Accountant, with significant financial and operational experience in large multinational companies
- Leadership and global management skills

Current external appointments

None.

Career experience

Jane is a Chartered Accountant and was Managing Director of Navion Shipping AS for three years until 2001. Prior to this, she spent her executive career as Chief Financial Officer and Managing Director of Gotaas-Larsen Shipping Corporation. She was previously Chairman of Teekay GP LLC, a Non-executive Director and Chairman of the Remuneration Committee of Premier Oil plc, and a Non-executive Director of Revus Energy ASA.

Group Executive Committee

Patrick André

Chief Executive
Seven years with the Group

For biographical details, please see the Board of Directors on page 88.

Karena Cancilleri

President, Foundry
Three years with the Group

Appointed President, Foundry in October 2019. Karena joined the Group from Beaulieu International Group, where she served for six years as VP Engineered Products and latterly President Engineered Products. She has a breadth of managerial experience spanning various international leadership roles in companies such as FiberVisions, Kraton Corporation and Shell.

Karena is based in London, UK.

Pascal Genest

President, Flow Control
Two years with the Group

Appointed President, Flow Control in January 2021. Pascal joined the Group from GFG Alliance where he held the position of CEO Liberty Ostrava in the Czech Republic. Prior to this he was CEO of SULB in Bahrain. Pascal has more than 15 years' experience working in the steel industry, mainly with ArcelorMittal. He has also worked in consulting, in private equity and in the aluminium industry.

Pascal is based in London, UK.

Henry Knowles

General Counsel and Company Secretary
Nine years with the Group

Appointed as General Counsel and Company Secretary in September 2013. Prior to joining Vesuvius, Henry spent eight years at Hikma Pharmaceuticals PLC, a generic pharmaceutical manufacturer with significant operations in the Middle East, North Africa and the US where he held the roles of General Counsel and Company Secretary. Henry is also responsible for the Group's Intellectual Property function.

Henry is based in London, UK.

Agnieszka Tomczak

Chief HR Officer
Four years with the Group

Appointed as Chief HR Officer in October 2018. Agnieszka has over 25 years of senior leadership experience in multinational companies spanning various business sectors and industries. Prior to joining Vesuvius, she spent 12 years at ICI, which was subsequently acquired by AkzoNobel, in regional and global HR roles.

Agnieszka is based in London, UK.

Changes to the Group Executive Committee (GEC)

Thiago Avelar, President, Advanced Refractories served on the GEC until he left the Group on 8 December 2022.

Patrick Bikard, President Operations and Technology served on the GEC until he retired from the Group on 31 December 2022.

Guy Young, Chief Financial Officer also served on the GEC until he left the Group on 17 February 2023.

Mark Collis will join the Group Executive Committee on his appointment as CFO.

Corporate Governance Statement

Dear Shareholder,

On behalf of the Board, I am delighted to present my first Corporate Governance Statement. This Statement provides investors and other stakeholders with an insight into the governance activities of the Board and its Committees during the year. It describes how the Group has complied with the Principles of the UK Corporate Governance Code during 2022, except where we considered it clearer for us to describe the application of a Principle elsewhere in this Annual Report. The table on page 92 signposts where detailed information on each section of the Code (and associated Principles) can be found. The Board of Vesuvius plc is committed to maintaining high standards of governance and to continuous improvement to reflect ongoing best practice.

During 2022, the Board oversaw the continued progression of the Group's strategy, approving the acquisition of the Group's long-term tolling partner, Bayuquan Magnesium Co, as well as significant new investments in plant capacity. Following the launch of hostilities in Ukraine, the Board monitored the safety of the Group's employees in the region and determined the Group's approach to the continuance of trade with non-sanctioned Russian customers. In addition, as the global macroeconomic environment deteriorated, the Board monitored the impact on the business of rising energy and raw material prices, as well as other inflationary items.

During the year the Nomination Committee oversaw the recruitment of three new Directors, with the Board not only appointing me as Chairman but also Carla Bailo as a new Non-executive Director with effect from 1 February 2023 and securing the services of Mark Collis as our new CFO, who will join by 4 July 2023 at the latest. In addition the Nomination Committee was updated on the progress of filling vacancies at the Executive Committee and senior management level, and was also kept apprised of the recruitment and development of additional talent in our Business Units to strengthen the pipeline of talented individuals to fill leadership positions going forward.

The Remuneration Committee, alongside its regular duties, spent a considerable amount of time discussing proposals for the 2023 Remuneration Policy, to be tabled at the forthcoming AGM. Following the changes made to the incentive structure in 2022, the Remuneration Committee concluded that no further material changes were required this year, but some changes to the quantum of remuneration were necessary in respect of the Chief Executive. These were the subject of consultation with our top shareholders. More details about the proposed changes and the other work undertaken by the Committee in 2022 can be found in the Directors' Remuneration Report.

The Audit Committee continued to carefully monitor the Group's financial situation during the year, in light of the challenging macroeconomic environment. In conjunction with its usual responsibilities, it paid particular heed to the impact of the conflict in Ukraine on the Group's activities and controls, assessing the impact of events on Russia and Ukraine themselves, and the wider repercussions of increases in energy and raw material pricing. In addition, the Committee continued to focus on the development of the Group's cyber security measures, as well as receiving regular updates on the implementation of changes to the Group's Finance Operating Model.

The Board's formal evaluation process for 2022 was externally facilitated by the corporate advisory firm, Lintstock. Overall, the Board was considered to operate effectively with appropriate engagement and challenge from all Directors. The balance of the topics submitted to the Board for discussion was the subject of some debate and this is an area I intend to review further in 2023, to ensure that the Board's time is devoted to matters that add maximum value to the business. The evaluation highlighted a number of ongoing Board priorities, including its continued focus on strategic execution, the scope to improve the process for the Board's engagement with the workforce, and ensuring that we continue work to ensure there are robust succession plans for Executive Director and GEC roles, with wider talent development fully aligned to the strategic requirements of the business. The Board is progressing these in 2023.

Yours sincerely

Carl-Peter Forster
Chairman
2 March 2023

In this section

Corporate Governance Statement continued

Board Report

2018 UK Corporate Governance Code – information availability

Board leadership and Company purpose	The Corporate Governance statement (CG Statement) on pages 91–143 gives information on the Group's compliance with the Principles relating to the Board's leadership and Company purpose. More detailed information on: – The Group's statement of purpose can be found on page 1 – The Group's strategy, resources and the indicators it uses to measure performance can be found on pages 18 and 19, 20 and 21, and 36 and 37, respectively – The Group's engagement with stakeholders and the Group's Section 172(1) Statement is contained in the Section 172(1) Statement and stakeholder engagement section on pages 22–26 – The Group's approach to workforce matters can be found in the Our people section on pages 74–80, with further details of the Group's approach to employee involvement and engagement contained in the Section 172(1) Statement on page 24 Details of the Group's framework of controls is contained in the Audit Committee report on pages 104–106 of the CG Statement and in the Risk, viability and going concern section on pages 29 and 30.
Division of responsibilities	The CG Statement describes the structure and operation of the Board. The Nomination Committee report, on pages 114 and 115, describes the process the Company conducts to evaluate the Board, to ensure that it continues to operate effectively, that individual Directors' contributions are appropriate and that the oversight of the Chairman promotes a culture of openness and constructive yet challenging debate.
Composition, succession and evaluation	Details of the skills, experience and knowledge of the existing Board members can be found in the Board biographies contained on pages 88 and 89. Information on the Board's appointment process and approach to succession planning and Board evaluation is contained in the Nomination Committee report on pages 110-115 of the CG Statement.
Audit, risk and internal control	Information on the policies and procedures the Group has in place to monitor the effectiveness of the Group's Internal and External Audit functions and the integrity of the Group's financial statements is contained in the Audit Committee report on pages 101–109 of the CG Statement, along with an overview of the procedures in place to manage risk and oversee the internal control framework. Further information on the Group's approach to risk management is contained in the Risk, viability and going concern section of the Strategic Review on pages 27–33. The Board believes the 2022 Annual Report to be a fair, balanced and understandable assessment of the Company's position and prospects. A description of the Audit Committee's work in enabling the Board to reach this conclusion is contained in the Audit Committee report on page 104.
Remuneration	The Company's approach to investing in and rewarding its workforce is described in the Our people section on pages 74-80. The Directors' Remuneration Report section of the CG Statement describes the Group's approach to Directors' remuneration, including the procedure for developing policy and the Remuneration Committee's discretion for authorising remuneration outcomes. It also includes information about the Remuneration Consultants appointed by the Remuneration Committee. Details of the linkage of the Directors' Remuneration Policy with long-term strategy is contained on page 119 and also highlighted on pages 36 and 37 in the section on Key Performance Indicators.

The aforementioned sections are incorporated into the Corporate Governance Report by reference.

Board leadership and Company purpose

The Board is responsible for leading the Group in an efficient and entrepreneurial manner, establishing the Group's purpose, values and strategy, and satisfying itself that these and the Group's culture are aligned. It focuses primarily on strategic and policy issues and is responsible for ensuring the long-term sustainable success of the Group. It sets the Group's strategy, oversees the allocation of resources and monitors the performance of the Group. It is responsible for effective risk assessment and management. In performance of these duties, the Board has regard to the interests of the Group's key stakeholders and is cognisant of the potential impact of the decisions it makes on wider society.

Purpose

Vesuvius' purpose is to be a global leader in molten metal flow engineering and technology, servicing process industries operating in challenging high-temperature conditions. We think beyond the status quo to create the innovative solutions that will shape the future for our customers, wider stakeholders and business. We help our customers make their industrial processes safer, more efficient and sustainable. The Group aims to deliver sustainable, profitable growth, providing its shareholders with a superior return on their investment, whilst providing each of its employees with a safe workplace where they are recognised, developed and properly rewarded.

The Board has identified seven Strategic Objectives for achieving long-term sustainable success. It is currently pursuing five shorter-term key execution priorities, which encapsulate the Group's immediate aims, including its strategic focus on sustainability. Further information on these can be found on pages 18 and 19. The Board regularly reviews the Group's performance against a number of Key Performance Indicators (KPIs) which provide information on key aspects of the Group's financial and non-financial performance. This information assists the Board to assess progress with the execution of the Group's strategy and to determine any remedial action that needs to be taken. Detailed information on the Group's KPIs can be found on pages 36 and 37.

The Group has established a framework of controls to enable risk to be assessed and managed, and further information on this can be found in the Audit, risk and internal control section on page 100 of this Board Report.

Sustainability

Vesuvius recognises that lasting business success is measured not only in financial performance but in the way in which the Group deals with its customers, business associates, employees, investors and local communities. Our Sustainability strategy supports the Group's key Strategic Objectives which are focused on creating a better tomorrow in a profitable and sustainable way. To drive change throughout the Group, the Board has set specific targets focused on ways in which the Group can improve its impact on our planet, our communities, our people and our customers. The Board monitors these and oversees the work of the Sustainability Council in spearheading new activities to enhance our performance. Further information can be found in the Sustainability section on pages 50–85.

Culture

The Board takes seriously its responsibility for shaping and monitoring the corporate culture of the Group. The Group's CORE Values – Courage, Ownership, Respect and Energy – define our behaviours across the business and are the practical representation of the culture we seek to foster, aligning with the Company's purpose and strategy, and supporting our governance and control processes. These Values are prominently displayed at all sites. Our CORE Values are reinforced in our performance management systems, which ensures that they are firmly embedded in our day-to-day conversations and behaviours. Further detail can be found on page 76.

The CORE Values are supported by the Group's Code of Conduct which sets out the standards of conduct expected, without exception, of everyone who works for Vesuvius in any of its worldwide operations. The Code of Conduct emphasises the Group's commitment to ethical behaviour and compliance with the law. It also covers every aspect of Vesuvius' approach to business, from the way that the Group engages with customers, employees, its markets and each of its other stakeholders, to the safety of its employees and places of work. Everyone within Vesuvius is individually accountable for upholding these requirements.

The Board seeks to ensure that the Group's workforce policies and practices are consistent with the Group's long-term sustainable success. Further information about the Group's remuneration practices for senior managers can be found in the Directors' Remuneration Report on pages 116-143, the Group's approach to diversity in the Nomination Committee report on pages 112-113, and the Group's approach to HR matters in the Our people section on pages 74–80. Information on the Group's Speak Up confidential employee concern helpline is set out overleaf.

Corporate Governance Statement continued

Whistleblowing policy

Speak Up

All Vesuvius employees can speak up without fear of retaliation, either to Vesuvius management or via independent channels. We have implemented a Speak Up policy, under the responsibility of our Board, which is included in our Code of Conduct. Details of it are provided on the internal Vesuvius website, and communicated by local language posters in all our locations. A third-party operated confidential Speak Up helpline is available 365 days per year, 24 hours per day, to anyone wishing to raise concerns anonymously or in situations where they feel unable to report directly. Details of the helpline can also be found on the Vesuvius website. This independent facility supports online reporting through a web portal and reporting by phone or by voicemail. Ensuring global accessibility, employees can speak with operators in any of our 29 functional languages.

All reports received are reviewed and, where appropriate, investigated and feedback is provided to the reporter via the helpline portal. Vesuvius' Speak Up helpline is highlighted during internal compliance training and new joiner inductions. No Vesuvius employee will ever be penalised or disadvantaged for reporting a legitimate concern in good faith. Reports received via Speak Up channels are managed by the General Counsel and Compliance Director. When received, reports are assessed for risk and category of concern. All reports are considered in line with a protocol for review, investigation, action, closure and feedback, independent of management lines where necessary, and involving senior Business Unit or HR management as appropriate. For complex issues, formal investigation plans are drawn up, and support from external experts is engaged where necessary. Feedback is recognised as an important element of the Speak Up process and we aim to provide an update on all reports within 28 days of receipt. The Group monitors the volume, geographic distribution and range of reports made to the Speak Up facility to ascertain not only whether there are significant regional compliance concerns, but also whether there are countries where access to this facility is less well understood or publicised.

During 2022, the Board received updates on the nature and volume of reports received from the confidential Speak Up helpline, key themes emerging from these reports and the results of any investigations undertaken. Further details on specific issues were provided where requested. In 2022, the Group received 141 reports (2021: 93) through the Speak Up facility and 38 walk-in reports (2021: 94). Each one of these was reviewed and, where appropriate, investigated. Similar to 2021, a substantial majority of these reports related to HR issues which indicated no compliance concerns, nor serious breaches of the Code of Conduct. Of the small number of reports received that contained allegations of a breach of our Code of Conduct, thorough investigations were performed and, where appropriate, disciplinary action was taken.

During the year, the Board's assessment of the Group's culture focused on the Group's:

(1) Adherence to the CORE Values – The Board focused on ensuring that there was a consistent culture across the Group, underpinned by the CORE Values. During their site visits, the Directors focused on the extent to which the Values are published, understood and motivate employee behaviour, and reported on their individual findings as part of their feedback. During the year, nominations were once again sought for the Group's peer-nominated Living The Values Awards. The Board was delighted that there were almost 1,600 nominations, showcasing examples of individuals and teams going the 'extra mile' to live the CORE Values. Members of the Group Executive Committee presented both regional and global awards as part of the process of recognising those individuals who exemplify our values. This year, the global award presentation was held online to allow all employees to join. The strength of the Group's commitment to its Values was evidenced by the activities undertaken in the Group during the year to support our Ukrainian colleagues and their families, and by the energy that was applied throughout the business to the pursuit of new and innovative business approaches.

(2) Commitment to safety – At each meeting during the year, the Board received an update on issues affecting the global health and well-being of the Group's employees. Following the tragic fatality in China, the Board was kept fully apprised of the investigations into its cause and the mitigating actions being taken. As a matter of course the Board receives regular updates on the Group's performance against safety targets, and discusses all Lost Time Incidents and the follow-up action taken. In addition, the Board receives biannual reports on the progress of the Group's safety programmes. The Directors used individual site visits to assess each site's commitment to safety, and the Executive Directors and Group Executive Committee members' long-term incentives include a safety target alongside other sustainability measures. A core tenet of the Group's Sustainability Initiative is a focus on ensuring the Group affords a safe working environment for all its employees. The Board has set a challenging Group safety target of fewer than one lost time injury per million hours worked. This equates to an average of less than two lost time work-related injuries or illnesses per month.

(3) Entrepreneurship – As part of the Board's rolling agenda, the Board received reports from each of the Business Unit Presidents on their business' strategy, new commercial initiatives and future technology trends. These were complemented by a presentation from the President, Operations and Technology on R&D activities throughout the Group, including the processing of new product launches. The Nomination Committee focused on the development and retention of key talent across the Group to execute the Group strategy, and the Board also received reports on the key commercial achievements across the Business Units as part of regular reporting from the Chief Executive.

(4) Transparency – With the lifting of COVID-19 travel restrictions, the Board was once again able to undertake individual and collective site visits to meet employees face-to-face in 2022. The engagement and openness of the employees the Board met, both in person and virtually over the course of the year, was assessed in terms of the Group's culture. These first-hand reviews were supported by the Directors' review of the output of the Group's Speak Up processes. In addition, the Audit Committee sought qualitative feedback from External and Internal Audit on how transparent/engaged managers had been during audit interactions.

(5) Customer focus – The Chief Executive undertook a range of customer visits in 2022, meeting face-to-face with key customers to discuss business challenges and future prospects. The Board received detailed briefings on the Group's key customers, their concentration, diversity and core challenges, alongside information on the state of the Group's markets. The Board also received regular updates on quality performance. These were supported by a full annual presentation on the Group's ongoing initiatives on quality and information provided at each Board meeting on specific quality issues. At each Board meeting, the Board also considered the state of the Group's markets and the associated customer developments.

(6) Diversity and respect for local cultures – During 2022, the Board, through the work of the Nomination Committee, considered the Board's diversity as part of the Director recruitment exercises and monitored progress with the achievement of the Group's gender diversity target which seeks to have 25% female representation in the Senior Leadership Group, which comprises c.160 individuals, by 2025. The Board also reviewed the results of the employee engagement survey and subsequent management actions to support its diversity initiatives.

Following the easing of COVID-19 travel restrictions during 2022, the Directors were once again able to undertake a programme of individual site visits. An off-site Board meeting was held in India, with visits conducted to Foseco India Ltd's site in Pune and Vesuvius India Ltd's operation in Visakhapatnam. In addition, the Non-executive Directors visited sites in Toyokawa in Japan, Rio de Janeiro in Brazil, Monterrey in Mexico, Enschede in the Netherlands, Skawina in Poland, Borken in Germany and Ghlin in Belgium. The visits provided the Board with greater clarity on local organisation and management, along with providing updates on business performance. During the visits the Directors were able to interact with a cross-section of employees, from various functions and organisational levels. As part of some of these site visits a 'town hall' meeting was held, providing the Non-executive Directors with the opportunity to engage with the workforce to explain the function of the Board and also to explain how executive remuneration aligns with wider Company pay policies. A number of other informal interactions with staff were also conducted. These meetings gave the Non-executive Directors the opportunity to hear the views of employees and answer their questions about the Company. The Directors engaged in first-hand discussions on culture and purpose, providing direct feedback to the Board on their perceptions of each site and potential areas for improvement, alongside highlighting examples of best practice that could be shared more widely.

Section 172 duties

The Directors are cognisant of the duty they have under Section 172 of the Companies Act 2006, to promote the success of the Company over the long term for the benefit of shareholders as a whole, whilst also having regard to a range of other key stakeholders. In performance of its duties throughout the year, the Board has had regard to these duties and remained cognisant of the potential impact on these stakeholders of the Group's activities. The effects of the war in Ukraine and the wider economic impact, had repercussions for all the Group's stakeholders, and the Board remained cognisant of this throughout 2022. Details of the Board and the Company's engagement with stakeholders during the year can be found in the Section 172(1) Statement on pages 22–26.

The Board is committed to communicating with shareholders and other stakeholders in a clear and open manner and seeks to ensure effective engagement through the Company's regular activities. The Company undertakes an ongoing programme of meetings with investors, which is managed by the Investor Relations team. The majority of meetings with investors are led by the Chief Executive and the Chief Financial Officer, but the Chairman also meets with shareholders, and all the Directors are available to meet shareholders on request. The Group appointed a new Investor Relations Manager during the year who is also available to support investors and acts as an extra point of contact in the Company. In advance of the AGM in May, the Chairman contacted the Group's largest shareholders informing them of the publication of the 2021 Annual Report and the 2022 AGM Notice, and offering to meet with them to discuss any matters of concern. Several shareholders acknowledged receipt of the email, but none requested any further follow-up.

With regard to remuneration matters, early in 2022 the Chair of the Remuneration Committee wrote to our largest shareholders and key governance agencies, to provide additional detail on the Group's executive remuneration proposals for 2022 and invite further engagement. Responses were received from the majority of shareholders and governance agencies, and further information provided as requested. As a result of this dialogue, the Remuneration Committee concluded that the proposals were well supported and proceeded to implement them. Towards the end of the year the Chair of the Remuneration Committee contacted these shareholders and governance agencies once again, to invite their feedback on proposals to table minor amendments to the Company's Remuneration Policy at the 2023 AGM, and to make changes to the Chief Executive's remuneration. Again, responses were received from the majority of shareholders and governance agencies, with extensive further dialogue and a number of meetings held to discuss the proposals. The Remuneration Committee will proceed to table the new Policy at the forthcoming AGM. Further detail is contained in the Directors' Remuneration Report on pages 116-121.

Statement on compliance with the UK Corporate Governance Code

Save as set out for Provisions 19 and 38 below, the Company applied the Principles of the 2018 UK Corporate Governance Code (the 'Code'), and was fully compliant with its Provisions, throughout the year ended 31 December 2022. A copy of the Code can be found on the FRC website at: https://www.frc.org.uk/directors/corporate-governance-and-stewardship/uk-corporate-governance-code.

Provision 19: John McDonough CBE completed nine years' service as Chairman of the Board on 31 October 2021. The Company commenced a search for a new Chairman in 2021 and the process, which took longer than anticipated, was completed in April 2022. In order to allow Carl-Peter Forster to step down from certain external commitments in advance of his appointment at Vesuvius, he joined the Board on 1 November 2022. He subsequently took over from John McDonough as Chairman on 1 December 2022, at which point Mr McDonough left the Board.

Provision 38: The Company has now implemented plans to align the level of pension allowance for Executive Directors with that applicable to the majority of the workforce. Since 2020, our incumbent Executive Directors' pension contributions were frozen at the 1 January 2020 amount and reduced to 17% at the end of 2022, being the level of the majority of the workforce. Further details can be found on page 125.

Corporate Governance Statement continued

Division of responsibilities

The Board currently comprises eight Directors – the Non-executive Chairman, Carl-Peter Forster; the Chief Executive, Patrick André; and six Non-executive Directors, Carla Bailo, Kath Durrant, Dinggui Gao, Friederike Helfer, Jane Hinkley and Douglas Hurt. Douglas Hurt is the Senior Independent Director. Henry Knowles is the Company Secretary. Carlo Bailo joined the Board on 1 February 2023. Guy Young, Chief Financial Officer served on the Board throughout 2022 and stepped down from the Board on 17 February 2023, when he left the Company.

The Board considers that, for the purposes of the UK Corporate Governance Code, 71% of the Board – five of the current Non-executive Directors (excluding the Non-executive Chairman), namely Carla Bailo, Kath Durrant, Dinggui Gao, Jane Hinkley and Douglas Hurt, are independent of management and free from any business or other relationship which could affect the exercise of their independent judgement. During 2022 the Board considered Jane Hinkley's tenure and concluded that she should continue to be regarded as independent despite having completed ten years of service on the Board on 3 December 2022, as she continues to operate with an independent spirit and exhibits robust challenge at Board and Committee meetings. Jane will step down from the Board at the close of the forthcoming AGM. Friederike Helfer is a Partner of Cevian Capital, which continues to hold 21.11% of Vesuvius' issued ordinary share capital. As a result Friederike Helfer is not considered to be independent. The Chairman satisfied the independence criteria on his appointment to the Board. The Board and its Committees have a wide range of skills, experience and knowledge, and further details of each Director's individual contribution in this regard can be found in their biographical details on pages 88 and 89.

Division of responsibilities

The Board
Responsible for Group strategy, risk management, succession and policy issues. Sets the purpose, Values and culture for the Group. Monitors the Group's progress against the targets set

Chairman
Provides leadership and guidance for the Board, promoting a high standard of corporate governance. Sets the Board agenda and chairs and manages meetings. Independent on appointment, he is the link between the Executive and Non-executive Directors

Chief Executive
Develops strategy for review and approval by the Board. Directs, monitors and manages the operational performance of the Company. Responsible for the application of Group policies, implementation of Group strategy and the resources for their delivery. Accountable to the Board for Group performance

Chief Financial Officer
Supports the Chief Executive in developing strategic direction and works with the Board to develop and implement the Group's strategy. Directs, monitors and manages the finance and IT functions to ensure the Company's financial objectives are met, ensuring sound financial management and control of the Company's business

Senior Independent Director
Acts as a sounding board for the Chairman, an alternative contact for shareholders and an intermediary for other Non-executive Directors. Leads the annual evaluation of the Chairman and recruitment process for the Chairman's replacement, when required

Non-executive Directors
Exercise a strong, independent voice, constructively challenging and supporting the Executive Directors. Scrutinise performance against objectives and monitor financial reporting. Monitor and oversee risks and controls, determine Executive Director remuneration and manage Board succession through their Committee responsibilities. The Non-executive Directors meet at least twice a year without the Executive Directors being present

Company Secretary
Advises the Chairman on governance, together with providing updates on regulatory and compliance matters. Supports the Board agenda with clear information flow. Acts as a link between the Board and its Committees and between the Non-executive Directors and senior management

The Chairman and Chief Executive

The division of responsibilities between the Chairman and the Chief Executive is set out in writing. These were reviewed during the year as part of the Company's annual corporate governance review. They are available to view on the Company's website: www.vesuvius.com.

The Board

The Board has a formal schedule of matters reserved to it and delegates certain matters to its Committees. It is anticipated that the Board will convene on seven occasions during 2023, holding ad hoc meetings to consider non-scheduled business if required.

Board Committees

The principal governance Committees of the Board are the Audit, Nomination and Remuneration Committees. Each Committee has written terms of reference which were reviewed during the year. These terms of reference are available to view on the Company's website: www.vesuvius.com.

Committee composition is set out in the relevant Committee reports. No one, other than the Committee Chairman and members of the Committee, is entitled to participate in meetings of the Audit, Nomination and Remuneration Committees. However, as detailed in the Committee reports, where the agenda permits, other Directors and senior management regularly attend by invitation, supporting the operation of each of the Committees in an open and consensual manner.

The interactions in the governance process are shown in the schematic below.

Group Executive Committee

The Group also operates a Group Executive Committee (GEC), which is convened and chaired by the Chief Executive and assists him in discharging his responsibilities. During 2022, the GEC comprised the Chief Executive, Chief Financial Officer, the main Business Unit Presidents, the Chief HR Officer, the President Operations and Technology and the General Counsel/Company Secretary. The GEC met for six formal multi-day meetings and two R&D reviews during 2022, and also held bi-weekly meetings to discuss the Group's business activities.

Board

Governance Committees

Audit Committee
To monitor the integrity of financial reporting and to assist the Board in its review of the effectiveness of the Group's internal controls and risk management systems

Chair
Douglas Hurt

Membership
All independent Non-executive Directors

Remuneration Committee
To determine the remuneration policy for the Executive Directors and set the appropriate remuneration for the Chairman, Executive Directors and senior management

Chair
Kath Durrant

Membership
All independent Non-executive Directors

Nomination Committee
To advise the Board on appointments, retirements and resignations from the Board and its Committees and to review succession planning and talent development for the Board and senior management

Chair
Carl-Peter Forster, Chairman

(except when considering his own succession, in which case the Committee would be chaired by the Senior Independent Director)

Membership
Chairman and the Non-executive Directors

Administrative Committees

In addition, the Board delegates certain responsibilities to a Finance Committee and Share Scheme Committee, which operate in accordance with the delegated authority agreed by the Board

Finance Committee
To approve specific funding and treasury-related matters in accordance with the Group's delegated authorities or as delegated by the Board

Chair
Carl-Peter Forster, Chairman

Membership
Chairman, Chief Executive, Chief Financial Officer and Group Treasurer

Share Scheme Committee
To facilitate the administration of the Company's share schemes

Chair
Any Board member

Membership
Any two Directors or any two Directors and the Company Secretary

Corporate Governance Statement continued

2022 Board programme

The Board discharges its responsibilities through an annual programme of meetings.

At each of the regularly scheduled meetings, a number of standard items were considered.

These included:

- Directors' duties, including those in respect of s172, and conflicts of interest
- Minutes of the previous meeting and matters arising
- Reports from the Chief Executive (CEO) and the Chief Financial Officer (CFO) on key aspects of the business, and the General Counsel and Company Secretary on governance matters

In 2022, the Board focused on key areas of strategy, performance and governance, including the matters outlined below:

Strategy

- Reviewing M&A opportunities and approving the acquisition of Bayuquan Magnesium Co
- Receiving and reviewing reports on strategy from the Flow Control, Advanced Refractories, Foundry and Sensors & Probes Business Units
- Reviewing and approving significant items of capital expenditure
- Receiving and reviewing regular reports from the CEO on business highlights and the implementation of the Group's Strategic Objectives
- Reviewing the progress of the Group's Sustainability agenda, including receiving regular updates on the Group's health, safety and environmental objectives, the Group's TCFD compliance and the Group's roadmap to net zero
- Participation in a two-day off-site review of strategy presented by the CEO, CFO, the three main Business Unit Presidents and the Company's key financial advisers
- Considering the impact of the conflict in Ukraine, and determining the Group's approach to trading with Russia
- Receiving and considering reports on the Group's key customers, its HR, purchasing, IT, tax and treasury strategies, legal and compliance activities and the management of the Group's key pension liabilities
- Receiving and considering a progress report on the Group's R&D strategy and objectives
- Reviewing the Group's financing structure
- Reviewing the Group's investor relations strategy and receiving reports from the Company's brokers on market issues and from the CEO, CFO and the Head of Investor Relations on investor relations meetings and feedback

Performance

- Receiving regular business reports from the CEO
- Reviewing the measures being taken to mitigate the impact of energy and raw material cost increases, and ongoing supply chain disruption
- Receiving regular reports on the Group's financial performance against key indicators, including each of the Group's KPIs
- Receiving regular reports on progress against the Group's sustainability targets and regular updates from the CEO on the performance of the Group's businesses
- Receiving regular safety reports and summaries of the investigations conducted after any serious safety incident
- Receiving regular reports on performance against product quality targets
- Scrutinising the Group's financial performance and forecasts
- Reviewing and agreeing the annual budget and financial plans
- Approving trading updates, and preliminary and half-year results

Governance

- Receiving regular reports from the Board Committees
- Approving the Annual Report and Notice of AGM
- Approving the payment of the interim dividend, and approving the recommendation of the payment of the final dividend subject to shareholder approval
- Approving the appointment of Carl-Peter Forster as a new Chairman and overseeing the processes to identify a new CFO and new Non-executive Director
- Reviewing fees for the Non-executive Directors
- Completing an evaluation of the Board and Committees' performance and regularly reviewing progress against the improvement actions identified in the 2021 evaluation
- Reviewing the Group's internal controls, risk management practices and risk appetite, monitoring the Group's key risks and approving the Group's risk register
- Reviewing and approving the Group's Modern Slavery Statement
- Receiving regular updates on corporate governance and regulatory developments, and conducting the formal annual review of the Group's governance arrangements
- Reviewing information received through the Group's Speak Up reporting processes
- Reviewing the Board's engagement with employees, including the results of the Group engagement survey
- Renewing the Group's delegated authorities

Information and support

The Board ensures that it receives, in a timely manner, information of an appropriate quality to enable it adequately to discharge its responsibilities. Papers are provided to the Directors in advance of the relevant Board or Committee meeting to enable them to make further enquiries about any matters prior to the meeting should they so wish. This also allows Directors who are unable to attend to submit views to the relevant Chairperson in advance of the meeting.

In addition to the formal Board processes, the Chief Executive provides updates on important Company business issues between meetings, and the Board is provided with regular reports on key financial and management information. The Directors also receive regular updates on shareholder matters, along with copies of analysts' notes issued on the Company. For the distribution of all information, Directors have access to a secure online portal, which contains a reference section containing relevant background information.

All Directors have access to the advice and services of the Company Secretary.

There is also an agreed procedure in place for Non-executive Directors, in the furtherance of their duties, to take independent legal advice at the Company's expense. The procedure was not utilised during the year under review.

Directors' conflicts of interest

The Board has established a formal system to authorise situations where a Director has an interest that conflicts, or may possibly conflict, with the interests of the Company (situational conflicts). Directors declare situational conflicts so that they can be considered for authorisation by the non-conflicted Directors.

In considering a situational conflict, these Directors act in the way they consider would be most likely to promote the success of the Company and may impose limits or conditions when giving authorisation, or subsequently, if they think this is appropriate.

The Company Secretary records the consideration of any conflict and any authorisations granted. The Board believes that the approach it has in place for reporting situational conflicts continues to operate effectively. The Board has authorised any potential or actual conflicts of interest that might arise as a result of Ms Helfer's role as a Partner of Cevian Capital AG. Prior to her resignation as a director of thyssenkrupp AG, the Board had also authorised any potential or actual conflicts of interest that might have arisen from this role.

Board and Committee attendance

The attendance of Directors at the Board meetings held in 2022, and at meetings of the principal Committees of which they are members, is shown in the table below. The maximum number of meetings in the period during which the individual was a Board or Committee member is shown in brackets.

	Board	Audit Committee	Remuneration Committee	Nomination Committee	% attendance
Chairman					
John McDonough CBE	9 (9)	–	–	5 (5)	100%
Carl-Peter Forster[1]	2 (2)	–	–	1 (1)	100%
Executive Directors					
Patrick André	10 (10)	–	–	–	100%
Guy Young	10 (10)	–	–	–	100%
Non-executive Directors					
Kath Durrant	9 (10)	5 (5)	7 (7)	6 (6)	96%
Dinggui Gao	10 (10)	5 (5)	7 (7)	6 (6)	100%
Friederike Helfer	10 (10)	–	–	6 (6)	100%
Jane Hinkley	10 (10)	5 (5)	7 (7)	6 (6)	100%
Douglas Hurt	9 (10)	5 (5)	7 (7)	6 (6)	96%

1. Carl-Peter Forster was appointed to the Board on 1 November 2022, and assumed the role of Chairman on 1 December 2022. The table reflects the number of Board and Committee meetings that he could attend following his appointment to the Board.

Kath Durrant and Douglas Hurt were unable to attend one Board meeting arranged at short notice due to pre-existing commitments. They both received the papers for the meeting in advance and relayed their comments to the Chairman for communication at the meeting. Dinggui Gao attended all meetings virtually until October, as until that time he was precluded from participating in person due to travel restrictions between China and the UK.

The Chairman and Non-executive Directors have letters of appointment which set out the terms and conditions of their directorship. An indication of the anticipated time commitment is provided in recruitment role specifications, and each Non-executive Director's letter of appointment provides details of the meetings that they are expected to attend, along with the need to accommodate travelling time. Non-executive Directors are required to set aside sufficient time to prepare for meetings, and regularly to refresh and update their skills and knowledge. Copies of all contracts of service or, where applicable, letters of appointment of the Directors, are available for inspection during business hours at the registered office of the Company and are available for inspection at the location of the Annual General Meeting (AGM) for 15 minutes prior to and during each AGM.

All Non-executive Directors have agreed to commit sufficient time for the proper performance of their responsibilities, acknowledging that this will vary from year to year depending on the Group's activities, and will involve visiting operational and customer sites around the Group. The Chairman in particular dedicates a significant amount of time to Vesuvius in discharging his duties.

Corporate Governance Statement continued

Directors are expected to attend all scheduled Board and Committee meetings and any additional meetings as required. Each Director's other significant commitments are disclosed to the Board during the process prior to their appointment and they are required to notify the Board of any subsequent changes. Between July and September 2022, Douglas Hurt, having served as Senior Independent Director of Countryside Partnerships plc for a number of years, briefly assumed its Chairmanship prior to its merger with Vistry Group. He discussed the change with the Chairman in advance and it was assessed that despite the increased commitment, he would continue to have adequate time to devote to his Vesuvius Board duties.

The Company has reviewed the availability of the Chairman and the Non-executive Directors to perform their duties and considers that each of them can, and in practice does, devote the necessary amount of time to the Company's business.

Composition, evaluation and succession

Appointment and replacement of Directors

The Company's Articles of Association specify that Board membership should not be fewer than five nor more than 15 Directors, save that the Company may, by ordinary resolution, from time to time, vary this minimum and/or maximum number of Directors. Directors may be appointed by ordinary resolution or by the Board. The Board may appoint one or more Directors to any executive office, on such terms and for such period as it thinks fit, and it can also terminate or vary such an appointment at any time. The Articles specify that, at every AGM, any Director who has been appointed by the Vesuvius Board since the last AGM and any Director who held office at the time of the two preceding AGMs, and who did not retire at either of them, shall retire from office. However, in accordance with the requirements of the Code, all Directors will offer themselves for election or re-election at the 2023 AGM. The Board believes that each of the current Directors is effective and demonstrates commitment to his or her respective role. Accordingly, the Board recommends that shareholders approve the resolutions to be proposed at the 2023 AGM relating to the election and re-election of the Directors. The biographical details of the Directors offering themselves for election or re-election, including details of their other directorships and relevant skills and experience, will be set out in the 2023 Notice of AGM. The biographical details of the Directors are also set out on pages 88 and 89.

Recommendations for appointments to the Board and rotation of the Board are made by the Nomination Committee. The Nomination Committee is also responsible for overseeing the maintenance of an effective succession plan for the Board and senior management. Further information on the activities of the Nomination Committee is set out in the Nomination Committee report on pages 110-115.

A comprehensive induction programme is available to new Directors. The induction programme is tailored to meet the requirements of the individual appointee and explains the dynamics and operations of the Group, and its markets and technology. The induction includes, as a minimum, a series of meetings with key Group executives and advisers, along with site visits to the Group's key strategic sites. Further details of the induction provided for the new Chairman are set out in the Nomination Committee report on page 112.

The Chairman, through the Company Secretary, continues to ensure that there is an ongoing process to review training and development needs. Directors are provided with details of seminars and training courses relevant to their role and are encouraged and supported by the Company to attend them. In 2022, regulatory updates were provided as a standing item at each Board meeting in a Secretary's Report. External input on legal and regulatory developments impacting the business was also given, with specialist advisers invited to the Board and Committee meetings to provide briefings on topics such as the changing landscape of Corporate Governance, particularly the latest FRC guidance, Market Abuse Regulations and TCFD.

Performance evaluation

The Board carries out an evaluation of its performance and that of its Committees and individual Directors, including the Chairman, every year. Details of the evaluation conducted in 2022 can be found in the Nomination Committee report.

Audit, risk and internal control

The Board is responsible for ensuring that policies and procedures are in place to ensure the independence and effectiveness of the Internal and External Audit functions. The Audit Committee assists the Board in reviewing the effectiveness of the Group's Internal and External Audit functions, in addition to monitoring the integrity of the Group's financial and narrative statements. Further information about the work of the Audit Committee can be found in the Audit Committee report on pages 101–109.

The Board is also responsible for setting the Group's risk appetite and ensuring that appropriate risk management systems are in place. The Audit Committee assists the Board in reviewing the effectiveness of the system of internal control, including financial, operational and compliance controls, and risk management systems. The Group's approach to risk management and internal control is discussed in greater detail on pages 27–31 and the Group's principal risks and how they are being managed or mitigated are detailed on pages 32 and 33. The Viability Statement which considers the Group's future prospects is included on page 31. Risk management and internal control are also discussed in greater detail in the Audit Committee report.

All of the independent Non-executive Directors serve on both the Audit and Remuneration Committees. They therefore bring their experience and knowledge of the activities of each Committee to bear when considering critical areas of judgement. This means that, for example, the Directors are able to consider carefully the impact of incentive arrangements on the Group's risk profile and ensure that the Group's Remuneration Policy and programme are structured to align with the long-term objectives and risk appetite of the Company.

Remuneration

The Directors' Remuneration Report on pages 116–143 describes the work of the Remuneration Committee in developing the Group's policy on executive remuneration, determining Director and senior management remuneration, reviewing workforce remuneration and related policies – including ensuring that these align with the Group's Strategic Objectives and culture, and overseeing the operation of the executive share incentive plans.

Audit Committee

Douglas Hurt – Committee Chairman

Carla Bailo (from 1 February 2023)

Kath Durrant

Dinggui Gao

Jane Hinkley

The Company Secretary is Secretary to the Committee

Dear Shareholder,

On behalf of the Audit Committee, I am pleased to present the Audit Committee report for 2022. The foundation of the Committee's work each year is a recurring and structured programme of activities which are defined in an annual rolling Audit Committee timetable. The Audit Committee then considers additional items as matters arise or priorities change.

During 2022, the Committee spent time assessing the impact of the war in Ukraine on the Group's activities, both in terms of the immediate effect on the Group's Russian and Ukrainian businesses, but also in terms of the wider impact on energy and raw material pricing, and the macroeconomic effects of inflation and consumer confidence on the business. With the further development of the Group's sustainability reporting the Committee also considered the assurance required for the validation of sustainability metrics, alongside reviewing the Group's TCFD reporting. Finally, in light of the inflationary environment, the Committee undertook a deep dive into the Group's inventory accounting methodology, and again focused on the development of the Group's cyber security measures, as well as continuing to receive regular updates on the implementation of changes to the Group's Finance Operating Model.

The Audit Committee report describes the work of the Committee during the year, including its role in monitoring the integrity of the Company's financial statements and the effectiveness of the Internal and External Audit processes. It provides an overview of the significant issues the Committee has considered during the year and its material judgements. It also describes how the Committee fulfilled its responsibilities to assist the Board in reviewing the effectiveness of the Group's system of internal financial controls and its internal control and risk management systems.

Yours sincerely

Douglas Hurt
Chairman, Audit Committee
2 March 2023

The Audit Committee

The Audit Committee comprises all the independent Non-executive Directors of the Company, who bring a wide range of financial and commercial expertise to the Committee's decision-making processes. Douglas Hurt is the Senior Independent Director and Chairman of the Audit Committee. He was the Finance Director of IMI plc for nine years prior to his appointment and has worked in various financial roles throughout his career. Douglas currently serves as the Chairman of the Audit Committees of Hikma Pharmaceuticals PLC and the British Standards Institution. He is a Chartered Accountant. This background provides him with the 'recent and relevant financial experience' required under the Code.

The Code and Financial Conduct Authority Disclosure Guidance and Transparency Rules also contain requirements for the Audit Committee as a whole to have competence relevant to the sector in which the Company operates. Vesuvius' Non-executive Directors have significant breadth of experience and depth of knowledge on matters relevant to Vesuvius' operations, both from their previous roles and from their induction and other activities since joining the Vesuvius Board. The Directors' biographies on pages 88 and 89 outline their range of multinational business-to-business experience and expertise in fields such as engineering, manufacturing, services, logistics and human resources, as well as their financial and commercial acumen. The Board considers that the Audit Committee as a whole has competence relevant to Vesuvius' business sector.

Meetings

The Committee met five times during 2022. The Committee has also met twice since the end of the financial year and prior to the signing of this Annual Report. The Board Chairman, the non-independent Non-executive Director, the Chief Executive, the Chief Financial Officer, the Head of Finance, the Group Head of Internal Audit and the External Auditors were all invited to each meeting. Other management staff were also invited to attend as appropriate.

Audit Committee meetings are conducted to promote an open debate, they enable the Committee to provide constructive challenge of significant accounting judgements, and guidance and oversight to management, to ensure that the business maintains an appropriately robust control environment. Between Audit Committee meetings, the Chairman of the Audit Committee encourages open dialogue between the External Auditors, the management team and the Group Head of Internal Audit to ensure that emerging issues are addressed in a timely manner.

Audit Committee continued

Activities in 2022

1. During 2022, the Committee paid particular attention to the effects of the macroeconomic environment on the Group. This included assessing the impact of the war in Ukraine on the Group's businesses in Russia and Ukraine, and the wider impact to the Group of the concomitant increases in global energy and raw material pricing, inflation and interest rates. It also continued to monitor the impact of COVID-19 on the Group, particularly in China.
2. The Committee's agenda covered the usual standing items – the review of financial results, the effectiveness of the Group's internal financial controls, and the review of the internal control and risk management systems – as well as additional topics, including updates on cyber security and an in-depth review of the Group's inventory accounting methodology.
3. The Committee continued to receive feedback throughout the year on the implementation of the updated Finance Operating Model. This structure continues the transition of the Business Unit finance functions from purely accounting to forward-looking business support, with clearer accountabilities for controlling functions and a focus on further standardising core processes. The Committee monitored changes to the structure of finance roles and the roll-out of the new model.
4. The Audit Committee continued to devote time to ensure that initiatives to mitigate potential risks and financial exposure remained robust and appropriate.
5. The Committee challenged the assumed growth rates and discount rates used for asset impairment assessments.
6. The Committee considered the Company's going concern statement, challenging the nature, quantum and assessment of the significant risks to the business model, future performance, solvency and liquidity of the Group which were modelled as part of the scenarios and stress testing undertaken to support the Viability Statement made by the Company in the Annual Report and Financial Statements. In particular the Committee examined the criteria selected for enhanced stress testing, which included an unplanned drop in customer demand, debt recovery risk due to customer default, business interruption due to unplanned closure of several key plants and raw material price inflation. The Committee also considered the potential effect of a combination of risk factors occurring at the same time. At the half year the Committee undertook another detailed look at the Company's going concern statement. The going concern statement and Viability Statement are contained within the Strategic Report on page 31.
7. The Committee reviewed the resourcing and delivery of the 2022 Internal Audit plan, considering the effect of the residual COVID-19 travel restrictions in China, and approved the 2023 Internal Audit plan. The Committee monitored both the responses from and follow-up by management to Internal Audit recommendations arising during the year, in particular making sure that where longer-term actions were needed to resolve an issue, effective short-term mitigations were put in place. The Committee discussed at length any significant issues raised, the root causes for those issues and the actions being taken to resolve them.
8. The Committee conducted detailed reviews of provisions, including provisions for disposal, closure and environmental costs, challenging the reasonableness of underlying assumptions and estimates of costs, and the quantum of any related insurance assets.
9. The Committee challenged management's revised forecasts for UK taxable profits that have resulted in the recognition of previously unrecognised deferred tax assets and concurred with the judgement and estimates made to derive the amount recognised and its disclosure as a separately reported item.
10. The Committee reviewed the Group's TCFD reporting and the assurance received regarding the sustainability KPI data.
11. In light of the inflationary environment, the Committee undertook a deep-dive review of the Group's inventory accounting methodology.
12. The Committee reviewed the effectiveness of the Internal and External Audit processes.
13. The Committee Chairman and other members of the Committee were involved in the process to identify and appoint a new Chief Financial Officer. The Committee Chairman was also involved in the selection of a new Group Head of Internal Audit following the resignation of the incumbent.
14. The Committee met with the Internal and External Auditors without management present and received valuable feedback on a range of topics.
15. The Committee received updates on the preparations for the filing of the Group's annual financial report in the required European Single Electronic Format (ESEF).
16. The Committee received regular updates from PwC on material accounting and governance developments impacting the Group, with a more detailed review of alignment with best practice reporting provided in October.
17. The Committee conducted an evaluation of its performance and effectiveness, concluding that the Committee continued to work effectively across all key areas, with a clear and effective agenda and meetings remaining well managed and appropriately resourced.
18. The Committee reviewed its terms of reference.

During the year, as is the Audit Committee's established practice, the Committee members met and discussed business and control matters with senior management both during Board presentations and site visits.

The outcomes of Audit Committee meetings were reported to the Board, and all members of the Board received the agenda, papers and minutes of the Committee.

Statement of compliance with the Competition and Markets Authority (CMA) Order

The Committee considers that the Company has complied with the Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014 (Article 7.1), published by the CMA on 26 September 2014, including with respect to the Audit Committee's responsibilities for agreeing the audit scope and fees and authorising non-audit services.

Role and responsibilities

The main role and responsibilities of the Committee are to:

- Monitor the integrity of the Financial Statements of the Company and the Group, and any formal announcements relating to the Group's financial performance, reviewing significant financial reporting judgements contained in them
- Provide advice, as requested by the Board, on whether the Annual Report and Financial Statements, taken as a whole, are fair, balanced and understandable and provide the information necessary for the shareholders to assess the Group's position and performance, business model and strategy
- Review and monitor the effectiveness of the Company's internal financial controls, and internal control and risk management systems
- Review procedures for detecting fraud, and systems and controls for the prevention of bribery and ensure that a thorough review is carried out of all alleged instances of fraud notified to the Committee
- Monitor and review the role and effectiveness of the Company's Internal Audit function and audit programme, ensuring that the function is adequately resourced and operates free from management or other restrictions
- Make recommendations to the Board on the appointment, reappointment and removal of the External Auditors and negotiate and agree the fees and terms of engagement of the External Auditors
- Monitor and review with the External Auditors the findings of their work, including key accounting and audit judgements, how any risks to audit quality were addressed and the External Auditors' views of their interactions with senior management
- Review and monitor the External Auditors' independence, objectivity and effectiveness, taking into consideration relevant law, regulation, the Ethical Standard, other professional requirements and any FRC audit inspection findings
- Oversee the operation of the policy on the engagement of the External Auditors to supply non-audit services
- Report to the Board on how the Committee has discharged its responsibilities

The Committee operates under formal terms of reference approved by the Board. These were reviewed during the year. They are available to view in the Investors/Corporate Governance/Board Committees section of the Company's website: www.vesuvius.com. Within these terms, the Committee and its individual members are empowered to obtain outside legal or other independent professional advice at the cost of the Company. These powers were not utilised during the year. The Committee may also secure the attendance at its meetings of any employee or other parties with relevant experience and expertise should it be considered necessary.

The Committee members believe that they received sufficient, relevant and reliable information throughout the year from management and the Internal and External Auditors to enable the Committee to fully discharge its responsibilities. The work of the Audit Committee is further elaborated in the remainder of this report.

Financial reporting

The Committee fulfilled its primary responsibility to review the integrity of the half year and annual Financial Statements and recommended their approval to the Board.

In forming its views, the Committee assessed:

- The quality, acceptability and consistency of the accounting policies and practices
- The clarity and consistency of the disclosures, including compliance with relevant financial reporting standards and other reporting requirements
- Significant issues where management judgements and/or estimates had been made that were material to the reporting or where discussions had taken place with the External Auditors in arriving at the judgement or estimate
- In relation to the overall Annual Report, whether the Annual Report and Financial Statements taken as a whole were fair, balanced and understandable, taking into consideration all the information available to the Committee
- The Group's compliance with the requirements in respect of TCFD reporting, including the assurance received regarding the sustainability KPI data. The Committee reviewed and approved the climate-related risk and opportunities register, the scenario analyses and the roadmap to net zero
- The application of the FRC's guidance on clear and concise reporting and the key takeaways from the Thematic Reviews issued by the FRC throughout the year on themes such as Judgements and Estimates, TCFD disclosures, Earnings per Share and Deferred Tax Assets
- The disclosure and presentation of alternative performance measures, in view of the guidelines issued by the FRC

The Committee actively deliberated on and challenged reports from the Chief Financial Officer and the Head of Finance. These were well prepared and, for areas of judgement and/or estimation, set out the rationale for the accounting treatment and disclosures, and the pertinent assumptions and the sensitivities of the estimates to changes in the assumptions. The External Auditors also delivered memoranda for the half-year and year-end, stating their views on the treatment of significant issues. The External Auditors provided a summary for each issue, including their assessment of the appropriateness of management's judgements or estimates.

Significant issues and material judgements

The Committee considered the following significant issues in the context of the 2022 Financial Statements. It identified these areas to be significant, taking into account the level of materiality and the degree of judgement exercised by management.

The Committee resolved that the judgements and estimates made on each of the significant issues detailed overleaf were appropriate and acceptable.

Audit Committee continued

Impairment of goodwill

The 2022 year-end carrying value of goodwill of £658m was tested against the current and planned performance of the Steel Flow Control, Steel Advanced Refractories and Foundry CGUs. The Committee considered the Board-approved medium-term business plans and terminal growth assumptions, and the discount rates used in the assessments. Relevant sensitivities using reasonably possible changes to key assumptions were evaluated. The detailed assumptions are provided in Note 17 to the Group Financial Statements.

Given that the models indicated, even with the application of reasonable sensitivities to the assumptions, that there remains significant headroom between the Value in Use and the carrying value, the Committee concurred that no goodwill impairment charges were required.

Other provisions

The Committee continues to monitor the implications of a number of potential exposures and claims arising from ongoing litigation, product quality issues, employee disputes, restructuring, vacant sites, environmental matters, legacy matter lawsuits, indirect tax disputes and indemnities or warranties outstanding for disposed businesses. Due to the long gestation period before settlement for a number of these issues can be reached, provisioning for these items requires careful judgement in order to establish a reasonable estimate of future liabilities. The Committee also assessed the strength of any insurance coverage for certain of these liabilities and challenged the accounting treatment for any amounts deemed to be recoverable from insurers. After due consideration and challenge, and having considered legal advice obtained by the Company, the Committee is satisfied that there are appropriate levels of provisions set aside to settle third-party claims and disputes (Note 30 to the Group Financial Statements) and that adequate disclosure has been made. Where no reliable estimate of the potential liability can be made for the outcome of an existing issue, no provision has been made and appropriate disclosure is included under contingent liabilities (Note 32 to the Group Financial Statements).

Operating segments for continuing operations

The Committee considered the aggregation of the Steel Flow Control, Steel Advanced Refractories, and Steel Sensors & Probes operating segments into the Steel reportable segment, noting the economic characteristics of these operating segments which include a similar nature of products, customers, production processes and margins. The Committee concluded that this segmentation remained appropriate.

Impairment of investment in subsidiaries

The Committee has reviewed management's impairment analysis of the parent company's investment in subsidiaries. Following this review it concurred that no impairment was required.

Provisions for trading balances related to the Russia/Ukraine war

The Committee challenged management's expected credit loss model to ensure that appropriate allowance was made for both receivables balances linked to customers impacted by the Russia Ukraine war, or by the changing sanctions regime, and for obsolete inventory impacted by these factors.

Deferred tax

The Committee challenged management's revised forecasts of UK taxable profits and the amount of the previously unrecognised tax losses that should be recognised. The Committee concurred with management's judgements and forecast estimates to derive the amount of the deferred tax losses to be recognised and with their recognition being treated as a separately reported item in the Consolidated Income Statement.

Fair, balanced and understandable reporting

The Committee considered all the information available to it in reviewing the overall content of the Annual Report and Financial Statements and the process by which it was compiled and reviewed, to enable it to provide advice to the Board that the Annual Report and Financial Statements are fair, balanced and understandable. In doing so, the Committee ensured that time was again dedicated to the drafting and review process so that internal linkages were identified and consistency was tested. Drafts of the Annual Report and Financial Statements were also reviewed by a senior executive not directly involved in the year-end process who reported to the Committee on his impressions of their clarity, comprehensiveness and the balance of disclosure in the document. On completion of the process, the Committee was satisfied that it could recommend to the Board that the Annual Report and Financial Statements are fair, balanced and understandable.

Risk management and internal controls

As highlighted in the reviews of strategy and principal risks in the Strategic Report, risk management is inherent in management's thinking and is embedded in the business planning processes of the Group. The Board has overall responsibility for establishing and maintaining a system of risk management and internal control, and for reviewing its effectiveness. The Audit Committee assists the Board in reviewing the effectiveness of the Group's system of internal control, including financial, operational and compliance controls, and risk management systems. This framework is consistent with the Code.

In 2022, Committee members fully participated in the Board review of existing risks and ongoing mitigating actions, further details of which are given on pages 32 and 33. The Committee believes that the Group's process for identifying and understanding its principal risks and uncertainties, including its emerging risks, remains robust and appropriate.

The Committee considered the Company's going concern statement and challenged the nature, quantum and effects of the combination of the unlikely but significant risks to the business model, future performance, solvency and liquidity of the Group. These were all modelled as part of the scenarios and stress testing undertaken to support the Viability Statement. As part of this review, the Committee considered the Group's forecast funding requirements over the next three years and analysed the impact of key risks faced by the Group with reference to the Group's debt covenants; these included stress testing for an unplanned drop in customer demand, debt recovery risk due to customer default and business interruption due to unplanned closure of several key plants. The scenarios considered the impact of multiple risks occurring simultaneously and the additional mitigating actions that the Group could take. The Committee noted that the Group's debt headroom was sufficient to accommodate the modelled stress scenarios. As a result of its review, the Committee was satisfied that the going concern statement and Viability Statement had been prepared on an appropriate basis. The 2022 going concern statement and the 2022 Viability Statement are contained within the Risk, viability and going concern section on page 31.

The key features of the Group's internal control system, which provides assurance on the accuracy and reliability of the Group's financial reporting, are detailed in the Risk, viability and going concern section on pages 27–33. During 2022, the Committee considered the process by which management evaluates internal controls across the Group. The Group Head of Internal Audit provided the Committee with a summary overview of the assurance provided by the Group's control framework and the testing of these controls. PwC reports if there are any significant control deficiencies identified during the course of their audit.

The Group is made up of several large operating units, but also many small units in geographically diverse locations. Consequently, segregation of duties, overlapping access controls on systems and remote management oversight can give rise to control vulnerabilities and fraud opportunities. The Group has not adopted a common Enterprise Resource Planning system as a Group-wide standard, though where it becomes necessary to update the ERP for a particular business, the same supplier is used for these implementations, where appropriate. Over time, the Group is moving towards a shared services model for financial transactions, enabled by process, systems and controls standardisation between businesses. This is expected to enhance the overall internal control environment in the smaller operating units.

Cyber security

The processes and controls to manage cyber risks continued to be a significant area of focus for the Group in 2022. Vesuvius like most other companies, receives a large number of 'phishing' emails presenting fake credentials and malicious links, and has also been subject to repeated attempts at social engineering fraud. In February this year, the Group was the subject of a cyber incident involving unauthorised access to our IT systems. The Group responded swiftly to the incident, instigating the Cyber Incident Plan and shutting down our IT systems to contain the incident. The Group's sites implemented their business continuity plans to maintain their operations. The Audit Committee has considered the potential impact of the incident on the Group's year-end audit and is satisfied that the data required for the audit was not compromised. The Committee will continue to monitor the impact of this incident and will review the actions being taken to mitigate the risk of further incidents in the future.

Whilst the Audit Committee maintains oversight of the Group's control systems for reducing cyber risk, the Group's IT Committee is responsible for managing this risk. The IT Committee meets on a regular basis to review and progress the Group's plans for mitigating cyber risks and tackling any cyber issues that arise, and the Audit Committee receives regular updates.

Cyber risks are integrated into the Group's wider risk management, including forming part of the Business Continuity Plan (BCP) undertaken to counteract business interruption – either in loss of production capacity or supply chain disruption due to physical site damage (accidents, fires, natural disasters, terrorism), industrial action, cyber attack or global health crises.

Our BCP and cyber security risk management are closely integrated. The Group has conducted repeated cyber security risk assessments, analysing the business impact of certain scenarios to mitigate potential downtime, with an Incident Handling and Response Policy, which has been kept under continual review, and which sets out how we improve visibility and monitoring of all network infrastructure. In addition the Group maintains a Disaster Recovery Plan for inclusion in wider business continuity plans to address network, data centre and infrastructure issues.

Vesuvius operates a multi-year strategy for maintaining and developing cyber security based on best practices and standards, and monitoring trends and cyber threats against appropriate indicators. This encompasses in-house vulnerability testing and analysis, using external reports and benchmarks to develop our processes. Our cyber security work therefore supports and protects our production capacity and delivers investment in appropriate resources in this fast-changing environment. The Group's IT Security Strategy and Roadmap, whilst not formally accredited, is based on the ISO 27001 standard and NIST frameworks, implementing best practices in the area.

During 2022, the Group completed a number of infrastructure and network enhancements to improve its IT security. The Committee places significant emphasis on operational security, of which information and communication technology and cyber security are a vital part. Cyber resilience continues to be a significant area of focus for the Group.

2022 saw further progress in the development of the Group's security monitoring operations, with specialised cyber security tools constantly being introduced and tuned. Significant emphasis is placed on user awareness and in 2022 the Group continued to conduct a series of mandatory cyber security training courses.

The Committee concluded that the work undertaken in 2022 indicated the existence of an appropriate control environment. It did however, note that there were some areas for further upgrade, for which clearly defined improvement actions had been identified, particularly in respect of the Group's cyber risks. The subsequent cyber attack serves to reinforce this as an area of continued focus. The Committee recognises that with an organisation of the size and complexity of Vesuvius it is virtually impossible to eradicate the risk of cyber attack but is pleased to note that whilst the Group's systems were penetrated, the risk management plans and practices in place, particularly the business continuity plans, did serve to mitigate the incident.

Audit Committee continued

The Group undertakes a range of activities to mitigate the risk of fraud. This framework is regularly reviewed to determine areas for improvement. Eliminating the risk of fraud remains one of the key areas of focus for Internal Audit, forming a fundamental part of 'full scope' and financial audits. These assess the quality of the balance sheet reconciliations, review key judgement matters, consider ERP access rights, review tenders and quotations, review the entity's controls over master data changes, and review controls over payments, journals and associated applications, along with travel and expense reimbursements.

Any control issues identified by management locally or as a result of the work performed by Internal Audit are escalated as appropriate. Internal Audit rates all control issues they identify in terms of their significance and agrees remediation plans with the management of the auditee and an action owner, in each case establishing a target date for remediation. For significant issues, management at all levels within the Business Unit are engaged to agree the actions and remediation dates. The status of the remediation is monitored and overdue issues are escalated appropriately with management, and reported at Audit Committee meetings. Where a specific audit identifies multiple issues, or where issues arise on the progress of remediation activities, the Audit Committee continues to challenge management to identify root causes and ensure that the right organisational structure and people are in place to address issues effectively.

During 2022, the Group continued to focus on its framework, policies and procedures for the management of anti-bribery and corruption risk and other compliance/regulatory risks, and the Committee noted the Group's ongoing work conducted in this area. Given the conflict in Ukraine, the Committee discussed in detail the due diligence/compliance processes underpinning the business the Group continues to conduct in Russia and the surrounding region, as well as, more broadly, the process for the monitoring of new and ongoing third-party sales agents. The Committee continued its assessment of the Group's potential exposure to bribery and corruption risks as part of its wider responsibilities for risk management. It was noted that the Group's regular risk assessment work continues, underpinning the Group's activities to ensure that the processes in this area reflect an appropriate level of control for the business.

In line with the requirements of the Code, responsibility for the oversight and monitoring of the Group's Speak Up helpline, which collates allegations of improper behaviour and employee concerns, has passed from the Audit Committee to the full Board. The Committee is kept apprised of any complaints received by the Company regarding fraud, accounting, internal accounting controls and auditing matters. Further details of the operation of the Group's Speak Up policy and helpline can be found on page 94.

Each year, the senior financial, operational and functional management of the businesses self-certify compliance with Group policies and procedures for the areas of the business under their responsibility and confirm the existence of adequate internal control systems throughout the year. The Committee reviews any exceptions noted in this bottom-up exercise.

The Committee has also requested that an updated review of fraud opportunities and risk across the Group be conducted, which is currently under preparation. This will drive a further analysis of the controls in place to prevent this specific instance occurring and the testing of these controls. In addition, the Committee has requested a review of the revenue generated by the sales agents utilised by the Group.

No significant control issues were raised by our External Auditors, PwC and Mazars, and no material issues were identified in 2022. After considering these various inputs, the Committee was able to provide assurance to the Board on the effectiveness of internal financial control within the Group, and on the adequacy of the Group's broader internal control systems.

Internal Audit

The Group's Internal Audit function operates on a global basis through professionally qualified and experienced individual members located in the UK and Poland. They report to the Group Head of Internal Audit, based in London, who in turn reports directly to the Chairman of the Audit Committee. During the year there was a change in the Group Head of Internal Audit. The Chairman of the Audit Committee met with the departing Head of Internal Audit to ensure that this departure was not precipitated by any internal control concerns and was involved in the decision to appoint an internal successor.

Throughout 2022, Internal Audit continued to perform a programme of audits focusing on internal financial controls and key Board compliance issues.

The Committee received, considered and approved the 2022 Internal Audit plan which was constructed using a risk-based approach to cover the Group's control environment. The plan is based on the premise that all operating units are audited at least once every three to four years, and each of the large operating entities located in Germany, the US, China, Mexico and Brazil are audited on an annual basis. With further relaxations in COVID-19 travel restrictions during the year, audits were conducted on-site in the majority of instances, with European audits scheduled in the first half of the year and long-haul audits in the second half. The China audit was conducted remotely due to continuing travel restrictions.

Four categories of audit were conducted: Financial Controls Audits, Deep Dive Trial Balance Audits, Compliance Audits and IT Audits, with the majority of the 32 audit assignments undertaken in 2022 (2021: 34) focused on financial controls. The Committee received a report from the Group Head of Internal Audit at each of its meetings detailing progress against the agreed plan and key trends and findings. An update on the progress made towards resolving open issues was also given. Common themes emerging from Internal Audit reports coupled with Internal Audit and management's assessment of risk have informed the development of the 2023 Internal Audit plan.

When necessary, Internal Audit contracts auditors from other audit firms to supplement internal resources on an ad hoc basis. This process provides valuable learning opportunities and we expect to continue to use external resources in specialist areas and geographies in the future.

Control issues continue to be recorded in a live web-based database into which management is required to report progress towards addressing any open issues. Internal Audit monitors the progress made and frequent meetings continue to be held with each Business Unit President to ensure that engagement on the resolution of issues is clearly understood at all levels of the business and responsibility for remediation has been appropriately assigned. The results are communicated to the Audit Committee which also involves senior management as necessary to provide an update against any high-priority actions. Internal Audit undertakes follow-up reviews as required. In situations where audit findings require longer-term solutions, the Committee oversees the process for ensuring that adequate mitigating controls are in place.

An internal review was undertaken of the effectiveness of the Internal Audit function in 2022. The CFO reviewed the Internal Audit process and function, in conjunction with the new Group Head of Internal Audit, with a view to further enhancing the quality of the department's contribution and maximising efficiency. As a result small changes to the department's protocols were agreed to ensure resource was appropriately applied to ad hoc requests, and that the process for managing and resolving audit findings was always targeted by significance. Having considered the work of the Internal Audit function during 2022, including progress against the 2022 Internal Audit plan, the quality of reports provided to the Committee, and the results of the review of the function's effectiveness, the Committee concluded that the Internal Audit function operated effectively during 2022, exhibiting an appropriate level of independence and challenge.

The Audit Committee has also commissioned Ernst & Young to undertake a formal review of the quality of the Group's Internal Audit function.

External Audit

Auditors' appointment

In 2017, the Company appointed PricewaterhouseCoopers LLP (PwC) as External Auditors to the Company and the Group, and Mazars LLP (Mazars) to audit the non-material entities within the Group. Darryl Phillips serves as the PwC audit partner responsible for the Group audit, a role he assumed following the completion of the 2020 half-year review.

Under the Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order, the Audit Committee is required to report in which year the Company proposes to complete a competitive tender process in respect of the statutory External Auditor, and the reasons why the proposed year for the competitive tender process is in the best interests of the shareholders. In compliance with the Order, the Audit Committee confirms that a competitive tender process for the appointment of a statutory auditor will, subject to satisfactory annual reviews of the effectiveness of the External Auditors and its costs in the intervening period, be conducted during 2026 with a view to recommending the appointment of a new statutory auditor or the reappointment of the incumbent auditor, for the financial year ending December 2027. The Audit Committee believes that conducting a competitive tender process during 2026 for the appointment of a new statutory auditor for the financial year ending December 2027 is appropriate, and in the best interests of the shareholders.

2022 Audit plan

During the year the Committee evaluated the PwC Group audit scope for 2022. The year-end audit plan was based on agreed objectives, with the audit focused on areas identified as representing significant risk and requiring judgement. In order to manage costs, and ensure that the Group maintains audit relationships outside the 'Big 4', Mazars undertakes some of the Group audit work under the direction of PwC. It is principally responsible for the statutory audits of the non-material Group subsidiaries, but also undertook specific audit procedures for certain component entities that were within PwC's Group audit scope in 2022. Mazars reported independently to PwC on this work and the work was directed, supervised and reviewed by PwC. Mazars also reported independently to the Committee on the work it undertook auditing non-material subsidiaries.

PwC maintained an ongoing dialogue with the Audit Committee throughout the year providing regular updates, including commentaries on significant issues and its assessment of consistency and appropriateness in the judgements and estimates made by management. Private sessions were held with PwC without management being present. PwC confirmed that its work had not been constrained in any way and that it was able to exercise appropriate professional scepticism and challenge throughout the audit process. The Chairman of the Audit Committee met on a number of occasions with PwC to monitor the progress of the audit and discuss questions as they arose. The Committee also received a report from Mazars during the year which noted that there were no findings or recommendations in respect of its statutory audits of the non-material Group subsidiaries for the year ended 31 December 2021 that Mazars deemed sufficiently material or significant to bring to the attention of the Audit Committee.

The Independent Auditors' Report provided by PwC on pages 151–159 includes PwC's assessment of the key audit matters. These key audit matters are discussed in the significant issues and material judgements comments above. The report also summarises the scope, coverage and materiality levels applied by PwC in its audit. As part of the audit planning process and based on a detailed risk assessment, the Committee agreed a materiality figure of £10.3m for Group financial reporting purposes which is 63% higher than last year (£6.3m) and is set at 4.7% of headline profit before tax of £217m. Importantly, much lower levels of materiality are used in the audit fieldwork on the individual businesses across the Group and these lower figures drive the scope and depth of audit work. Any misstatement at or above £0.52m was reported to the Committee.

There were no significant changes this year to the coverage of the audit which stood at 71% of the Group's revenue, 80% of profit before tax and 82% of headline profit before tax. This coverage was considered to be sufficient by the Committee. The audit coverage is reflective of the long tail of smaller businesses within the Group that individually are not 'material' to the Group result.

The PwC audit fee approved by the Audit Committee was £2.3m. This was constructed bottom-up on a local currency basis and was assessed in light of the audit work required by the agreed materiality level and scope. The fee agreed with Mazars for the audit of the non-material entities and three material entities was £0.9m, resulting in a combined audit fee for 2022 of £3.2m, compared with £2.6m in 2021.

Audit Committee continued

Independence and objectivity

The Committee is responsible for safeguarding the independence and objectivity of the External Auditors in order to ensure the integrity of the external audit process. In discharging this responsibility during 2022, the Committee:

- Sought regular confirmation from the incumbent External Auditors that they considered themselves to be independent of the Company in their own professional judgement, and within the context of applicable professional standards
- Assessed the work of the External Auditors and considered whether they were exercising an appropriate level of professional scepticism
- Evaluated all the relationships between the External Auditors and the Group, including compliance with the Group's policy on the employment of former employees of the External Auditors, to determine whether these impaired, or appeared to impair, the Auditors' independence
- Reviewed compliance against the policy on the provision of non-audit services by the External Auditors
- Reviewed details of the non-audit services provided by the External Auditors and associated fees

As a result of its review, the Committee concluded that the External Auditors remained appropriately independent.

Non-audit services

Vesuvius operates a policy for the approval of non-audit services. A copy of the current policy is available to view in the Audit Committee section of the 'Investors/Corporate Governance' pages of the Company's website: www.vesuvius.com.

The use of the External Auditors for the provision of non-audit services is strictly prohibited except for specific permitted audit related services. These comprise: Category 1 services which the External Auditors are obliged to perform due to law or regulation, such as regulatory and solvency reports; and Category 2 services which could be provided by others (albeit there are typically significant efficiencies to be had when done in combination with the audit such as interim reporting). An annual budget for the additional Category 2 service fees proposed to be paid to the External Auditors in the following year is presented for pre-approval to the Audit Committee each year. Audit Committee approval is required for expenditure in excess of this approved budget.

All audit-related and permissible non-audit services proposed to be carried out for any Group company worldwide by the External Auditors must be pre-approved before an engagement is agreed. Pre-approval must be obtained from the Head of Finance or the Chief Financial Officer, who will confirm that the Audit Committee has approved the engagement. Any assignment proposed to be carried out by the External Auditors must also have been cleared by the External Auditors' own internal pre-approval process, to assess the firm's ethical ability to do the work.

In 2022, the fees for non-audit services payable to PwC amounted to £0.2m (2021: £0.1m). The 2022 fees represent payment for assurance services related to the review of the Group's half-year financial statements, quarterly reviews and tax form audits in India (as required by regulation), tax form audits in Mexico, assistance with an R&D certificate in Italy and a Brazilian equity validation. These are all services where it was considered most efficient to use PwC because of their existing knowledge of the business or because the information required was a by-product of the audit process. In each of the past four years the non-audit related fees have represented <9% of the statutory audit fees.

Effectiveness of the External Audit process

The Committee and the Board are committed to maintaining the high quality of the external audit process. Each year the Committee carries out a formal assessment of the performance of the External Auditors in carrying out their work and of the audit process in general. Input into the evaluation in 2022 was obtained from management and other key Company personnel, members of the Audit Committee and the External Audit team. The review focused on the External Auditors' mindset and culture, skills, character and knowledge, and the quality of its controls, as set out in the guidance for audit committees prepared by the FRC.

The evaluation of the External Auditors included the following steps:

- A survey of key finance and non-finance stakeholders in Head Office and in-scope countries
- A commentary-based survey of Audit Committee members focused on their experience of working with PwC
- A review of other external evidence on PwC audit quality (e.g. report on PwC by the FRC)
- Discussions with PwC and key finance and non-finance personnel

The evaluation concluded that PwC had provided an effective audit for 2022, with the Auditors exhibiting an appropriate mindset and culture, along with possessing the right skills, character and knowledge to effectively manage the audit, whilst adopting appropriate quality controls. Building on last year's feedback, PwC had improved their audit approach and worked on ensuring effective and early communication of audit requirements. PwC was judged to challenge the business in the right areas and provide strong technical expertise. The PwC team was also seen as independent by the Audit Committee and management. Debrief meetings were held at a local level to discuss the 2021 audit, and to constructively share feedback that would facilitate further improvements to the audit planning for the 2022 audit and an improved understanding of the audit approach and requirements. Areas highlighted for further improvement in 2022 included greater stability in the US audit team and enhanced coordination with Mazars and the Shared Service Centres.

Reappointment of PwC for 2022

The Committee is responsible for making recommendations to the Board in relation to the appointment, reappointment and removal of the External Auditors. In undertaking this duty, the Committee takes into consideration a number of factors concerning the External Auditors and the Group's current activity, including:

- The results of its most recent review of the effectiveness of the Auditors
- The results of its review of the independence and objectivity of the Auditors, particularly in light of the provision of non-audit services
- Its ability to coordinate a global audit, working to tight deadlines
- The cost-competitiveness of the Auditors in relation to the audit costs of comparable UK companies
- The tenure of the incumbent Auditors
- The periodic rotation of the senior audit management assigned to the audit of the Company
- External reviews of the performance and quality of the Auditors, including:
  - The annual report issued by the Audit Quality Review team of the Financial Reporting Council on the work of the Auditors
  - The Auditors' own annual Transparency Report

Having considered the aforementioned factors, the Committee recommended to the Board that PwC be reappointed for 2023. It confirms that its recommendation is free from the influence of any third party and that there are no contractual restrictions on the choice of auditor. A resolution proposing the reappointment of PwC will be included in the notice of AGM for 2023.

The Committee requested confirmation, and PwC confirmed that there are no longer any restrictions on PwC network companies performing audits of the Group's listed entities in India.

Audit Committee evaluation

The Audit Committee's performance was evaluated as part of the overall externally facilitated Board and Committee performance evaluation, which is described in-depth on pages 114 and 115. The review concluded that the Committee continued to function well, with the quality and quantity of information provided to the Committee judged to be good, and the level of engagement between the Audit Committee and the Chief Financial Officer and his team, the Group Head of Internal Audit and the External Audit Partner rated highly. It was noted that rigorous processes were in place to review and monitor the work of the Internal and External Auditors, and that the Committee dedicated appropriate resource to monitoring and challenging significant audit issues and material accounting judgements. A number of priorities were identified for the Audit Committee over the coming year, including further focus on cyber security, cognisance of the need to ensure that the Group's internal controls are developed to comply with the new BEIS and Corporate Governance Code requirements when they are announced, and supporting the transition to the new Group Head of Internal Audit and new CFO.

On behalf of the Audit Committee

Douglas Hurt
Chairman, Audit Committee
2 March 2023

Nomination Committee

John McDonough CBE – Committee Chairman (until 1 December 2022)

Carl-Peter Forster – Committee Chairman (from 1 December 2022)
Served on the Committee following his appointment to the Board on 1 November 2022 and chaired the Committee following his appointment as Chairman of the Company on 1 December 2022

Carla Bailo (from 1 February 2023)

Kath Durrant

Dinggui Gao

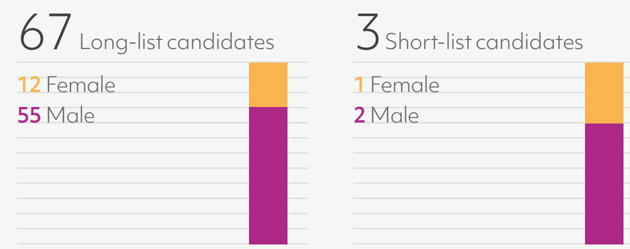
Friederike Helfer

Jane Hinkley

Douglas Hurt

The Company Secretary is Secretary to the Committee

Diversity of candidates for the CFO role



Dear Shareholder,

On behalf of the Nomination Committee, I am pleased to present the Nomination Committee report for 2022. The primary responsibility of the Nomination Committee is to focus on Board composition and succession planning, and to ensure that the Board is composed of individuals with the appropriate drive, abilities, diversity and experience to lead the Company in the delivery of its strategy. As part of this work, the Committee is also responsible for overseeing succession plans for the Board and senior management, and ensuring that the Group has a consistent pipeline of diverse talent for future potential progression to the Board.

The primary focus of the Committee during 2022 was on succession. Early in the year, the Committee, led by the Senior Independent Director, Douglas Hurt, concluded the process for my appointment as the new Chairman of the Company. Subsequently, following the resignation of our CFO Guy Young in September, the Committee undertook a search for his successor. We are delighted to have appointed Mark Collis as CFO; he will join the Board at the latest on 4 July 2023. At the same time, work also progressed with the appointment of new non-executive expertise on the Board, with Carla Bailo joining us on 1 February 2023. Jane Hinkley, who has provided stalwart service to the Board and its Committees over ten years, confirmed that she would step down from the Board at the close of the 2023 AGM.

Alongside this focus on Board recruitment, the Committee also spent a considerable amount of time during the year discussing senior management succession planning, and in this context, responding to the resignation and retirement of two members of the Group Executive Committee. Allied to this, the Committee discussed more general aspects of resourcing further down the organisation, discussing the turnover, sourcing and diversity of staff in the Senior Leadership Group of c.160 managers. It noted that further work was needed to strengthen the pipeline for future vacancies, to ensure that the Group has the right pool of talent available to fill senior manager vacancies.

Yours sincerely

Carl-Peter Forster
Chairman, Nomination Committee
2 March 2023

The Nomination Committee

The Nomination Committee is made up of me, as Chairman of the Company, and the Non-executive Directors. I joined the Committee on my appointment to the Board on 1 November 2022 and began chairing the Committee when I assumed the Chairmanship of the Company on 1 December 2022. Prior to this John McDonough CBE chaired the Committee. The Company Secretary is Secretary to the Committee. Members' biographies are set out on pages 88 and 89.

Role and responsibilities

The Nomination Committee's foremost priorities are to ensure that the Company has the best possible leadership and to ensure that plans are in place for orderly succession to both the Board and Group Executive Committee positions. The Committee ensures that the procedure for the selection of potential candidates for Board appointments – either as an Executive Director or independent Non-executive Director – is formal, rigorous and transparent, and undertaken in a manner consistent with best practice. It also ensures that appointments to the Board are made on merit, against objective criteria and with due regard for the benefits of gender, social, ethnic and cognitive diversity, and personal strengths.

The Committee met six times during the year. It operates under formal terms of reference, a copy of which is available on the Group's website: www.vesuvius.com.

The Committee and its members are empowered to obtain outside legal or other independent professional advice at the cost of the Company in relation to its deliberations. These rights were not exercised during the year. The Committee may also secure the attendance at its meetings of any employee or other parties it considers necessary.

Process for Board appointments

The Committee follows formal, rigorous and transparent procedures for the appointment of new Directors. When considering a Board appointment, the Nomination Committee draws up a specification for the role, taking into consideration the balance of skills, knowledge and experience of its existing members, the diversity of the Board, the independence of continuing Board members, and the ongoing requirements and anticipated strategic developments of the Group. The search process is then able to focus on appointing a candidate with the necessary attributes to enhance the Board's performance.

During 2022, the Committee finalised the selection process to recruit a new Chairman, undertook a search for a new CFO and, as part of the Group's planned Director rotation, commenced the process to identify a new Non-executive Director for the Board. With regard to the Non-executive Director role, the Committee resolved that it was particularly keen to identify candidates who had significant commercial experience and a US background, to complement the skills of the other Directors. The Committee approached appropriate search consultants to assist with the search. After careful consideration, the global specialist search consultant, Spencer Stuart, was retained to assist with the Chairman and Non-executive Director recruitment, and Odgers Berndtson with the CFO recruitment. Both firms have adopted the Voluntary Code of Conduct addressing gender diversity and best practice in search assignments. They do not have any other connection with the Group, other than in respect of management recruitment work undertaken as part of normal trading activities. They were selected for these assignments following a review of potentially qualified agencies, based on their skills and expertise.

In line with Vesuvius' considerable geographical diversity, the searches for these new Directors targeted candidates from around the world for the long-lists of potential appointees produced by the agencies. For each appointment, the Committee reviewed the long-list of candidates, from which a short-list of candidates for interview was drawn up, based upon the objective criteria identified at the inception of each process.

Key activities during the year

Board composition
During the year, the Committee reviewed the structure, size and composition of the Board. This review also included consideration of the skills, knowledge and experience required for the Board to continue to function effectively and support the delivery of our strategy. This analysis took into account the need to ensure an appropriate balance of independence and diversity among Board members, in particular identifying the need to diversify the geographical make-up of the Board, to reflect the wide geographical spread of the Company's business. The Committee then evaluated the current Board composition against an assessment of future business needs, considering the Directors standing for election and re-election at the AGM.

Board succession
Alongside the focus on the recruitment of the new Chair, CFO and Non-executive Director during the year, the Committee also reviewed the future rotation of Directors from the Board. It considered the requirements for Board composition, and seeking to ensure that the Board continues to be resourced by a group of Directors with the skills, diversity and experience necessary to support the future delivery of the Group's strategic objectives. As part of this review the Committee considered the Company's ongoing compliance with the Board Diversity Policy, also noting the update to the UK Listing Rules effective for financial years starting on or after 1 April 2022, pursuant to which one of the Chair, Chief Executive, Chief Financial Officer and Senior Independent Director should be female. The Board is not currently compliant with this requirement.

Senior management development and succession
The Committee maintained oversight of the changes to membership of the Group Executive Committee during the year, reviewing the Group's succession processes, talent development and proposals for the resourcing of vacant roles going forward. It also considered the management cadre below this level, focusing on the recruitment and retention of talent in the Business Unit Executive Committees, and considering the level of turnover and diversity in the broader Senior Leadership Group, along with the balance of internal promotions and external appointments into these roles. It examined how the Group's talent management processes were developing, how the senior management cadre was performing and how the mentoring programme established for the development of individuals flagged as 'high potential' was proceeding – all aimed at developing the pipeline of experienced and talented managers to succeed to roles at the highest level of the business. In this process, the Committee focused both on the bench strength in key skills and expertise as well as the talent pipeline in critical geographies.

Diversity
The Committee reviewed the Group's progress in achieving its diversity targets, with a particular focus on the recruitment of women to the senior management tiers.

Committee evaluation
The Committee reviewed its performance and effectiveness during 2022, including evaluating whether each Non-executive Director was spending sufficient time fulfilling their duties.

Committee terms of reference
The Committee reviewed its terms of reference.

Nomination Committee continued

Members of the Committee conducted initial interviews with the short-listed candidates. The candidates then went on to meet with other Board members. Detailed external references were taken up and, following this, the Committee made formal recommendations to the Board for the appointments. The successful candidates for the non-executive roles were required to demonstrate that they had sufficient time available to devote to their roles and to identify any potential conflicts of interest. No conflicts were identified.

A comprehensive induction programme is put in place for all new Directors. They are given access to past Board and Committee papers and a programme of meetings and site visits is drawn up to ensure that they can quickly assimilate fundamental information about the business and the Group's operations. For the incoming Chairman this process commenced following the announcement of his appointment in May, so that he was well prepared as he joined the Board and took over the role of Chairman in December 2022.

Carl–Peter Forster induction programme

Areas covered:	Provided by:
Vesuvius' purpose, strategic priorities and business operations	Chief Executive, BU Presidents, CFO, CHRO
Business operations, people and culture	HeaTt Training, site visits to Skawina (Poland), Borken (Germany) and Ghlin (Belgium)
Health and Safety and Sustainability Strategy	Provision of policies/procedures, access to past Board sustainability presentations
Financial position, performance and treasury matters	CFO, External Auditors
Corporate governance, Board operations, legal and regulatory matters	Outgoing Chairman, General Counsel/ Company Secretary, existing NEDs
Shareholder and investment community perspective	Corporate brokers, Cevian

Board composition

The Committee keeps the current and future membership needs of the Board and its Committees under continual review. It reflects on the balance of skills, knowledge and experience of the current Directors and compares this to the list of key skills the Board assesses are needed to support the delivery of the Company's strategy. The independence and diversity of the Board, and the balance of skills, experience and development needs of Board members are also examined as part of the Group's annual corporate governance review, which considers the existing tenure and the prospective rotation and retirement of Board members, so that succession can be planned accordingly. The Board considers its diversity, size and composition to be appropriate for the requirements of the business.

In 2021 the Committee noted that Jane Hinkley had served nine years on the Board. However, given the transition of the Board Chairman, Jane agreed to remain on the Board and continue to support the Group until a successor was recruited following the appointment of the new Chairman. The Board, having carefully considered her circumstances, concluded that she continued to be independent of management and a strong and valuable contributor to the Board's work. Following Carla Bailo's appointment as a new Non-executive Director in February 2023, Jane Hinkley will retire from the Board immediately following the Company's AGM on 18 May 2023.

Diversity

The Group's policy on diversity and inclusion outlines Vesuvius' commitment to encouraging a supportive and inclusive culture among its global workforce, promoting diversity and eliminating any potential discrimination in our work environment. Vesuvius' Board Diversity Policy explains how this commitment manifests in relation to the Board.

Vesuvius recognises the value of a diverse and skilled workforce and is committed to creating and maintaining an inclusive and collaborative workplace culture that will provide sustainability for the organisation into the future. We believe that the dedication and professionalism of our people is the most significant contributor to our success. Having a balance of cultures, ethnicities and genders helps to promote innovation, creativity and engagement. The diversity of our senior management cadre and employees is one of the core strengths of the Group. Copies of the Group's diversity policies can be found on the Group's website: www.vesuvius.com.

The Nomination Committee considers the Group's progress in implementing the Group's diversity policy each year and the achievement of the Group's diversity targets.

Across the Group in 2022, 15% (2021: 14%) of our workforce were women, a slight increase versus 2021. The Group has set a target of ensuring that 25% of the Senior Leadership Group of the Company (which comprises c.160 individuals) are female by 2025. This KPI has been incorporated into the long-term incentives of our senior management. The number of women in the Senior Leadership Group decreased by 1 percentage point in 2022 versus 2021 to 20%. Each of the Group's four Business Units has put in place strategies to address gender diversity.

Board diversity

A large part of the work of the Nomination Committee focuses on ensuring that the Board and its Committees have the appropriate range of diversity, skills, experience, independence and knowledge of the Company and the markets in which it operates, to enable them to discharge their duties and responsibilities effectively. The Board Diversity Policy confirms the Group's commitment to maintaining a diverse Board, while continuing to appoint candidates based on merit. We continue to look at diversity in its broadest sense – reflected in the range of backgrounds and experience of Board members who are drawn from different nationalities and have managed a variety of complex global businesses. The Nomination Committee recognises that diversity is a key ingredient in creating a balanced culture for open discussions at Board level and in minimising 'groupthink'.

All independent Non-executive Directors serve on the Audit and Remuneration Committees, and the Chairman and all the Non-executive Directors serve on the Nomination Committee, so the diversity of the Board's principal Committees reflects the diversity of our Non-executive Directors. The Nomination Committee therefore considers the diversity of the Non-executive Directors as a stand-alone cadre, as well as the diversity of the Board as a whole, when considering recruitment to the Board.

The Board notes the recent change to the UK Listing Rules effective for financial years starting on or after 1 April 2022, requiring companies to confirm whether or not 40% of the board are women; at least one of the senior board positions (Chair, CEO, SID or CFO) is held by a woman; whether at least one member of the board is from a minority ethnic background; and to provide numerical disclosure on the ethnic background and sex or gender identity of the Board, senior board positions (Chair, CEO, SID and CFO) and executive management team.

In 2017, the Board set a target for at least 33% female Board membership. This was achieved in 2019. As at 31 December 2022, women made up 38% of the Directors, no women occupied senior Board positions, one of the Directors (12.5%) identified as having an Asian heritage, and another Director (12.5%) identified as having a mixed race heritage. This represented no change in the Board's gender and ethnic diversity versus 31 December 2021.

Following the appointment of Carla Bailo on 1 February and Guy Young's departure from the Company on 17 February, the proportion of women on the Board has increased to 50%. Currently, five Directors hold citizenship outside the UK.

The Board recognises that over time the proportion of female Directors may fluctuate naturally as Board members retire and new Directors are appointed. The Board always seeks to review a diverse long-list of candidates for all Board positions. All independent Non-executive Directors serve on the Audit and Remuneration Committees, so with the appointment of Carlo Bailo women currently make up 60% of the membership (50% in 2022), and all the Non-executive Directors (including the Chairman) serve on the Nomination Committee so women represent 57% of the membership of this Committee (50% in 2022).

Further information on the Group's approach to promoting diversity can be found on page 77.

As at 31 December 2022, the gender balance of the Group's employees was as follows:

	Female	Male	Total	Female	Male
Group Executive Committee member	2	5	7	29%	71%
Leadership roles reporting to members of the GEC	12	40	52	23%	77%
Senior Managers[1]	**14**	**45**	**59**	**24%**	**76%**
All other employees	1,662	9,413	11,075	15%	85%
Grand total	**1,676**	**9,458**	**11,134**	**15%**	**85%**
Senior Leadership Group[2]	**31**	**125**	**156**	**20%**	**80%**

1. Senior Managers comprise Group Executive Committee members plus key leadership roles reporting directly to members of the Group Executive Committee.
2. The Senior Leadership Group comprises the 156 most senior managers in the organisation.

As at 31 December 2022, the gender balance of the Directors and members of the Group Executive Committee was as follows:

	Number of Board members	Percentage of the Board	Number of senior positions on the Board (CEO, CFO, SID and Chair)	Number in Group Executive Committee	Percentage of Group Executive Committee
Men	5	62.5%	4	5	71%
Women	3	37.5%	–	2	29%
Not specified/prefer not to say	–	–	–	–	–

As at 31 December 2022, the ethnic background of the Directors and members of the Group Executive Committee was as follows:

	Number of Board members	Percentage of the Board	Number of senior positions on the Board (CEO, CFO, SID and Chair)	Number in Group Executive Committee	Percentage of Group Executive Committee
White British or other White (including minority-white groups)	6	75%	75%	6	86%
Mixed/Multiple Ethnic Groups	1	12.5%	25%	1	14%
Asian/Asian British	1	12.5%	–	–	–
Black/African/Caribbean/Black British	–	–	–	–	–
Other ethnic group, including Arab	–	–	–	–	–
Not specified/prefer not to say	–	–	–	–	–

The data for these tables was collected by asking individuals to self report against the categories displayed.

Nomination Committee continued

Board evaluation

The Board carries out an evaluation of its performance in Q4 each year. This year's evaluation was again externally facilitated by the corporate advisory firm, Lintstock. The Group uses Lintstock's Insider List database tool but has no other connection with the organisation and Lintstock does not have a connection with any of the Directors.

Each evaluation was conducted via a series of targeted questionnaires. As with previous years, the evaluation covered both the performance of the Board and that of its Committees, along with individual reviews of each Director and an analysis of the performance of the Chairman. Narrative reports were prepared for the Board, the Audit, Nomination and Remuneration Committees, and in respect of the Chairman.

In 2022, the Board assessment focused on eleven core areas:

- Board composition
- Board dynamics
- Strategy
- Sustainability
- Talent
- Risk oversight
- Oversight of stakeholders
- Board support and focus of meetings
- External developments
- Business priorities
- Priorities for change

Lintstock also compared the Board's ratings against those of other organisations, to identify areas of particular strength and to provide additional context. In particular, given the change of Board leadership, the evaluation was structured to provide the incoming Chairman with a 'baseline' of overall Board performance, rather than focusing on specific events or elements of the Board's work as has been the case in previous years.

Overall, the Board was seen to operate effectively with an appropriate composition and range of diversity, with the Non-executive Directors deemed to provide appropriate and constructive challenge to management. The Board's relationships and dynamics were rated positively overall, although it was noted that Remuneration Committee deliberations had created areas of tension. The management of meetings, quality and adequacy of performance reporting, quality of presentations made to the Board and level of support provided received high ratings. The balance of the Board's focus was also generally viewed favourably although, as in previous years, there were areas highlighted for greater or reduced emphasis going forward.

The Board's understanding of the views and requirements of stakeholders was rated highly with regard to investors, employees and customers. It was noted that there was continued scope to improve the Board's understanding of the interests of suppliers, and the dynamics of the Group's sourcing of raw materials and services. The Board's effectiveness in setting and monitoring culture throughout the organisation was rated positively and it was noted that the process for Non-executive Director workforce engagement would be further refined in 2023.

In terms of strategy, Vesuvius' significant focus on Sustainability was highly rated, with the integration of sustainability initiatives and targets throughout the business well understood. The Board indicated the importance it placed on continuing to develop its understanding of the Group's technology offerings for customers. Vesuvius' capacity to deliver on its strategic objectives continued to be rated highly overall, with emphasis placed on the importance of having the right people in place to execute the strategy. It was noted that talent retention, development and succession planning continue to be key areas of focus for the Board.

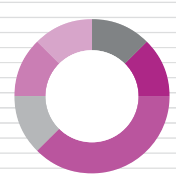
In addition to the primary focus on safety, and the issues highlighted above, the top priorities for Vesuvius as a business over the coming year were identified by the Board as being continuing to focus on succession planning for executive and GEC roles, expanding the geographical diversity of the Board and improving the effectiveness of the workforce engagement programme through site visits. The Board is also keen to gain further insight into the Group's supplier base and profile.

The new Chairman conducted one-on-one meetings with each of the other Directors, to discuss the evaluation process and outcomes and ensure that the Group was drawing effectively on each of their skills and experience. He concluded that each Director continued to contribute effectively to the work of the Board. An assessment of the outgoing Chairman was conducted by the Senior Independent Director. Each of the Committees was also considered to have operated effectively during the year.

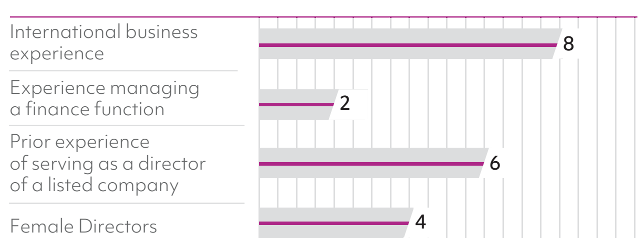
As in previous years, a set of action points was compiled from the output of the evaluation to ensure that its findings are integrated into the Board's activities. These will be implemented by the Board in 2023, with progress reviewed by the Board throughout the year.

Current Board nationalities

1 Austrian
1 German
3 British
1 French
1 American
1 Chinese



Board composition



Further information on the Group's approach to promoting diversity 77

The 2021 evaluation identified the following Board priorities for future Board attention; these were addressed during 2022 as follows:

Area	Issue	Action taken in 2022
Strategy	Oversee the further development of the Group's sustainability strategy and its integration into business planning	Throughout the year the Board received briefings from the Chief Executive and VP Sustainability on the activities of the Group's Sustainability Council, which is tasked with immediate oversight of the Group's sustainability activity. The Board monitored progress against the Group's targets and received updates from the Business Unit Presidents on the work being undertaken in the businesses to further embed the Group's sustainability objectives. The Board also reviewed the more detailed work that had been undertaken to set intermediate targets to drive the Group's progress to net zero at the latest by 2050.
	Enhance the Board's awareness of competitors' activities and the dynamics of the Group's customers and suppliers	A 'deep-dive' into the breadth of Vesuvius' competitive landscape was presented at the Board's Strategy meeting alongside more detailed information on each Business Unit's particular customer and competitor dynamics. A presentation covering Vesuvius' global customer landscape was made in September during the Board's Indian site visit, and a further paper covering the Group's purchasing and key supplier strategy was presented to the Board in October. Further updates on the activities of the Group's competitors, customers and suppliers were given by the Chief Executive throughout the year, as significant matters arose.
People and organisation	Board and GEC succession planning	The Nomination Committee undertook searches for a new Chairman, new CFO and new Non-executive Director. It also oversaw the actions undertaken to address vacancies in the GEC and monitored the recruitment, development and retention of individuals in the senior management cadres, along with the impact of these actions on the Group's talent pipeline.
	Workforce engagement	After two years of limited opportunity for travel, the Non-executive Directors were able to undertake a more comprehensive schedule of site visits in 2022. Each of the nine sites they visited provided them with the opportunity to engage directly with the workforce, including conducting 'town hall' meetings to discuss the work of the Remuneration Committee and respond to questions from employees across all topics.
	Board dynamics	A detailed series of induction meetings and site visits were conducted, and key past Board papers were shared to facilitate the integration of the new Chairman into the work of the Board.

Senior management succession

The Committee's succession planning activities also encompass the senior management levels immediately below the Board, aiming to support and encourage the growth of a pool of talent able to step up to the Group's top roles. The Committee spent a significant amount of time during the year discussing senior management succession, in the context of the resignation of the President of Advanced Refractories and the retirement of the President Operations and Technology from the Executive Committee. As a matter of routine, the Committee considers succession plans for all the senior functional and Business Unit positions, assessing the availability of candidates who could cover the roles on a short-term contingency basis should the need arise, along with the pool of medium-term and long-term talent available for future development into specific roles. The Committee was kept apprised of plans in relation to the resourcing of the two Executive Committee vacancies. No internal candidates were judged ready to assume the role of President of Advanced Refractories and so an external recruitment exercise was launched which remains ongoing. It was resolved that the role of President Operations and Technology would not be directly replaced, with the responsibilities allocated to existing senior managers in the Business Units or supported by recruitment to new non-Executive Committee roles. The Committee also considered the level of turnover in the Senior Leadership Group and the activities being undertaken to retain existing talent, along with the action being taken to develop and recruit new executives to fill gaps in this talent pool.

Committee evaluation

The Committee's activities were a separate part of the externally facilitated evaluation of Board effectiveness during the year. The results of the questionnaires were collated, and a written report tabled and discussed by the Committee. The management of Nomination Committee meetings continued to be rated highly, with a further improvement seen in the quality of information provided, including a greater breadth of information presented on executive talent development and succession planning. The Committee's effectiveness in promoting the development of a diverse pipeline of talent throughout the organisation was rated positively, although it was noted that further work needed to be undertaken to promote greater gender diversity. The succession planning process for the Non-executive Directors was deemed to be functioning well but it was noted that the succession plans for the Executive Directors and other members of the GEC were not fully developed, which had been brought into sharp focus by the departures from this group during the year. The pipeline of talent for these roles and those in the immediate levels below will be an area of significant emphasis for the Committee during 2023.

On behalf of the Nomination Committee

Carl-Peter Forster
Chairman, Nomination Committee
2 March 2023

Directors' Remuneration Report

Remuneration overview

Kath Durrant – Committee Chair

Dinggui Gao

Jane Hinkley

Douglas Hurt

Carla Bailo (from 1 February 2023)

The Company Secretary is Secretary to the Committee

Dear Shareholder,

I am pleased to present our Directors' Remuneration Report (Remuneration Report) for 2022 which, in addition to this Chair's letter, is divided into two sections:

- Our proposed new Directors' Remuneration Policy for approval by shareholders at the AGM in May 2023; and
- The Annual Report on Directors' Remuneration. This outlines how we implemented the current Directors' Remuneration Policy in 2022 and how we intend to apply the new Policy in 2023

2022 was a year of considerable challenge for the Committee as it sought to ensure that the Company's remuneration strategy remained fit-for-purpose and appropriately rewarding in the face of retention challenges and a recent history of low incentive pay-outs.

Key activities in 2022

- Reviewing and approving achievement against the performance targets for the 2021 Annual Incentive arrangements
- Setting performance targets and approving the structure of the 2022 Annual Incentive arrangements, including targets for the new KPIs supported by shareholders in the January 2022 consultation
- Reviewing and assessing the Company's attainment of performance conditions applicable to the Vesuvius Share Plan (VSP) awards made in 2019
- Setting the performance measures and targets, and authorising the grant of new awards in 2022 under the VSP, the Deferred Share Bonus Plan and the Medium-Term Incentive Plan
- Considering the Company's ongoing share sourcing requirements to meet obligations under the Company's share plans, and funding of the Employee Benefit Trust (EBT)
- Reviewing employee remuneration arrangements around the Group, with particular reference to the cost of living issues facing many of our workforce in the current climate
- Reviewing the impact, on the Group's remuneration targets, of the war in Ukraine and of the sanctions regime on Russian entities
- Considering retention issues and reviewing a range of options
- Approving the 2021 Directors' Remuneration Report and reviewing the 2022 Directors' Remuneration Report
- Reviewing the Committee's terms of reference
- Approving the 2023 remuneration for the Chairman, Chief Executive and senior management

Review of executive remuneration

2023 Remuneration Policy

Our current Policy was approved by shareholders in 2020 and expires in 2023 so we will seek shareholder approval at the forthcoming AGM for a new Policy. The Remuneration Committee has concluded that modest changes are required to the Policy at this time, including a change to the annual incentive opportunity level.

In my statement last year I reported on the extensive executive remuneration review that the Committee undertook in 2021 to understand our competitive positioning, our alignment of pay and performance over time, feedback from shareholders and the views of Board and Executive Committee members. That review identified a number of issues including the challenge of setting long-term targets in a cyclical business, the scope for alignment with strategy to be improved through the selection of alternative KPIs, a desire to incorporate ESG KPIs more explicitly into incentive arrangements and a desire to ensure both the incentivisation and retention of the executive team.

During this review we considered a range of alternative share incentive structures – including a hybrid arrangement of part Restricted Stock Units (RSUs) and part performance shares, and whilst potentially attractive the Committee concluded that it was unlikely that this would achieve shareholder support in the present environment. The Committee also considered a full RSU plan, but was (and remains) of the opinion that long-term share awards should be linked, in the main, to long-term performance.

Following the review, some modest changes were made to the performance measures in our incentive structure for 2022, principally the introduction of a returns measure (post-tax ROIC) to align with our strategy of delivering value to shareholders and the introduction of ESG measures aligned with our Sustainability Strategy. The Committee has noted positively the resultant increased focus on ROIC in internal discussions regarding potential acquisitions and in the deployment of capital across the Group. The inclusion of ESG metrics has similarly had a reinforcing effect on behaviours with continued focus on the environmental scorecard in management teams across the business, particularly with regard to CO_2 emissions, diversity and safety, which are prime tenets of the culture of Vesuvius. We now need to take time to assess whether these changes have addressed the underlying issues identified in the review or whether more fundamental changes may be required in the future to ensure the long-term plan achieves its objectives and to ensure continued alignment with our Group strategy. Accordingly, the Committee has concluded that no substantive changes should be made to the Policy concerning long-term incentives at this time, in order to allow an appropriate assessment of the impact of the changes to the performance measures. We intend to keep the issue under close review during 2023.

The Committee has spent further time in 2022 considering issues of retention in light of the findings from our review in 2021 and we appreciated the support of shareholders for a substantial increase in salary for our CFO, Guy Young, in early 2022. Unfortunately, we were not able to retain Guy who left Vesuvius in February 2023. The market for talented executives is very strong and we have also experienced other regrettable losses in the senior team, of which there are more details below. A consequent focus on our competitiveness has led us to review the upper limit of annual incentive opportunity in the Policy which, after extensive debate by the Committee, we propose to increase from 150% to 175% of salary for the Executive Directors. A number of shareholders queried this aspect of our policy proposal and we discussed the Committee's track record of setting highly challenging performance targets, as evidenced by the below-market level of incentive pay-outs over the ten years since demerger despite consistently strong performance by management (average AIP c.56% of max; average VSP vesting c.31% of max). Whilst setting targets in a cyclical business can be challenging, I would like to reassure shareholders that we have every intention of continuing to set challenging targets going forward.

The Committee additionally took the opportunity to review the current Policy against the UK Corporate Governance Code, shareholder guidance and general market practice. Following that review, a handful of other minor changes are proposed to the new Policy, details of which are summarised on page 124.

CEO remuneration in 2023

In turbulent times steady leadership is particularly important. Unfortunately, we have suffered a number of regrettable recent losses amongst our senior team. In addition to Guy Young's recent departure, Thiago Avelar, the Business Unit President responsible for Advanced Refractories left the business in December 2022 and Patrick Bikard, President Operations and Technology retired at the end of 2022. The loss of experience at the helm of the organisation has concerned the Board and the Remuneration Committee. Whilst there are usually multiple factors in people's decisions to move, it is the Committee's judgement that dissatisfaction with overall remuneration has played a part. In particular the lack of pay-outs from the long-term incentive is a particular cause for concern amongst the management team.

The Board, absent the CEO and CFO, determined that it was a commercial imperative, and in the best interests of all stakeholders – including our employees – to retain the CEO, Patrick André, and the remainder of the Executive team given the vital stability that they provide at the head of Vesuvius in this important period whilst a number of leadership transitions take place, including that of the Chairman. As such, the Board requested that the Remuneration Committee consider all options at its disposal to ensure retention. In this context, the Committee concluded that there needed to be a substantial repositioning of Patrick's remuneration and therefore agreed an increase of 12% in his salary to £720,000 and, subject to approval of the new Remuneration Policy, an increase in his annual incentive opportunity from 150% to 175% of salary. The market for talent is strong in both public and private organisations and this arrangement places Patrick's remuneration firmly in the upper quartile of a competitive market which the Committee believes is appropriate given his critical importance to the Group, his position as a seasoned FTSE CEO and his sustained strong performance. Patrick's extensive industry experience is particularly important as the business seeks to successfully navigate a complex macro environment across multiple countries in this period of transition.

This is not a decision we have taken lightly, particularly in the current circumstances, and the Committee looked at a range of options for changing Patrick's remuneration. However, we believe that the solution we have arrived at is the best option to ensure that we have continuity and stability in the leadership of the Group. This proposal was discussed with a range of stakeholders including both the former and new Chairmen and our top twenty shareholders, which included Cevian Capital, our largest shareholder with a 21.11% holding in the Company. As part of these consultations, I discussed in detail the rationale for such a significant increase in the overall package, the skills and experience of the Executive team remaining, the gaps left by those departing, succession planning in a broader sense and remuneration comparisons to other industrial businesses along with the broader FTSE 250 and other comparable non-UK and private businesses. I also discussed how Vesuvius is a global business and its Executive team is diverse, with four nationalities present, reflecting the way in which Vesuvius recruits from the global marketplace, and how this practice creates greater risk for the Group, as our Executives have a worldwide market to access for alternative roles in both public and private businesses.

In coming to this decision, the Committee was also cognisant of the experience of our general workforce during challenging times. We are all acutely conscious of the difficult economic environment faced by our workforce in the 40 different countries in which we operate and this is reflected in our broader pay decisions this year. For context, our 2023 salary budget increase for the wider workforce (on a weighted average basis) is c.9% globally, higher than any in recent years. The majority of the non-managerial workforce are represented by trade unions or via other collective arrangements, so the Committee is satisfied that employees' interests are being represented, both in our own review and through salary negotiations throughout the organisation. Additionally, we have taken action in certain key markets particularly affected by the cost of living crisis. For example, in Poland, the 2023 salary increase was partially accelerated into Q4 2022 to help address the issues faced by our workforce.

Remuneration overview continued

In Brazil, we have been offering employees access to health and nutrition advisers, and psychologist support, to counter the physical and mental challenges faced as a result of increased financial pressures; and in the United States we provided one-off lump sum payments to selected employees mid-year, and formally introduced hybrid working in many locations to reduce the burden of rising travel costs.

Employee engagement continues to be measured, participation rates are high and overall results positive relative to benchmarks.

Appointment of new Chief Financial Officer

Our new Chief Financial Officer, Mark Collis, will join the Company on or before 4 July 2023. Mark has been appointed on an annual salary of £420,000 (unchanged from the salary received by his predecessor in 2022) and pension provision of 17% of salary (in line with the average received by the majority of the global workforce). He will also be entitled to an annual incentive opportunity of 150% of salary and a long-term incentive award of 150% of salary (both unchanged from the opportunities available to his predecessor). In 2023, both will be prorated to reflect the period employed during the calendar year. The Committee believes this package to be competitive and broadly at median, but more importantly, appropriately positioned vis-à-vis the remuneration received by members of the Group Executive Committee.

As a consequence of joining Vesuvius plc, Mark Collis is expected to forfeit certain annual and long-term incentives from his current employer. In order to compensate him for this, he will receive a one-off payment equivalent in value to the 2022 annual incentive payment he has foregone. He will also receive a combination of restricted share awards and performance share awards under the Vesuvius Share Plan, over Vesuvius plc shares, to compensate him for the equity incentives that he has foregone. These shares will vest on a like-for-like basis with regard to quantum/value and timeline versus the awards he has lost. The share awards will be made in accordance with the rules of the Vesuvius Share Plan, and the Group's Remuneration Policy for Executive Directors, and will count towards Mark's shareholding requirement. Full details of the compensatory awards, with share awards expected to total around 80,000 shares, will be included in next year's Remuneration Report once they have been finalised and granted following Mark's commencement of employment.

Our outgoing Chief Financial Officer, Guy Young, will not receive any annual bonus for the performance year 2022, and all his outstanding performance share awards lapsed upon his departure date, in line with the Remuneration Policy.

Alignment of our KPIs with Company strategy, purpose and values

The delivery of financial KPIs and the development of an effective organisation sustainable over the long term relies on a clear set of values. Vesuvius believes that high levels of performance and growth require a diversity of thinking and continuous innovation, underpinned by the behaviours of courage, ownership, respect and energy. The alignment of our incentives with our Strategic Objectives is summarised in the table below. As outlined above, no changes are proposed in the KPIs used to assess performance in 2023.

KPI	2022 and 2023 weighting	Strategic rationale
Annual Incentive Plan: one-year performance		
EPS	40%	Consistent with our strategic aim of sustainable, profitable growth Maintains the primary focus on a profit measure in short-term incentivisation
Working capital/sales	20%	Consistent with our strategic aim of maintaining strong cash generation and an efficient capital structure
Post-tax ROIC	20%	Consistent with our strategic aim of generating sustainable profitability and creating shareholder value
Personal measures	20%	Enables a focus on specific personal deliverables, managed through the performance management system
Vesuvius Share Plan: three-year performance		
Relative TSR	40%	Consistent with our strategic aim of delivering shareholders a superior return on their investment
Post-tax ROIC	40%	Consistent with our strategic aim of generating sustainable profitability and creating shareholder value
ESG	20%	Provides a specific focus on the three priority long-term ESG measures for the Group: CO_2 intensity (10%), Safety (5%) and Diversity (5%)

Performance and incentive outcomes in 2022

Health and safety

As the Chairman and Chief Executive outlined in their statements, Safety continues to be our number one priority at Vesuvius. After the significant improvement registered in 2021, we stabilised our safety results in 2022 with a Lost Time Incident Frequency Rate of 1.08 vs 1.06 in 2021. However, we remain dissatisfied with this level and are intensifying our efforts to progress rapidly towards our objective of zero incidents. Despite continued focus and strong performance across our sites, it is deeply regrettable to report that we suffered a fatality at our joint venture site in Wuhan, China. The Committee considered whether any adjustments to incentives should be applied as a result of this fatality, however, given the relevant elements of operational management of this site sit outside of Vesuvius' control, this was not felt to be appropriate. We have worked quickly with our partners to ensure we learn the necessary lessons to prevent this tragedy being repeated.

Operational

Revenue for the year increased to £2,047m (+18% on an underlying basis vs 2021), continuing the post-pandemic bounce back in key markets. Trading profit at £227m was 50% greater than 2021 (on an underlying basis) and return on sales increased by 240bps, on an underlying basis, to 11.1%. These results exceeded expectations in what has been a challenging year for Vesuvius and many industrial businesses. The conflict in Ukraine, coupled with continuing pandemic-related supply chain disruptions have continued to bring significant challenge and complexity to each area of our operations. The ongoing management of pricing and the ability to pass on frequent price increases has been a critical area of focus both centrally and in our decentralised operations requiring extensive customer interaction.

The conflict in Ukraine posed challenges for us in Russia, where the cessation of sales to sanctioned customers affected revenue and profits. Nevertheless, both the Steel and Foundry Divisions achieved a strong commercial performance in 2022, gaining market share in most regions, and with the Flow Control Business Unit specifically gaining market share in all regions.

Our trade working capital to sales ratio was 23.8%, an increase of 290bps vs 2021. We are working to reduce the ratio, focusing on driving down overdues, and managing production to control inventory levels. Product quality metrics have continued to improve.

Strategic

We significantly increased our investment in research and development in 2022, reaching £36m, an increase of 18% over 2021, fully expensed in our profit and loss statement. Our main focus areas remain the innovation in materials science, with the objective to continuously improve the performance of our consumables, and the development of mechatronics solutions enabling our customers to substitute operators to manipulate our consumables and, by doing so, improve their safety, reliability, cost and quality performance.

We successfully launched 15 new products in 2022 in our three Business Units. Our New Product Sales ratio, defined as the percentage of our sales realised with products which didn't exist five years ago, reached 16.2% in 2022, up from 15.3% in 2021.

The Sustainability initiative launched in 2020 has continued to deliver strong results across the associated KPIs, with Scope 1 & 2 CO_2e emission intensity continuing to reduce (with 2022 emissions 18.8% lower than the 2019 base year); sustained levels of diversity with women representing 20% of the Senior Leadership Group, and succession candidates identified for the majority of critical roles.

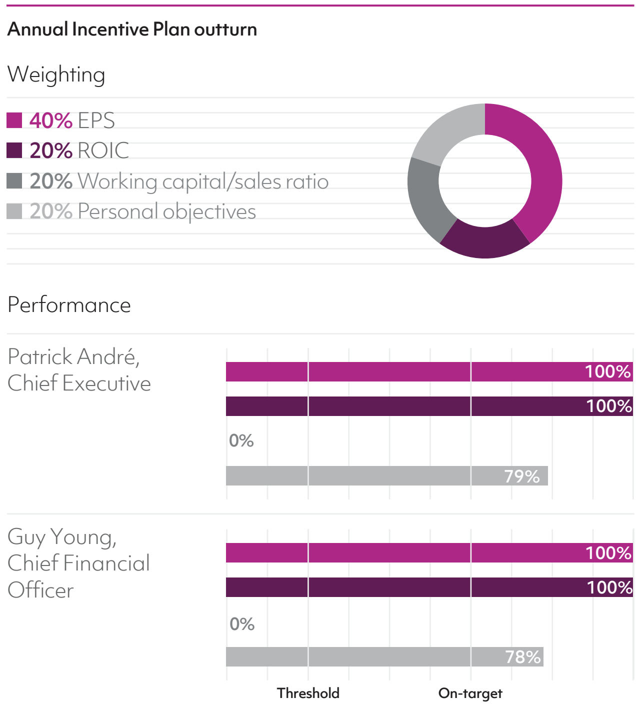
The Chief Executive led the Board through extensive strategy discussions exploring options for both organic and inorganic growth. The 2021 acquisition of the refractory business from Universal Refractories, Inc was leveraged with the consolidation of manufacturing of advanced refractory and foundry products (both of Vesuvius and those acquired from Universal) to enhance operational efficiency. In addition, in October 2022 we acquired Bayuquan Magnesium Co (BMC), a world-class basic monolithic refractory plant in China and a long-standing manufacturing partner of ours. As outlined in the Chief Executive's statement, we hope this will support our continued development in the fast-growing Asia-Pacific region. The balance sheet remains strong after these acquisitions with the Company's net debt position at 0.9x EBITDA.

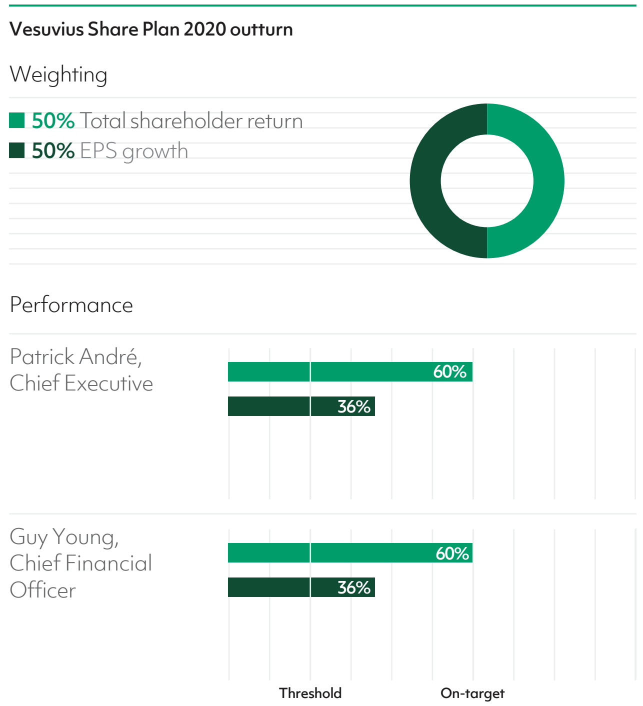
Strategic alignment

- Always put safety first
- Deliver profitable growth
- Generate value for our shareholders
- Maintain an efficient capital structure
- Deliver industry-leading sustainable operations and solutions
- Think beyond in innovation
- Foster talent, skill and motivation in our people

See more about Our strategy on p18 and 19

Remuneration overview continued





In 2022, the Annual Incentive Plan (AIP) was based 40% on Group headline earnings per share (EPS), 20% on Group post-tax ROIC (Return on Invested Capital), 20% on the Group's working capital to sales ratio (based on the 12-month moving average) and 20% on specified personal objectives. Performance against these measures is illustrated above and full details of the targets are given on page 136.

Our adjusted headline earnings per share of 56.5 pence, 53.6 pence when restated at December 2021 exchange rates, was above the maximum Annual Incentive Plan target of 46.6 pence and above the 2021 outturn of 38.8 pence.

The Group's post-tax ROIC of 10.7% also exceeds the maximum Annual Incentive Plan target of 10.0%.

The Group's working capital to sales ratio of 23.8% fell below the threshold Annual Incentive Plan target of 23.6%.

The Committee agreed personal objectives for the Chief Executive and CFO at the start of 2022 and assessed their performance to merit 79% and 78% of maximum targets respectively.

The overall formulaic outcome of the bonus scorecard was 75.8% of maximum for the Chief Executive and 75.6% of maximum for the CFO. However, it should be noted that, due to the resignation of Guy Young in 2022, he forfeited his entitlement to any pay-out under this plan.

The Committee gave careful consideration to these outcomes and was satisfied that they were consistent with the strong financial and operational performance and strategic progress outlined above. The Committee noted that similar and complementary KPIs exist in the incentive programmes for managers and employees and was mindful of the outturns for the wider workforce in confirming its decisions for Executive Directors and the Executive Committee. Consequently, the Committee concluded that no discretionary adjustment was required.

The performance period for the awards made under the Vesuvius Share Plan (VSP) in 2020 was completed at the end of 2022. Performance was measured equally by reference to total shareholder return (TSR) relative to the FTSE 250 (excluding investment trusts) and headline EPS growth over the three-year period. Although this has been a particularly challenging period for the global economy and, by extension, a cyclical business like Vesuvius, relative TSR performance was above median and headline EPS growth was above the target performance level. These results mean that 48.1% of the shares potentially available to the Chief Executive under this award will vest. Due to his resignation, Guy Young's awards lapsed upon his departure. The Committee has not applied any discretion with respect to this vesting of the 2020 VSP awards which it believes is a fair result in the context of overall business performance over this three-year period. In particular, the Committee was satisfied that, as a result of its decision in 2020 to use a share price which was 11.4% higher than the formulaic grant price to determine the level of VSP awards, there are no concerns in relation to windfall gains pertaining to these awards.

Chairman and Non-Executive Directors' fees

During the year, the Committee reviewed the Chairman's annual fee, and determined that an increase from £240,000 p.a. to £250,000 p.a. was appropriate. Separately, the Board considered Non-executive Director fees and made a number of consequent adjustments to the fee structure that are detailed on page 138. Those adjustments include the proposed introduction of a travel allowance payable in respect of additional time spent travelling internationally on Company business.

Employee engagement

During the year the Non-executive Directors visited plants in Belgium, Brazil, India, Japan, the Netherlands and Mexico. Each of these site visits enabled direct discussions with local management teams and the workforce on a range of topics. At larger sites, 'town hall' meetings enabled two way dialogue on a range of issues. In these meetings it was usual for Non-executive Directors to present on how the Board and its Committees operate, and on corporate governance, including executive remuneration.

In 2022, the Remuneration Committee received a report from the Chief HR Officer regarding workforce terms and conditions across the globe. The subsequent discussion enabled the Committee to better understand the standards applied across a highly decentralised group to ensure appropriate and competitive remuneration arrangements exist in each operating company. The key issues raised reflect the pressures of the present inflationary environment – particularly in higher inflation countries; the impact of low unemployment levels in many of our main markets, retirement levels and decreasing workforce availability – all of which are driving very competitive recruitment market conditions at all levels of the organisation. The Committee noted the range of solutions being developed as part of the People Strategy – including improved employer branding and alternative recruitment market targeting.

Shareholder engagement

At the 2022 AGM, the Directors' Remuneration Report was supported by 97.7% of voting shareholders and I am very grateful for this demonstration of broad-based support for our executive remuneration arrangements.

During 2022, the Company's top 22 shareholders were consulted on the proposed changes to the Remuneration Policy in advance of the 2022 AGM and discussions regarding changes in the CEO's remuneration took place at length either in face-to-face meetings or through detailed correspondence where this was the shareholder's preference. We are grateful for the responses received and discussions had, and appreciate the support expressed by many of our shareholders.

The business has reported strong results for 2022, despite facing significant operational challenges, and we hope to gain your support for the actions we have taken to enable the future success of Vesuvius.

I welcome feedback at any point in time from our entire shareholder base regarding our remuneration arrangements and I hope that we will earn your understanding and support at the forthcoming AGM.

Kath Durrant
Chair of the Remuneration Committee
2 March 2023

Operation of the Remuneration Committee

Remuneration Committee structure

The current members of the Remuneration Committee are all the independent Non-executive Directors of the Company.

The Committee Chair is Kath Durrant. She, Dinggui Gao, Jane Hinkley and Douglas Hurt have served on the Committee throughout 2022. Carla Bailo joined the Committee on her appointment to the Board on 1 February 2023. The Committee complies with the requirements of the UK Corporate Governance Code for the composition of remuneration committees. Each of the members brings a broad experience of international businesses and an understanding of their challenges to the work of the Committee. The Company Secretary is Secretary to the Committee. Members' biographies are on pages 88 and 89.

Meetings

The Committee met seven times during the year. The Group's Chairman, Chief Executive, Chief Financial Officer and Chief HR Officer were invited to each meeting, together with Friederike Helfer, Vesuvius' non-independent Non-executive Director, though none of them participated in discussions regarding their own remuneration. In addition, a representative from Deloitte, the Remuneration Committee adviser, attended the meetings. The attendees supported the work of the Committee, giving critical insight into the operational demands of the business and their application to the overall remuneration strategy within the Group. In receiving views on remuneration matters from the Executive Directors and senior management, the Committee recognised the potential for conflicts of interest to arise and considered the advice accordingly. The Chair of the Committee reported the outcomes of all meetings to the Board.

The Committee operates under formal terms of reference which were reviewed during the year. The terms of reference are available on the Group website: www.vesuvius.com. The Committee members are permitted to obtain outside legal advice at the Company's expense in relation to their deliberations. The Committee may also secure the attendance at its meetings of any employee or other parties it considers necessary.

Role and responsibilities

The Committee is responsible for:

- Determining the overall remuneration policy for the Executive Directors, including the terms of their service agreements, pension rights and compensation payments
- Setting the appropriate remuneration for the Chairman, the Executive Directors and Senior Management (being the Group Executive Committee)
- Reviewing workforce remuneration and related policies, and the alignment of incentives and rewards with culture, taking these into account when setting the policy for Executive Director remuneration
- Overseeing the operation of the executive share incentive plans

Advice provided to the Remuneration Committee

Deloitte is appointed directly by the Remuneration Committee to provide advice on executive remuneration matters, including remuneration structure and policy, updates on market practice and trends, and guidance on the implementation and operation of share incentive plans. The Committee appointed Deloitte, a signatory to the Remuneration Consultants Group Code of Conduct in relation to Executive Remuneration Consulting in the UK, following a formal tender process in 2014. Deloitte also provides the Remuneration Committee with ongoing calculations of total shareholder return (TSR) to enable the Committee to monitor the performance of long-term share incentive plans. Deloitte does not have any other connection with any individual Director.

In addition, in 2022, Deloitte provided the Group with IFRS 2 calculations for the purposes of valuing the share plan grants and, within the wider Group, was engaged in various jurisdictions to provide tax advisory work, and some consultancy services. During 2022, Deloitte's fees for advice to the Remuneration Committee, charged on a time spent basis, amounted to £103,375. The Committee conducted a review of the performance of Deloitte as remuneration adviser during the year and concluded that Deloitte continued to provide effective, objective and independent advice to the Committee. No conflict of interest arises as a result of other services provided by Deloitte to the Group.

Activities of the Remuneration Committee

In addition to the activities outlined within the Chair's letter, the Committee was the subject of an externally moderated performance evaluation in 2022. As part of this review it was noted by the Committee Chair that there were a number of areas for continued focus, which will be taken into consideration by the Committee during 2023. These included continuing to review the alignment of metrics with strategy, monitoring the effectiveness of policy in a cyclical environment, and senior management retention.

Remuneration Policy Design Principles

Remuneration Policy Design

The Committee is satisfied that the Remuneration Policy is designed to promote the long-term success of the Company in accordance with the requirements of the Code with regard to:

Clarity

Executive remuneration arrangements are transparent with full disclosure in the Annual Report. The Annual Incentive structure for the Executive Directors is based on the same structure utilised for senior executives throughout the Group. Long-term sustainable growth is core to the long-term incentive, and alongside five-year holding periods clearly aligns the interests of executives with those of the Group's shareholders.

Simplicity

The new Policy with its focus on three core elements: fixed pay, Annual Incentive and Long-Term Incentive is clear, simple and easy to understand.

Risk

The Committee has carefully analysed the range of possible outcomes of awards and believes the Policy to be fair and proportionate, with the clear linkage to Group profitability mitigating the potential for excessive rewards and the reliance on audited profit numbers and externally verified TSR targets serving to mitigate behavioural risk. The Committee has discretion under the Vesuvius Share Plan to determine the vesting of awards in accordance with the Code requirement and malus and clawback provisions also apply.

Predictability

The remuneration illustrations indicate the minimum and maximum potential remuneration. The Committee reviews the underlying financial performance of the Company over the performance period, and the non-financial performance of the Group and participants, to ensure that pay-out levels are justified. The Committee has the discretion to amend the final vesting level if required.

Proportionality

The Committee believes that the performance-related elements of remuneration have financial targets which are transparent, stretching and clearly align the Executive Directors' remuneration with the delivery of the Group's strategy. The Vesuvius Share Plan rewards long-term performance directly linked with the Group's strategy and results, ensuring that only strong performance is rewarded (see page 133).

Alignment to culture

The Executive Directors' incentive arrangements are consistent with the Group's core strategic objective of delivering long-term sustainable and profitable growth and support our performance-orientated culture, values and purpose (see page 118).

The Remuneration Policy was prepared in accordance with the Companies Act 2006 and the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended). It also meets the requirements of the Financial Conduct Authority's Listing Rules and the Disclosure Guidance and Transparency Rules. The policy was developed within the framework of the meetings as set out on pages 116 and 117 and, as part of that process, the Committee paid particular attention to the need to avoid any conflicts of interest in its decision-making.

Directors' Remuneration Report

2023 Remuneration Policy

Changes to Policy

Changes in the 2023 Policy are summarised below. The only substantive change is an increase in the maximum annual incentive opportunity. A handful of other minor changes are proposed.

- Pension (page 125)
  The pensions section of the Remuneration Policy table contains our updated Executive Director pension arrangements which are compliant with the UK Corporate Governance Code.
- Annual Incentive (page 126)
  Maximum annual incentive opportunity for Executive Directors will increase from 150% to 175% of salary as explained in the Remuneration Committee Chair's overview. In 2023, maximum annual incentive opportunity will be 175% of salary for the CEO and 150% of salary for the CFO. The 2023 Policy also includes a specific cap on pay-out (0-25% of maximum) for achieving a threshold level of performance.

  Consistent with emerging market practice, the 2023 Policy contains scope for the Committee to set and measure bonus targets other than on an annual basis. Use of this option will be reserved for particularly unusual circumstances where there is limited visibility to set robust annual targets. Additionally, in line with Investment Association guidance, the 2023 Policy ensures that the Committee has appropriate discretion to adjust the formulaic annual incentive outturn so that it properly reflects the performance of the executives and the business, the experience of shareholders in terms of value creation, the experience of wider stakeholders and the general market environment.
- Shareholding guidelines (page 128)
  Consistent with market practice, the 2023 Policy clarifies the Committee's discretion to exempt shares purchased by an Executive Director in a personal capacity from the post-employment shareholding guidelines. Shares received from incentive plans remain fully subject to the guidelines.
- Recruitment Policy (page 129)
  Consistent with market practice, the 2023 Policy contains flexibility for the reimbursement of legal or other costs approved by the Committee when incurred by an individual in relation to their appointment.
- Exit payment policy (page 130)
  The default approach is to apply time pro-rating to the VSP awards of a 'good leaver'. For future awards, subject to AGM approval of the proposed minor technical amendments to the VSP, the default basis for time pro-rating will be by reference to the proportion of the performance (rather than vesting) period that has elapsed.
- Remuneration Policy for Non-executive Directors (page 131)
  Under the 2023 Policy, Non-executive Directors may be provided with travel allowance payments to reflect the additional time commitment involved with travelling internationally on Company business. The 2023 Policy also clarifies the flexibility to approve relevant benefits (e.g. liability insurance) in connection with the performance of their duties.

Comparison of Remuneration Policy for Executive Directors with that for other employees

The Remuneration Policy for Executive Directors is designed in line with the remuneration philosophy set out in this report – which also underpins remuneration for the wider Group. However, given that remuneration structures for other employees need to reflect both seniority and local market practice, they differ from the policy for Executive Directors. In particular, Executive Directors receive a higher proportion of their remuneration in performance-related pay and share-based payments.

All members of the Group Executive Committee participate in the Vesuvius Share Plan and receive awards of Performance Shares, which vest on the basis of the same performance targets set for the Executive Directors. The level of awards granted to members of the Group Executive Committee who don't serve on the Board are lower than those granted to the Executive Directors.

Middle and senior managers also participate in the Annual Incentive Plan and, in certain cases, longer-term share or cash-based plans, with awards predominantly based on a blend of Group and regional or Business Unit performance measures appropriate for the scope of participants' responsibilities. Individual percentages of variable versus fixed remuneration and participation in share-based structures increase as seniority increases.

Consideration of conditions elsewhere in the Group in developing policy

The Non-executive Directors participated in a number of 'town hall' meetings during the year which provided the opportunity to engage with the workforce to explain how executive remuneration aligns with wider Company pay policies. The Remuneration Committee undertook a global review of workforce remuneration and conditions in 2022, and thus takes into account the pay and employment conditions of other Group employees when determining Executive Directors' remuneration, particularly when determining base salary increases, when the Committee will consider the salary increases for other Group employees in the same jurisdiction.

Consideration of shareholder views

Vesuvius is committed to open and transparent dialogue with its shareholders on remuneration as well as other governance matters. As Chair of the Committee, Kath Durrant welcomes shareholder engagement and is available for any discussions investors wish to have on remuneration matters. In November 2022, the Committee wrote to the top 22 shareholders and key governance agencies outlining its proposals for the 2023 Remuneration Policy, as referenced in the Chair's letter. We received responses from around 80% of recipients and we responded to all questions that were raised.

Remuneration Policy Table for Executive Directors[1]

Alignment/purpose	Operation	Opportunity	Performance
S Base salary			
Helps to recruit and retain key employees. Reflects the individual's experience, role and contribution within the Company	Base salary is normally reviewed annually, with changes effective from 1 January. Base salary is positioned to be market competitive when considered against other global industrial companies, and relevant international and FTSE 250 companies (excluding investment trusts). Paid in cash, subject to local tax and social security regulations.	Salary increases will normally not exceed the average increase awarded to other employees in the Group, although increases may be made above this level at the Committee's discretion in appropriate circumstances. In considering any increase in base salary, the Committee will also take into account: (i) The role and value of the individual (ii) Changes in job scope or responsibility (iii) Progression in the role (e.g. for a new appointee) (iv) A significant increase in the scale of role and/or size, value or complexity of the Group (v) The need to maintain market competitiveness No absolute maximum has been set for Executive Director base salaries. Current Executive Directors' salaries are set out in the Annual Report on Directors' Remuneration section of this Remuneration Report.	Any increase will take into account the individual's performance, contribution and increasing experience.
B Other benefits			
Provides normal, market-aligned benefits	A range of benefits including, but not limited to: car allowance, private medical care (including spouse and dependent children), life insurance, disability and health insurance, expense reimbursement (including costs if a spouse accompanies an Executive Director on Vesuvius business), together with relocation allowances and expatriate benefits, in some instances grossed up for tax, in accordance with the Group's policies, and participation in any employee share scheme operated by the Group.	There is no formal maximum as benefit costs can fluctuate depending on changes in provider, cost and individual circumstances.[1]	None.
P Pension			
Helps to recruit and retain key employees Ensures income in retirement	An allowance is given as a percentage of base salary. This may be used to participate in Vesuvius' pension arrangements, invested in own pension arrangements or taken as a cash supplement (or any combination of the above options).	Maximum of 17% of base salary for incumbent Executive from the end of 2022, in line with the average of that received by the majority of the global workforce.[2] The level of allowance for Executive Directors appointed following the adoption of this Policy will be aligned with the post-retirement benefits applicable to the majority of the workforce or, where appropriate, to the majority of the workforce of the relevant geography.	None.

1. The Remuneration Committee reserves the right to make any remuneration payments and payments for loss of office (including exercising any discretions available to it in connection with such payments), notwithstanding that they are not in line with the Policy set out here, where the terms of the payment were agreed: (i) before the Policy set out here came into effect, provided that the terms of the payment were consistent with the shareholder-approved Remuneration Policy in force at the time they were agreed; or (ii) at a time when the relevant individual was not a Director of the Company and, in the opinion of the Remuneration Committee, the payment was not in consideration for the individual becoming a Director of the Company. For these purposes, 'payments' include the Remuneration Committee satisfying awards of variable remuneration and, in relation to an award over shares, the terms of the payment are 'agreed' at the time the award is granted.
2. As analysed in the business's Workforce Retirement Practices review conducted in 2020, as detailed on page 122 of the 2020 Annual Report.

2023 Remuneration Policy continued

Alignment/purpose	Operation	Opportunity	Performance
AI Annual Incentive			
Incentivises Executive Directors to achieve key short-term financial and strategic targets of the Group Additional alignment with shareholders' interests through the operation of bonus deferral	Normally 33% of any Annual Incentive earned by Executive Directors will be deferred into awards over shares under the Vesuvius Deferred Share Bonus Plan which normally vest after at least three years, other than in specified circumstances, i.e. in cases of dismissal for cause, as outlined on page 130 in this Policy. These may be cash or share settled. The Committee has the discretion to award participants the equivalent value of dividends accrued during the vesting period on any shares that vest. Subject to malus and clawback.	Below threshold: 0%. At threshold: Between 0–25% of maximum. On-target: 50% of the applicable maximum opportunity in any year. Maximum: Up to 175% of base salary. The Remuneration Committee will normally set the level of maximum bonus opportunity for each Executive Director at the start of each year. Payments start to accrue on meeting the threshold level of performance, with payments between threshold and on-target and between on-target and maximum made on a pro rata basis.	The Annual Incentive is normally measured on targets set at the beginning of each year. In unusual or exceptional circumstances, for example where there is exceptional economic volatility which limits visibility to set robust 12-month targets, the Committee may elect to set and measure targets other than on an annual basis. The majority of the Annual Incentive will be determined by measure(s) of Group financial performance. The remainder of the Annual Incentive will be based on financial, strategic or operational measures appropriate to the individual Director. Actual performance targets will be disclosed after the performance period has ended. They are not disclosed in advance due to their commercial sensitivity. The Committee may use its discretion to amend the formulaic outturn upwards or downwards if it does not consider the formulaic outcome appropriate.
VSP Vesuvius Share Plan (VSP)			
Aligns Executive Directors' interests with those of shareholders through the delivery of shares. Rewards Executive Directors for achieving the strategic objectives of growth in shareholder value and earnings Assists retention of Executive Directors over a three-year performance period and the further two-year holding period	VSP awards to Executive Directors are granted as Performance Share awards. These may be cash or share settled. Awards vest three years after their award date, other than in specified circumstances outlined elsewhere in this Policy, subject to the achievement of specified conditions. All vested shares, net of any tax liabilities, are then subject to a further two-year holding period after the vesting date, which will continue to apply notwithstanding the termination of employment of the participants during this holding period, except at the Committee's discretion in exceptional circumstances, including a change of control or where the participant dies or has left employment due to ill health, injury or disability. The Committee has the discretion to award participants the equivalent value of dividends accrued during the vesting period and further two-year holding period on any shares that vest. Subject to malus and clawback.	Executive Directors are eligible to receive an annual award with a face value of up to 200% of base salary in Performance Share awards. Vesting at threshold performance is between 0–25% of the award, rising to vesting of the full award at maximum.	Vesting will be subject to performance conditions as determined by the Remuneration Committee ahead of each award. Those conditions will be disclosed in the Annual Report on Directors' Remuneration section of the Remuneration Report. The performance conditions for 2023 are relative TSR, post-tax ROIC and ESG measures, weighted at 40%, 40% and 20% respectively. The Remuneration Committee will retain discretion for future awards to include additional or alternative performance conditions which are aligned with the corporate strategy. At its discretion, the Committee may elect to add additional underpinning performance conditions. The Company reserves the right only to disclose certain of the performance targets after the performance period has ended, due to their commercial sensitivity. Prior to any vesting, the Remuneration Committee reviews the underlying financial performance of the Group over the performance period, and the non-financial performance of the Group and participants, to ensure that the vesting is justified. Following this review, the Committee has the discretion to amend the final vesting level if it does not consider that it is justified.

Illustration of the application of the Remuneration Policy for 2023

The charts below show the total remuneration for Executive Directors for 2023 for minimum, on-target and maximum performance. The fixed elements of remuneration comprise base salary, pension and other benefits, using 2023 salary data. The assumptions on which they are calculated are as follows:

Minimum

Fixed remuneration only.

On-target

Fixed remuneration plus on-target Annual Incentive (made at 87.5% of base salary for Patrick André and 75% for Mark Collis); and for the Performance Share awards under the Vesuvius Share Plan, median performance for the TSR element and the mid-point between threshold and maximum performance for the post-tax ROIC and ESG performance conditions (with overall vesting at 40% of maximum, based on the vesting schedule detailed on page 134). No share price appreciation is assumed.

Maximum

Fixed remuneration plus maximum Annual Incentive (being full achievement of financial and personal targets, made at 175% of base salary for Patrick André and 150% for Mark Collis) and 100% vesting for Performance Share awards (made at 200% of base salary for Patrick André and 150% of base salary for Mark Collis) under the Vesuvius Share Plan. No share price appreciation is assumed.

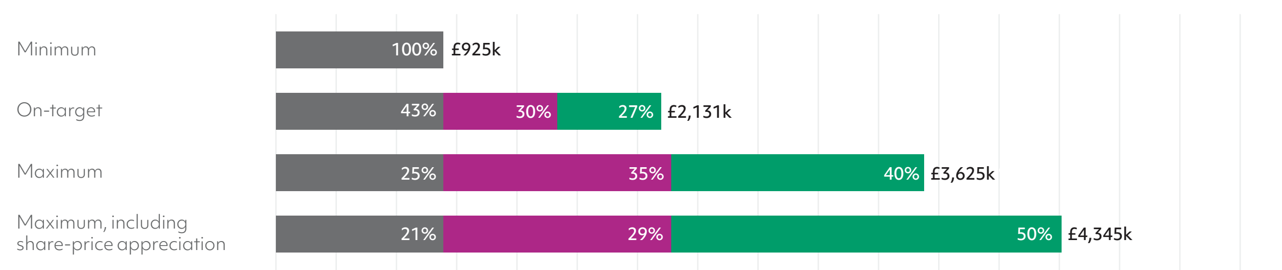
Maximum including assumed 50% share price appreciation

This shows the value of the maximum scenario if 50% share price appreciation is assumed over the three-year performance period of the Performance Share awards.

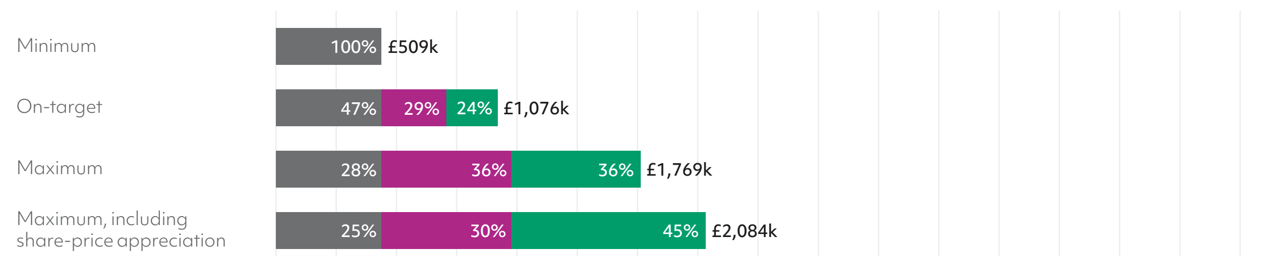
Note: In addition, the Committee retains the discretion to award dividends (either shares or their cash equivalent) on any shares that vest.

Remuneration illustrations £000

Patrick André, Chief Executive



Mark Collis, Chief Financial Officer*



Fixed elements / Annual variable elements / Long-term variable elements

* Annualised equivalent shown for illustrative purposes.

2023 Remuneration Policy continued

General operation of the Policy for Executive Directors

Shareholding guidelines

The Remuneration Committee encourages Executive Directors to build and hold a shareholding in the Company equivalent in value to at least 200% of base salary.

Compliance with the shareholding policy is tested at the end of each year for application in the following year, with the valuation of any holding being taken at the higher of: (1) the share price on the date of vesting of any shares derived from a share award, in respect of those shares only; and (2) the average of the closing prices of a Vesuvius ordinary share for the trading days in that December.

Unless exceptionally the Committee determines otherwise, under the post-employment shareholding guideline the Executive Directors will remain subject to their shareholding requirement in the first year after their cessation as an Executive Director and to 50% of the shares retained in the first year during the second year after such cessation, recognising that there is no requirement to purchase additional shares if the shares held when they cease to be an Executive Director are less than the applicable shareholding guideline. However, in relation to shares acquired by an Executive Director in their personal capacity, the Committee may, where appropriate, exempt such shares from the post-employment guideline.

Malus/clawback arrangements

The Executive Directors' variable remuneration is subject to malus and clawback provisions. These provide the Committee with the flexibility, if required, to withhold or recover payments made to Executive Directors under the Annual Incentive Plan (including deferred awards) and/or to withhold or recover share awards granted to Executive Directors under the Vesuvius Share Plan, including any dividends granted on such awards. The circumstances in which the Committee could potentially elect to apply malus and clawback provisions include: a material misstatement in the Group's financial results; an error in the calculation of the extent of payment or vesting of an incentive; gross misconduct by an individual; or significant financial loss or serious reputational damage to Vesuvius plc resulting from an individual's conduct, a material failure of risk management or a serious breach of health and safety. These malus and clawback provisions apply for a period of up to three years after the end of a performance period (or end of the deferral period in respect of awards made under the Vesuvius Deferred Share Bonus Plan).

Performance measures

In selecting performance measures for the Annual Incentive, the Committee seeks to reflect key strategic aims and the need for a rigorous focus on financial performance. Each year, the Committee agrees challenging targets to ensure that underperformance is not rewarded. The Company will not be disclosing the specific financial or personal objectives set until after the relevant performance period has ended because of commercial sensitivities. The personal objectives are all job-specific in nature and track performance against key strategic, organisational and operational goals.

In selecting performance measures for the Vesuvius Share Plan, the Committee seeks to focus Executive Directors on the execution of long-term strategy and also align their rewards with value created for shareholders.

In the Policy period, the Committee will continually review the performance measures used to ensure that awards are made on the basis of challenging targets that clearly support the achievement of the Group's strategic aims.

The Committee may vary or waive any performance condition(s) if circumstances occur which cause it to determine that the original condition(s) have ceased to be appropriate, provided that any such variation or waiver is fair, reasonable and not materially less difficult to satisfy than the original condition (in its opinion). In the event that the Committee were to make an adjustment of this sort, a full explanation would be provided in the next Remuneration Report.

Service contracts for Executive Directors

The Committee will periodically review the contractual terms for new Executive Directors to ensure that these reflect best practice. Service contracts currently operate on a rolling basis and are limited to a 12-month notice period.

Patrick André is employed as Chief Executive of Vesuvius plc pursuant to the terms of a service agreement made with the Company dated 17 July 2017. Mark Collis will be employed as Chief Financial Officer, with a start date on or before 4 July 2023, pursuant to the terms of a service agreement with Vesuvius plc dated 4 January 2023. Patrick André's appointment is terminable by Vesuvius on not less than 12 months' written notice, and by him on not less than six months' written notice. Mark Collis's appointment is terminable by him and Vesuvius on not less than six months' written notice.

External appointments of Executive Directors

The Executive Directors do not currently serve as Non-executive Directors of any other quoted company. Subject always to consent being granted by the Company for them to take up such an appointment, were they to so serve, the Company would allow them to retain any fees they received for the performance of their duties.

Other

The Committee may: (a) in the event of a variation of the Company's share capital, demerger, special dividend or any other corporate event which it reasonably determines justifies such an adjustment, adjust; and (b) amend the terms of awards granted under the share schemes referred to above in accordance with the rules of the relevant plans.

Share awards may be settled by the issue of new shares or by the transfer of existing shares. In line with prevailing best practice at the time this Policy was approved, any issuance of new shares is limited to 5% of share capital over a rolling ten-year period in relation to discretionary employee share schemes and 10% of share capital over a rolling ten-year period in relation to all employee share schemes.

The Committee may make minor amendments to the Policy set out in this Policy Report (for regulatory, exchange control, tax or administrative purposes or to take account of a change in legislation) without obtaining shareholder approval for that amendment.

Policy for joining and leaving: Recruitment policy

Typical event	Policy
Executive Director appointed or promoted	On appointment or promotion of a new Executive Director, the Committee will typically use the Remuneration Policy in force at the time of the Committee's decision to determine ongoing remuneration. Base salary levels will generally be set in accordance with the Remuneration Policy current at the time of the Committee's decision, taking into account the experience and calibre of the appointee. Other than in exceptional circumstances, other elements of annual remuneration will, typically, be set in line with the Remuneration Policy, including a limit on awards under the Annual Incentive and Vesuvius Share Plan of 375% of salary in aggregate.
First year of appointment	If appropriate the Committee may apply different performance measures and/or targets to a Director's first incentive awards in his/her year of appointment.
Service contract agreed	Service contracts will be entered into on terms similar to those for the existing Executive Directors, summarised in the service contracts of Executive Directors section above.
Appointment of Chairman or Non-executive Director	With respect to the appointment of a new Chairman or Non-executive Director, appointment terms will be consistent with those applicable at the time the appointment is agreed. Variable pay will not be considered. With respect to Non-executive Directors, fees will be consistent with the Policy at the time the appointment is agreed. If, in exceptional circumstances, a Non-executive Director was asked to assume an interim executive role, the Company retains the discretion to pay them appropriate executive compensation, in line with the Policy.
Individual appointed on a base salary below market, contingent on performance	If it is appropriate to appoint an individual on a base salary initially below what is adjudged to be market positioning, contingent on individual performance, the Committee retains the discretion to realign base salary over the one to three years following appointment, which may result in a higher rate of annualised increase than might otherwise be awarded under the Policy. If the Committee intends to rely on this discretion, it will be noted in the first Remuneration Report following an individual's appointment.
Internal appointment	In the event that an internal appointment is made, or where a Director is appointed as a result of transfer into the Group on an acquisition of another Company, the Committee may continue with existing remuneration provisions for this individual, where appropriate.
Relocation required	If necessary and appropriate to secure the appointment of a candidate who has to move locations as a result of the appointment, whether internal or external, the Committee may make additional payments linked to relocation, above those outlined in the policy table, and would authorise the payment of a relocation allowance and repatriation, as well as other associated international mobility terms. Such benefits would be set at a level which the Committee considers appropriate for the role and the individual's circumstances.
Buying out compensation forfeited on leaving previous employer	In addition to the annual remuneration elements noted above, the Committee may consider buying out terms, incentives and any other compensation arrangements forfeited on leaving a previous employer that an individual forfeits in accepting an appointment with Vesuvius. The Committee will have the authority to rely on Listing Rule 9.4.2 R(2) or to apply the existing limits within the Vesuvius Share Plan to make Restricted Share awards on recruitment. In making any such awards, the Committee will review the terms of any forfeited awards, including, but not limited to, vesting periods, the expected value of such awards on vesting and the likelihood of the performance targets applicable to such awards being met, while retaining the discretion to make any buy-out award the Committee determines is necessary and appropriate. The Committee may also require the appointee to purchase shares in Vesuvius to a pre-agreed level prior to vesting of any such awards. The value of any buy-out award will be capped, to ensure its maximum value is no higher than the value of the awards that the individual forfeited on joining Vesuvius. Any such awards will be subject to malus and clawback.
Reimbursement of other costs	In addition to the elements noted above, the Committee may consider reimbursement of other demonstrable, specific costs incurred by an individual in relation to their appointment (e.g. legal costs).

Remuneration Policy continued

Policy for joining and leaving: Exit payment policy

Vesuvius has the option to make a payment in lieu of part or all of the required notice period for Executive Directors. Any such payment in lieu will consist of the base salary, pension contributions and value of benefits to which the Director would have been entitled for the duration of the remaining notice period, net of statutory deductions in each case. Half of any payments in lieu of notice would be made in a lump sum, the remainder in equal monthly instalments commencing in the month in which the midpoint of their foregone notice period falls (and are reduced or extinguished by salary from any role undertaken by the departing Executive in this time). Executive Directors are subject to certain non-compete covenants for a period of nine to 12 months, and non-solicitation covenants for a period of 12 months, following the termination of their employment. Their service agreements are governed by English law.

Executive Directors' contracts do not contain any change of control provisions; they do contain a duty to mitigate should the Director find an alternative paid occupation in any period during which the Company must otherwise pay compensation on early termination.

The table below summarises how the awards under the annual bonus and Vesuvius Share Plan are typically treated in different leaver scenarios and on a change of control.

Whilst the Committee retains overall discretion on determining 'good leaver' status, it typically defines a 'good leaver' in circumstances such as retirement with agreement of the Company, ill health, disability, death, redundancy, or part of the business in which the individual is employed or engaged ceasing to be part of the Group. Final treatment is subject to the Committee's discretion.

Event	Timing	Calculation of vesting/payment
Annual Incentive Plan – during period prior to payment		
Good leaver	Paid at the same time as to continuing employees.	Annual bonus is paid only to the extent that any performance conditions have been satisfied and is prorated for the proportion of the financial year worked before cessation of employment. In determining the level of bonus to be paid, the Committee may, at its discretion, take into account performance up to the date of cessation or over the financial year as a whole based on appropriate performance measures as determined by the Committee. The bonus may, at the Committee's discretion, be paid entirely in cash.
Bad leaver	Not applicable.	Individuals lose the right to their annual bonus.
Change of control	Paid on the effective date of change of control.	Annual bonus is paid only to the extent that any performance conditions have been satisfied and is prorated for the proportion of the financial year worked.
Annual Incentive Plan – in respect of any amount deferred into awards over shares under the Vesuvius Deferred Share Bonus Plan		
Good leaver	On the date of the event.	Deferred awards vest in full.
Bad leaver	On the date of the event.	Other than dismissal for cause, deferred awards will vest in full.
Change of control[1]	Within seven days of the event.	Deferred awards vest in full.
Vesuvius Share Plan		
Good leaver[2]	On normal release date (or earlier at the Committee's discretion).	Unvested awards vest to the extent that any performance conditions have been satisfied and a pro rata reduction applies to the value of the awards to take into account the proportion of performance period not served, unless the Committee decides that the reduction in the number of vested shares is inappropriate.
Bad leaver	Unvested awards lapse.	Unvested awards lapse on cessation of employment.
Change of control[1]	On the date of the event.	Unvested awards vest to the extent that any performance conditions have been satisfied and a pro rata reduction applies for the proportion of the vesting period not served, unless the Committee decides that the reduction in the number of vested shares is inappropriate.

1. In certain circumstances, the Committee may determine that unvested awards under the Vesuvius Deferred Bonus Plan and Vesuvius Share Plan will not vest on a change of control but will instead be replaced by an equivalent grant of a new award, as determined by the Committee, in the new company.
2. Under the rules of the Vesuvius Share Plan, any vested shares, net of any tax liabilities, are subject to a further two-year holding period after the vesting date. The holding period may be terminated early at the Committee's discretion in exceptional circumstances, including a change of control or where the award holder dies or leaves employment due to ill health, injury or disability.

Benefits normally cease to be provided on the date employment ends. However, the Committee has the discretion to allow some minor benefits (such as health insurance, tax advice and repatriation expenses) to continue to be provided for a period following cessation where this is considered fair and reasonable, or appropriate on the basis of local market practice. In addition, the Committee retains discretion to fund other expenses for the Executive Director; for example, payments to meet legal fees incurred in connection with termination of employment, or to meet the costs of providing outplacement support, and de minimis termination costs up to £5,000 to cover the transfer of mobile phone or other administrative expenses.

The Committee reserves the right to make any other payments in connection with a Director's cessation of office or employment where the payments are made in good faith in discharge of an existing legal obligation (or by way of damages for breach of such an obligation) or by way of a compromise or settlement of any claim arising in connection with the cessation of a Director's office or employment.

In certain circumstances, the Committee may approve new contractual arrangements with departing Executive Directors, including (but not limited to) settlement, confidentiality, restrictive covenants and/or consultancy arrangements. These would be used only where the Committee believed it was in the best interests of the Company to do so.

Remuneration Policy for Non-executive Directors

The Company seeks to appoint Non-executive Directors who have relevant professional knowledge and have gained experience in a relevant industry and geographical sector, to support diversity of expertise at the Board and match the wide geographical spread of the Company's activities.

Non-executive Directors attend Board, Committee and other meetings, held mainly in the UK, together with an annual strategy review to debate the Company's strategic direction.

All Non-executive Directors are expected to familiarise themselves with the scale and scope of the Company's business and to maintain their specific technical skills and knowledge.

The Board sets the level of fees paid to the Non-executive Directors after considering the role and responsibilities of each Director and the practice of other companies of a similar size and international complexity. The Non-executive Directors do not participate in Board discussions on their own remuneration.

Alignment/purpose	Operation	Opportunity	Performance
Fees			
To attract and retain Non-executive Directors of the necessary skill and experience by offering market-competitive fees	Fees are usually reviewed every year by the Board. Non-executive Directors are paid a base fee for the performance of their role plus additional fees for roles that involve significant additional time commitment and/or responsibility. Such roles could include, but are not limited to, Committee chairmanship (and, where appropriate, membership) or acting as the Senior Independent Director. Fees are paid in cash. When travelling internationally on Company business, all Non-executive Directors may also be provided with additional travel allowance payments, reflecting the associated time commitment, paid in cash. The Chairman is paid a single cash fee and receives administrative support from the Company.	Non-executive Directors and the Chairman will be paid market-appropriate fees, with any increase reflecting changes in the market or adjustments to a specific Non-executive Director's role. Any travel allowances payable will be reflective of travel time incurred as necessary to fulfil Company business. No eligibility for bonuses, retirement benefits or to participate in the Group's employee share plans. Base fees paid to Non-executive Directors will, in aggregate, remain within the aggregate limit stated in our Articles, currently being £500,000.	None.
Benefits and expenses			
To facilitate execution of responsibilities and duties required by the role	All Non-executive Directors are reimbursed for reasonable expenses incurred in carrying out their duties (including any personal tax owing on such expenses). Should the Board deem it appropriate, additional benefits can be provided to Non-executive Directors as required (e.g. liability insurance).	Non-executive Directors' expenses are paid in accordance with Vesuvius' expense procedures. Provision of additional benefits will be at the discretion of the Board and will reflect the reasonable needs of a Non-executive Director in undertaking Company business.	None.

Remuneration Policy continued

Terms of service of the Chairman and other Non-executive Directors

The terms of service of the Chairman and the Non-executive Directors are contained in letters of appointment. Each Non-executive Director is appointed subject to their election at the Company's first Annual General Meeting following their appointment and re-election at subsequent Annual General Meetings. The Chairman is entitled to six months' notice from the Company. None of the other Non-executive Directors is entitled to receive compensation for loss of office at any time.

All Non-executive Directors are subject to retirement, and election or re-election, in accordance with the Company's Articles of Association. The current policy is for Non-executive Directors to serve on the Board for a maximum of nine years, with review at the end of three and six years, subject always to mutual agreement and annual performance evaluation. The Board retains discretion to extend the tenure of Non-executive Directors beyond this time, subject to the requirements of Board balance and independence being satisfied.

The table below shows the date of appointment for each of the Non-executive Directors:

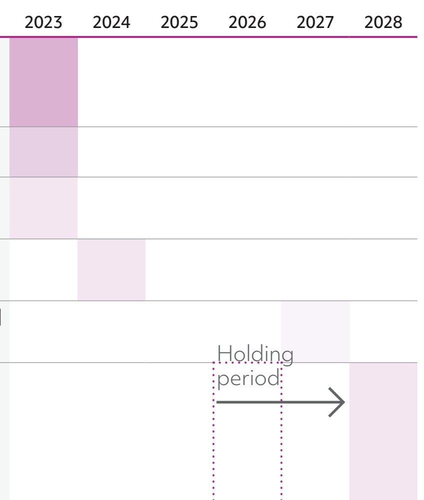
Non-executive Director	Date of appointment
Carl-Peter Forster	1 November 2022
Carla Bailo	1 February 2023
Kath Durrant	1 December 2020
Dinggui Gao	1 April 2021
Friederike Helfer	4 December 2019
Jane Hinkley	3 December 2012
Douglas Hurt	2 April 2015

Directors' Remuneration Report

Annual Report on Directors' Remuneration

Executive Directors' remuneration in year ahead

The table below sets out the phasing of receipt of the various elements of Executive Director remuneration for 2023.



	Description and link to strategy
S Base salary	Salaries are set at an appropriate level to enable the Company to recruit and retain key employees, and reflect the individual's experience, role and contribution within the Company.
B Benefits	Provides normal market practice benefits.
P Pension	The pension benefit helps to recruit and retain key employees and ensures income in retirement.
AI Annual Incentive	The Annual Incentive incentivises the Executive Directors to achieve key short-term financial and strategic targets of the Group.
AI Deferred Annual Incentive	The deferral of a portion of the Annual Incentive increases alignment with shareholders.
VSP Vesuvius Share Plan	Awards under the Vesuvius Share Plan align Executive Directors' interests with those of shareholders through the delivery of shares and assist in the retention of the Executive Directors. The VSP rewards the Executive Directors for achieving the strategic objectives of growth in shareholder value and earnings.

The table below sets out how the Remuneration Policy will be applied to the Executive Directors' remuneration for 2023. Further details about each of the elements of remuneration are set out in the Remuneration Policy.

S Base salary

Patrick André

£720,000

2022: £643,000

As explained in the Committee Chair's letter, the CEO was awarded a 12% increase, effective 1 January 2023.

Mark Collis

£420,000

2022: n/a

To be prorated based on tenure from date of hire in 2023.

B Benefits

Benefits for Executive Directors include:

- Car allowance
- Private medical care
- Relocation expenses
- Tax advice and tax reimbursement
- Commuting costs
- School fees
- Directors' spouses' travel
- Administrative expenses

P Pension

17% of base salary, in line with the average received by the majority of the global workforce.

AI Annual Incentive*

Annual Incentive potential for Patrick André, maximum value 175% of base salary

Annual Incentive potential for Mark Collis, maximum value 150% of base salary

For 2023, the maximum Annual Incentive potential for Patrick André will increase to 175% of base salary with target Annual Incentive potential being 87.5% of base salary for the achievement of target performance in all elements. For Mark Collis, potential will remain at the level available previously to the Chief Financial Officer, i.e. 75% at target, and 150% at maximum. Pay-outs will commence and increase incrementally from 0% once the threshold performance for any of the elements has been met. In the case of Mark Collis, the incentive payable will be calculated pro rata to reflect his period of employment in the 2023 calendar year.

33% of any Annual Incentive earned will be deferred into awards over shares, which will vest after a holding period of three years.

These incentives are based 40% on Group headline earnings per share, 20% on the Group's working capital to sales ratio (based on the 12-month moving average), 20% on post-tax Return on Invested Capital (ROIC) and 20% on specified personal objectives. The Company will not be disclosing the targets set until after the relevant performance period has ended because of commercial sensitivities. The personal objectives for 2023 are focused on long-term strategic objectives, or are job-specific in nature and track performance against the Group's key strategic, organisational and operational goals with a specific focus on ESG outcomes.

VSP Vesuvius Share Plan* (VSP)

Patrick André, maximum value 200% of base salary

Mark Collis, maximum value 150% of base salary

Share awards with a maximum value of 200% of salary will be granted to Patrick André and, for Mark Collis a maximum value of 150% of salary will be granted, prorated to reflect his period of employment during the 2023–2025 performance period. The strike price for the awards will be determined by reference to the average share price over the 30 calendar days prior to grant.

Vesting of 40% of shares awarded will be based upon the Company's TSR performance relative to that of the constituent companies of the FTSE 250 (excluding investment trusts), 40% on post-tax Return on Invested Capital (ROIC) and 20% on ESG. Targets are set out overleaf.

Performance will be measured over three years with awards vesting after three years. There will then be a further two-year holding period applicable to the awards.

* The Committee is mindful of the present geopolitical environment and the existing energy crisis. In this context it reserves its discretion to amend targets for both the AIP and VSP should major industrial market disruption prevail.

Annual Report on Directors' Remuneration continued

Targets for the VSP Awards for the year 2023

TSR ranking relative to FTSE 250 excluding investment trusts — Weighting 40%

	Vesting percentage (of total LTIP)
Below median	0%
Median	10%
Between median and upper quintile	Pro rata between 10% and 40%
Upper quintile and above	40%

Post-tax ROIC[1] — Weighting 40%

	Vesting percentage (of total LTIP)[2]	Average ROIC over three-year performance period
Threshold and below	0%	8.5%
Maximum	40%	11.0%

1. ROIC is defined as Net Operating Profit After Tax (NOPAT), divided by invested capital (IC). NOPAT is defined as Group trading profit, plus post-tax share of JV results, less amortisation of intangible assets calculated as an average over the target period. (The inclusion of amortisation charges serves to reduce the calculation of ROIC returns though we believe this to be the most appropriate definition.) Invested capital is defined as total assets excluding cash and non-interest-bearing liabilities, calculated as the average of IC at the start and the end of the target period at constant currency. See Note 4.18 of the Group Financial Statements.
2. Vesting between these points will be on a straight-line basis.

Environment, Social, Governance — Weighting 20%

Safety: Average Lost Time Injury Frequency Rate (LTIFR)[1] 2023–2025

	Vesting percentage (of total LTIP)[2]	Range
Threshold and below	0%	1.05
Maximum	5%	0.85

Energy: CO_2e: Reduction Scope 1 and 2 CO_2e emission intensity (vs 2019 baseline) in 2025[3]

	Vesting percentage (of total LTIP)[2]	Range
Threshold and below	0%	-17%
Maximum	10%	-23%

Diversity: Gender diversity in senior leadership group[4] on 31 Dec 2025

	Vesting percentage (of total LTIP)[2]	Range
Threshold and below	0%	20%
Maximum	5%	26%

1. LTIFR is the Lost Time Injury Frequency Rate, based on the number of lost time injuries that occur during the performance period per million hours worked.
2. Straight-line vesting between threshold and maximum.
3. Reduction of CO_2e emissions per metric tonne of product packed for shipment.
4. Senior Leadership Group is defined as the Group Executive Committee plus the most senior Vesuvius managers worldwide, in terms of their contribution to the Group's overall results and to the execution of the Group's strategy. This group comprises between 150 and 170 members (number may slightly fluctuate from one year to the next based on organisational changes).

Explaining the ROIC target range

The Committee has considered the Group strategy over the period, market conditions, and historic and current estimates of WACC provided by JP Morgan in determining the target range.

Whilst we expect ROIC to be at the lower end of the range in Year 1, we believe a range of 8.5–11.0% to be appropriate for the VSP award 2023–2025. The threshold pay-out level remains at 0% this year, but may change for future awards.

Adjustments to the ROIC target range may be required should the Board approve certain mergers, acquisitions or disposals. For any such event that requires Board approval then management will assess the potential impact on ROIC as part of their broader submission, and the Committee will determine whether any adjustment to targets should be made. In general, the Committee will have regard to the materiality of the event and the timing in the life of the award cycle. The intention will be to maintain fair, stretching but achievable targets, whilst not providing a disincentive to management to bring forward proposals for mergers, acquisitions or disposals that are in the Company's interest.

Explaining the ESG metrics

The Environment, Social and Governance targets for the 2023 awards represent key strategic priorities for the management team as well as the Board.

Safety continues to be of paramount cultural importance to Vesuvius and progressive improvement has been made in recent years. The targets are considered stretching in the context of an operationally challenging environment with many employees working remotely at customer sites. Lost Time Injury Frequency Rate is a recognised metric, and is measured per million hours worked.

Energy, the reduction in Scope 1 and 2 emissions is a key feature of the Company's sustainability strategy (see pages 50-70) and as such a measure of CO_2e emission intensity is used (CO_2e emissions per tonne of product packed for shipment). Baseline and current emissions have been verified by Carbon Footprint Ltd. Vesuvius has committed to achieve a net zero status by 2050 at the latest and a roadmap, with clear intermediary targets in 2025 and 2035, has been established, as detailed in our Sustainability report (see pages 64 and 65 for further information). Restated performance of -15.3% vs the 2019 baseline has been considered reasonable by the Committee in setting the forward target range. This restatement takes into account the continuing expansion projects in Skawina, Poland and Kolkata, India which will have a deleterious effect on the -18.8% calculated to 2022 vs 2019 baseline.

Diversity, a focus on gender diversity has seen improvements in the Senior Leadership Group of c.150–170 individuals in recent years. Targets are set so as to drive continued progress towards the targets outlined in our Sustainability Initiative.

Executive Directors' remuneration in year under review

Single total figure table – audited

The table below sets out the total remuneration received by Executive Directors in the financial year under review:

	Patrick André 2022 (£000)	Patrick André 2021 (£000)	Guy Young 2022 (£000)	Guy Young 2021 (£000)
Total salary	643	618	420	385
Taxable benefits[1]	83	60	18	18
Pension[2]	155	154	96	96
Total fixed pay[3]	880	832	535	499
Annual Incentive[4]	731	874	0	537
Long-Term Incentives[5,6,7]	594	0	0	0
Total variable pay[8]	1,325	874	0	537
Total[9]	2,206	1,706	535	1,036

1. Standard benefits for the Executive Directors include car allowance and private medical care. In 2022, Patrick André also received external professional services support, funded by the Company, in relation to EU Settled Status applications for him and his wife, in line with the approval for such support granted by the Remuneration Committee in May 2019. The total cost of this support including gross-up of associated taxes was £44,811.
2. In 2021 and 2022, Patrick André and Guy Young received a pension allowance of 25% of base salary capped at the January 2020 level. The figures for 2022 in the table represent the value of all cash allowances and contributions received in respect of pension benefits, at voluntarily reduced rates.
3. The sum of total salary, taxable benefits and pension.
4. This figure includes the Annual Incentive payments to be made to the Executive Directors in relation to the year under review. Note that Guy Young will receive no such payment, having forfeited his entitlement to such payments on account of his resignation from the Company in September 2022. 33% of any Annual Incentive payments will be deferred into awards over shares, to be held for a period of three years. See page 126 for more details.
5. The 2022 figures represent the Performance Share awards granted to Patrick André and Guy Young in 2020 under the VSP. Patrick André's award will vest in 2023 while Guy Young's lapsed, in line with Company leaver policies, on his resignation from the Company in February 2023.
6. The value of the 2022 long-term incentives, relating to the Performance Share awards granted to Patrick André under the VSP in 2020, is reflective of a share price depreciation of 0.17% between the share price used at grant (392.5p), versus the Q4 2022 average share price (391.8p), used here as a proxy for the vesting price. The values also includes dividend vesting at 45.1p per vested share.
7. The 2021 figures represent the Performance Share awards granted to Patrick André and Guy Young in 2019 under the VSP which lapsed in 2022.
8. The sum of the value of the Annual Incentive and the Long-Term Incentives where the performance period ended during the financial year.
9. The sum of base salary, benefits, pension, Annual Incentive and Long-Term Incentives where the performance period ended during the financial year.

Additional note:

10. Total 2022 Directors' Remuneration (Executive Directors and Non-executive Directors) is £3.377m. 2021 Directors' Remuneration for the Directors who served during 2021 was £3.257m.

Annual Incentive for 2022 performance – audited

The Executive Directors are eligible to receive an Annual Incentive calculated as a percentage of base salary, based on achievement against specified financial targets and personal objectives. Each year, the Remuneration Committee establishes the performance criteria for the forthcoming year. The financial targets are set by reference to the Company's financial budget. The target range is set to ensure that Annual Incentives are only paid out at maximum for significantly exceeding performance expectations. The Remuneration Committee considers that the setting and attainment of these targets is important in the context of achievement of the Company's longer-term strategic goals.

The Annual Incentive has a threshold level of performance below which no award is paid, a target level at which 50% of the maximum opportunity is payable, and a maximum performance level at which 100% of the maximum opportunity is earned, on a pro rata basis.

For 2022, the maximum Annual Incentive potential for the Executive Directors was 150% of base salary and their target Annual Incentive potential was 75% of base salary.

For the financial year 2022, the Executive Directors' Annual Incentives were based 40% on Group headline EPS, 20% on the Group's return on invested capital (post-tax ROIC), 20% on the Group's working capital to sales ratio (based on the 12-month moving average) and 20% on specified personal objectives.

No Annual Incentive 2022 award is payable to Guy Young in light of his resignation from the Company in September 2022 and associated forfeiting of his rights to any such payment in line with the Company's leaver policies.

Annual Report on Directors' Remuneration continued

Financial targets in 2022

The 2022 Vesuvius Group headline EPS performance targets set out below were set at the December 2021 full-year average foreign exchange rates, being the rates used for the 2022 budget process:

Threshold:	On-target:	Maximum:
36.7p	41.6p	46.6p

The 2022 Group's return on invested capital (post-tax ROIC) targets were set as follows:

Threshold:	On-target:	Maximum:
7.5%	8.5%	10.0%

The 2022 Group's working capital to sales ratio targets were set as follows:

Threshold:	On-target:	Maximum:
23.6%	22.6%	21.6%

In assessing the Group's performance against these targets, the Committee uses a constant currency approach. Thus, the 2022 full-year EPS performance was retranslated at December 2021 full-year average foreign exchange rates to establish performance. This is consistent with practice in previous years.

In 2022, Vesuvius' EPS performance at the December 2021 full-year average foreign exchange rates was 53.6 pence, return on invested capital (post-tax ROIC) outcome was 10.7% and the working capital to sales ratio was 23.8%. Consequently, EPS performance was above the maximum target, return on invested capital (post-tax ROIC) performance was above the maximum target, and the Group working capital to sales ratio was below threshold.

As a result, in respect of the financial performance metrics of the 2022 Annual Incentive, 60% is due on the EPS targets, 30% on the ROIC targets, and 0% on the working capital targets (related to a maximum bonus opportunity of 60%, 30% and 30% of salary respectively).

Personal objectives

In 2022, a proportion (20%) of the Annual Incentive for Executive Directors (representing 30% of salary) was based on the achievement of personal objectives.

Patrick André

Summary of objective	Summary outcome
Drive performance and deliver results	– Strong performance on quality, Investor Relations strategy, market share gains, cash conversion and improvement of gross margin
Reinforce talent management and prepare succession plans	– During 2022 there was strong progress in the identification and ongoing development of successors to key management positions
Review and implement the Group strategy	– Significant progress in developing the strategic roadmap to enhance return to shareholders, closed the acquisition of BMC and ensured smooth integration of the refractories business acquired from Universal Refractories, Inc
Improve Vesuvius' sustainability performance	– Delivered a strong Sustainability strategy in 2022 and delivered further improvements in CO_2 reduction and Top Management diversity

In summary, after considering performance as outlined above, the Committee approved an Annual Incentive pay-out of 23.7% of contractual base salary, out of the maximum potential 30%, in respect of the personal objectives of Patrick André.

Guy Young

Summary of objective	Summary outcome
Optimise cash management and profitability	– Delivered a clear review of Investor Relations strategy and robust performance on cash management and gross margin
Support growth strategy	– Supported the successful closure of the BMC acquisition and facilitated strong progression on the integration of the refractories business acquired from Universal Refractories, Inc
Drive IT performance	– Continued the implementation of the cyber resilience plan and maintained progress on SAP A1 implementation
Drive Opex reductions	– Successfully implemented the optimisation plan of finance shared services and progressed implementation of the new Finance Operating Model in EMEA
Improve Vesuvius' sustainability performance	– Supported development of a strong sustainability strategy and delivered further improvements in CO_2 reduction and Top Management diversity

In summary, after considering performance as outlined above, the Committee approved a hypothetical Annual Incentive pay-out of 23.4% of contractual base salary, out of the maximum potential 30%, in respect of the personal objectives of Guy Young.

The total Annual Incentive awards payable to Patrick André in respect of his service as an Executive Director during 2022 is therefore 113.7% of salary, of which 33% will be deferred into awards over shares, to be held for a period of three years, with vesting in accordance with the Remuneration Policy.

The Committee considered the appropriateness of this overall AIP payment in the context of the experience of our various stakeholders during 2022 and was satisfied that no discretionary adjustments were required.

2020 VSP Awards (vesting in 2023) – audited

The performance period applicable to these awards ended on 31 December 2022.

	Weighting	0% vesting	25% vesting	50% vesting	100% vesting	Performance achieved	Pay-out level (% of maximum)
TSR relative to FTSE 250 excluding investment trusts[1]	50%	Below median	Median	–	Upper quintile	Between median and upper quintile (Ranked 71st)	36.1%
Annual compound headline EPS growth[1]	50%	Less than 3%	3%	6%	15%	7.8%	60.0%

1. Straight-line vesting applies between the vesting points.

Share awards granted during the financial year – audited

VSP award

An award was granted under the VSP to selected senior executives, including the Executive Directors, in March 2022. UK executives receive awards in the form of nil-cost options with a flexible exercise date and non-UK executives receive conditional awards which are exercised on the date of vesting. This award is subject to the performance conditions described below and will vest in March 2025 (with a subsequent two-year holding period for any vested shares to March 2027).

	Type of award	Date of grant	Maximum number of shares[1]	Face value (£)	Face value (% of salary)	Threshold vesting	End of performance period
Patrick André	Nil-cost option	17 March 2022	319,900	£1,238,653	193%	25% of award	31 December 2024
Guy Young[2]		17 March 2022	156,716	£606,804	144%		

1. In 2022, Patrick André and Guy Young were entitled to receive allocations of Performance Shares worth 200% and 150% of their base salaries respectively. In light of the volatile share price, the Committee applied its discretion so that the maximum number of shares in these allocations were capped at a level based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the February 2022 Remuneration Committee meeting of £4.020, while the average closing mid-market price of Vesuvius' shares on the five dealing days prior to grant was £3.872. The maximum number of shares quoted excludes any additional shares that may be awarded in relation to dividends accruing during the vesting and holding periods.
2. As with his other, in-flight VSP awards, Guy Young's 2022 award lapsed upon his departure from the business on 17 February 2023.

Vesting of the VSP awards is subject to satisfaction of the following performance conditions. Any LTIP vesting is at the discretion of the Remuneration Committee.

	Weighting	Threshold	100% vesting
TSR relative to FTSE 250 excluding investment trusts[1]	40%	Median	Upper quintile
Group post-tax ROIC[1]	40%	7.5%	10%
ESG: Safety: Average Lost Time Injury Frequency Rate (LTIFR) 2022–2024[1,2]	5%	1.1	0.9
ESG: Energy: CO_2e: Reduction in Scope 1 and 2 energy CO_2e emissions/tonne (vs 2019 baseline) in 2024[1,3]	10%	-14%	-20%
ESG: Diversity: Gender diversity in Senior Leadership Group on 31 December 2024[1,4]	5%	20%	26%

1. Straight-line vesting applies between the vesting points. Threshold vesting for the TSR element is 25% of maximum, and 0% of maximum for all other elements.
2. LTIFR is the Lost Time Injury Frequency Rate, based on the number of lost time injuries that occur during the performance period. The calculation rate is LTIFR per million hours worked.
3. Reduction of energy CO_2e emissions per metric tonne of product packed for shipment.
4. Senior Leadership Group is defined as the Group Executive Committee plus the most senior Vesuvius managers worldwide, in terms of their contribution to the Group's overall results and to the execution of the Group's strategy. This group comprises between 150 and 170 members (number may slightly fluctuate from one year to the next based on organisational changes).

Each of the VSP performance measures operates independently. The use of these measures is intended to align Executive Director remuneration with shareholders' interests. Prior to vesting, the Remuneration Committee reviews the underlying financial performance of the Company and non-financial performance of the Company and individuals over the performance period to ensure that the vesting is justified, and to consider whether to exercise its discretion including consideration of any potential windfall gains.

Deferred Share Bonus Plan award

33% of the Annual Incentive earned by Patrick André and Guy Young in respect of performance in 2021 was deferred into a share award granted in March 2022 under the Company's Deferred Share Bonus Plan. There are no additional performance conditions applicable to these awards.

	Type of award	Date of grant	Number of shares[1]	Face value (£)	Vesting date
Patrick André	Nil-cost option	17 March 2022	75,207	£291,202	18 March 2025
Guy Young		17 March 2022	46,235	£179,022	

1. The number of shares has been calculated using the share price of £3.872 (average closing share price for the five dealing days prior to grant) and excludes any additional shares that may be awarded in relation to dividends accruing during the vesting period.

Annual Report on Directors' Remuneration continued

Statement of Executive Directors' shareholding – audited

The interests of Executive Directors and their closely associated persons in ordinary shares as at 31 December 2022, including any interests in share options and shares provisionally awarded under the VSP, are set out below:

	Beneficial holding in shares[3]	Beneficial holding %	Outstanding share incentive awards: With performance conditions[1]	Outstanding share incentive awards: Without performance conditions[2]
Patrick André	184,020	0.07	832,882	91,681
Guy Young	153,259	0.06	396,398	57,673

1. These are Performance Shares granted under the VSP. The awards were all granted subject to performance conditions.
2. These are awards granted under the Deferred Share Bonus Plan. These awards are not subject to any additional performance conditions.
3. Patrick André's beneficial shareholding includes 30,000 shares he purchased on 7 March 2022.

Additional notes:

4. None of the other Directors, nor their spouses, nor their minor children, held non-beneficial interests in the ordinary shares of the Company during the year.
5. There were no changes in the interests of Patrick André in the ordinary shares of the Company in the period from 1 January 2023 to the date of this Report.
6. For Guy Young, there were no changes in these interests in the period from 1 January 2023 to his date of leaving, 17 February 2023, other than in respect of his outstanding performance-related awards which lapsed on his date of leaving.
7. All awards under the VSP are subject to performance conditions and continued employment until the relevant vesting date as set out on page 143.
8. Full details of Directors' shareholdings and incentive awards are given in the Company's Register of Directors' Interests, which is open to inspection at the Company's registered office during normal business hours.

Shareholding guidelines – audited

The Remuneration Committee encourages Executive Directors to build and hold a shareholding in the Company. Under the 2023 Remuneration Policy, the required holding is 200% of salary for all Executive Directors. Executive Directors are required to retain at least 50% (measured as the value after tax) of any shares received through the operation of share schemes; in addition, permission to sell shares held – whether acquired through the operation of share schemes or otherwise – will not be given, other than in exceptional circumstances, if, following the disposal, the shareholding requirement is not achieved or is not maintained.

Compliance with the shareholding policy is tested at the end of each year for application in the following year. Under the 2023 Remuneration Policy, the valuation of any holding is taken at the higher of: (1) the share price on the date of vesting of any shares derived from a share award, in respect of those shares only; and (2) the average of the closing prices of a Vesuvius ordinary share for the trading days in that December.

As at 31 December 2022, the Executive Directors' shareholdings against the shareholding guidelines contained in the Directors' Remuneration Policy in force on that date (using the Company's share price averaged over the trading days of the period 1 December to 31 December 2022, of 387.48 pence per share) were as follows:

Director	Actual share ownership as a percentage of salary at 31 Dec 2022	Policy share ownership as a percentage of salary	Policy met?
Patrick André	135%	200%	In the build-up period
Guy Young	187%	200%	In the build-up period

Payments to past Directors and loss of office payments – audited

There were no payments made to any Director for loss of office during the year ended 31 December 2022. External, professional services support was provided in 2022 to former Chief Executive, François Wanecq, in the form of international tax advice relating to his retirement, in line with the commitment to cover such reasonable costs, as specified in the Section 430(B) statement referenced in the Company's 2017 Annual Report. Total costs amounted to £3,629 (exclusive of VAT). No other payments were made to any other past Directors of the Company during the year ended 31 December 2022.

Non-executive Directors

Single total figure table – audited

The table below sets out the total remuneration received by Non-executive Directors in the financial year under review:

(£000)	2022 Total fees	2022 Taxable benefits[1]	2022 Total	2021 Total fees	2021 Taxable benefits[1]	2021 Total
Carl-Peter Forster[2]	40	2	42	–	–	–
John McDonough CBE[3]	221	9	230	205	9	214
Kath Durrant	75	7	82	60	3	63
Dinggui Gao	60	0	60	38	0	38
Friederike Helfer	60	2	62	50	3	53
Jane Hinkley	70	3	73	56	2	58
Douglas Hurt	85	3	88	70	1	71
Total Non-executive Director remuneration	610	26	636	479	18	497

1. The UK regulations require the inclusion of benefits for Directors where these would be taxable in the UK on the assumption that the Director is tax resident in the UK. The figures in the table therefore include expense reimbursement and associated tax relating to travel, accommodation and subsistence for the Director (and, where appropriate, their spouse) in connection with attendance at Board meetings and other corporate business during the year, which are considered by HMRC to be taxable in the UK.
2. Carl-Peter Forster joined the Board on 1 November 2022 and took over as Chairman on 1 December 2022.
3. John McDonough retired from the Board on 1 December 2022.

Fee structure in 2023

The fee for the Chairman was also reviewed by the Committee during the year and the fees for the Non-executive Directors by the Board. Following an assessment of time commitment, roles and responsibilities it was decided that the fees would increase with effect from 1 January 2023. The Chairman's fee was increased to £250,000; the Non-executive Directors' fees were increased to £63,000. Supplementary fees remain unchanged (supplementary Senior Independent Director fee at £10,000; supplementary fee for the Chairs of the Audit and Remuneration Committees at £15,000; and supplementary fee for the Non-executive Director responsible for workforce engagement at £10,000). In addition, it was decided that Non-executive Directors should receive a stipend of £4,000 in respect of each overseas, intercontinental trip they undertake on Vesuvius business, with the stipend payable for a maximum of five such trips in any calendar year.

Statement of Non-executive Directors' shareholding – audited

The interests of Non-executive Directors and their closely associated persons in ordinary shares as at 31 December 2022 are set out below:

	Beneficial holding in shares	Beneficial holding %
Carl-Peter Forster	–	0.00
Carla Bailo[1]	–	0.00
Kath Durrant	–	0.00
Friederike Helfer[2]	–	0.00
Dinggui Gao	–	0.00
Jane Hinkley	12,000	<0.01
Douglas Hurt	18,000	0.01

1. Carla Bailo was appointed as a Non-executive Director effective 1 February 2023.
2. Friederike Helfer is a Partner of, and has a financial interest in, Cevian Capital which held 57,249,896 ordinary shares (21.11% of Vesuvius' issued share capital) as at 31 December 2022 and at the date of this Report.

Additional notes:

3. Former Chairman, John McDonough, held 145,000 ordinary shares as at his retirement date of 1 December 2022.
4. None of the other Directors, nor their spouses, nor their minor children, held non-beneficial interests in the ordinary shares of the Company during the year.
5. There were no changes in the interests of the Non-executive Directors in the ordinary shares of the Company in the period from 1 January 2023 to the date of this Report.
6. Full details of Directors' shareholdings are given in the Company's Register of Directors' Interests, which is open to inspection at the Company's registered office during normal business hours.

Other regulatory disclosure requirements

Annual changes in Executive Directors' pay versus employee pay

Executive Directors' pay comparison

The London headquartered salaried employee workforce is presented as a voluntary disclosure of the representative comparator group for the Vesuvius Group parent company as there is only one non-Director employee in the parent company.

Year-on-year change in pay for Directors compared to the London headquartered employee average

	2022 Salary[3]	2022 Bonus[3]	2022 Benefits[5]	2021 Salary[3,4]	2021 Bonus[3]	2021 Benefits[5,6]	2020 Salary[3,4]	2020 Bonus[3]	2020 Benefits[5]
London headquartered employee average[1,2]	(8)%	(12)%	3%	19%	236%	120%	0%	165%	18%
Executive Directors									
Patrick André	4%	(16)%	11%	11%	469%	(6)%	(7%)	183%	(25%)
Guy Young	9%	(100)%	1%	11%	442%	9%	(1%)	155%	(14%)
Non-executive Directors[12]									
Carl-Peter Forster[7]	n/a	–	n/a	n/a	–	n/a	n/a	–	n/a
John McDonough CBE[8]	17%	–	(1)%	11%	–	48%	(10%)	–	(46%)
Kath Durrant[9]	25%	–	117%	19%	–	100%	n/a	–	n/a
Friederike Helfer	20%	–	(31)%	11%	–	969%	(10%)	–	(60%)
Dinggui Gao[10]	20%	–	100%	n/a	–	n/a	n/a	–	n/a
Jane Hinkley[11]	26%	–	40%	(5%)	–	63%	(10%)	–	(60%)
Douglas Hurt	21%	–	275%	11%	–	24%	(10%)	–	–

1. This is the average percentage change, excluding the Executive Directors. Salaries, bonus and benefits relate to the relevant financial reporting year.
2. Average London headquartered salary reduced year-on-year, due largely to the departure from the business, during 2022, of several high paid employees.
3. Calculated using data from the single figure table in the Annual Report.
4. During 2020 all Executive and Non-executive Directors took a voluntary 20% pay reduction for six months. Other senior employees in London headquarters also took a pay reduction between 10% and 20%, depending on their level of seniority. Therefore, the total percentage increase for the Executive Directors between 2021 and 2022 was higher than their agreed salary increases, as these increases are compared with actual, partly-reduced salary paid during 2020 rather than full, contractual base salary.
5. Calculated using data from the audited Directors' Emoluments. Benefits relate to taxable travel benefits, and Company pensions in the case of Executive Directors. It is calculated as the percentage increase or decrease on the actual figures year-on-year and not annualised or prorated for any new starters.
6. Calculations of 2021 benefits changes have been restated as compared with the 2021 Annual Report, to ensure correct alignment with Single Figure Remuneration tables.
7. Carl-Peter Forster joined the Board on 1 November 2022 and took over as Chairman on 1 December 2022.
8. John McDonough retired from the Board on 1 December 2022.
9. Kath Durrant joined on 1 December 2020 and then became the Remuneration Committee Chair following the 2021 AGM, and it is this change that accounts for the proportionally higher increase on her salary in 2021.
10. Dinggui Gao joined on 1 April 2021.
11. Jane Hinkley stood down as the Remuneration Committee Chair following the 2021 AGM, which accounts for her net reduction in year-on-year change in 2021.
12. The Non-executive Directors' fees were reviewed and increased in 2015, 2019 and 2022.

Annual Report on Directors' Remuneration continued

CEO pay ratio

The UK employee workforce is the representative comparator group to the Chief Executive, Patrick André, who is based in the UK (albeit with a global role and responsibilities). Levels of pay vary widely across the Group depending on geography and local market conditions.

Year	Method	25th percentile pay ratio	50th percentile (median) pay ratio	75th percentile pay ratio
2019	Option A	35:1	28:1	17:1
2020	Option A	32:1	24:1	13:1
2021	Option A	53:1	41:1	21:1
2022	Option A	45:1	34:1	19:1
2022	Total pay and benefits (£)	36,030	47,013	84,926
2022	Salary (£)	30,612	43,102	77,139

The table above shows the Chief Executive pay ratios versus our UK employees for 2019, 2020, 2021 and 2022. The pay ratios compare amounts disclosed in the single total figure table for the Group Chief Executive to the annual full-time equivalent remuneration of our UK employees for 2019, 2020, 2021 and 2022.

Notably the ratios have lowered in 2022 vs 2021, which is in line with the trend of annual incentives pay-outs, with overall annual incentive plan pay-outs set to be lower for 2022 compared with 2021. Given that variable pay makes up a more substantial proportion of Chief Executive pay than for other employees, an increase or decrease in incentives outturn has a disproportionate impact on the resulting ratio.

The data has been calculated in accordance with 'Option' A in The Companies (Miscellaneous Reporting) Regulations 2018, because it allows the Company to show the total annualised full-time equivalent remuneration (salary, incentives, allowances, fees, taxable benefits) and percentiles across the financial year as at 31 December 2019, 2020, 2021 and 2022.

Amounts have been annualised for those who joined part way through the year or who are on part-time arrangements and exclude those who left the organisation during the reporting period.

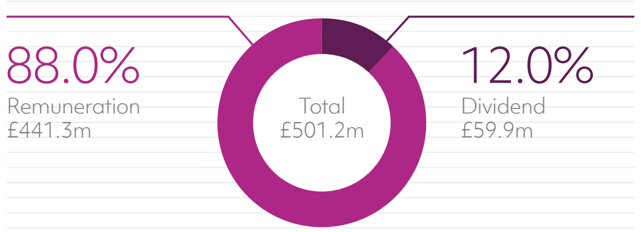
The approach to calculating the pay ratios is consistent with the prior year and there have not been any changes to the compensation models in the reporting period.

The Committee is comfortable that the principles applied and the quantum of compensation are appropriate across the Group's employee base. These are regularly benchmarked to ensure market competitiveness. There is a consistent approach of measuring against both business and personal performance for all those who participate in incentive programmes. The Group continues to monitor the effectiveness of all compensation practices to identify future opportunities to ensure they remain fair, consistent and in line with best practice.

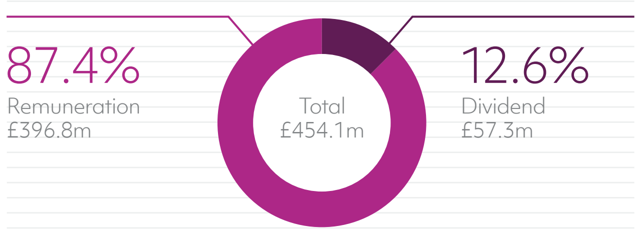
Annual spend on employee pay[1] versus shareholder distributions[2]

The charts below show the annual spend on all employees (including Executive Directors) compared with distributions made and proposed to be made to shareholders for 2021 and 2022:

Relative importance of spend on pay (2022) £m



Relative importance of spend on pay (2021) £m



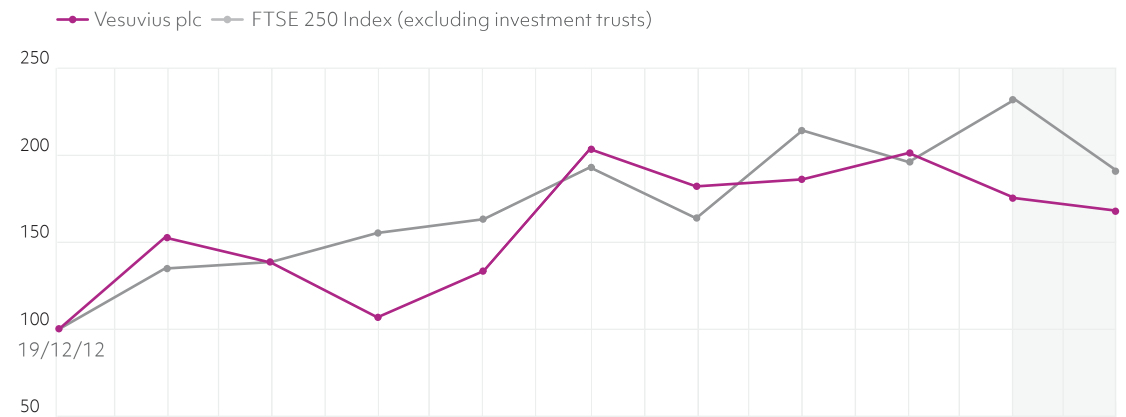
	2022 (£m)	2021 (£m)	Change
Employee pay[1]	**441.3**	396.8	11.2%
Dividends[2] (based on final proposed dividend)	**59.9**	57.3	4.5%

1. Employee pay includes wages and salaries, social security, share-based payments and pension costs, and other post-retirement benefits. See Note 8 to the Group Financial Statements.
2. Shareholder distributions/dividends includes interim and final dividends paid in respect of each financial year. See Note 24 of the Group Financial Statements.

TSR performance and Chief Executive pay

The TSR performance graph compares Vesuvius' TSR performance with that of the same investment in the FTSE 250 Index (excluding investment trusts). This index has been chosen as the comparator index to reflect the size, international scope and diversity of the Company. TSR is the measure of the returns that a company has provided for its shareholders, reflecting share price movements and assuming reinvestment of dividends.

Vesuvius' total shareholder return compared against total shareholder return of the FTSE 250 index (excluding investment trusts) since demerger



Chief Executive pay – financial year ended	François Wanecq[1]					Patrick André[2]				
	31/12/13	31/12/14	31/12/15	31/12/16	31/12/17	31/12/18	31/12/19	31/12/20	31/12/21	**31/12/22**
Total remuneration (single figure (£000))	£2,447	£1,519	£752	£1,173	£1,675[1] £465[2]	£2,022	£1,220	£936	£1,706	**£2,206**
Annual variable pay (% of maximum)	100%	64%	0%	50%	81%[1] 85%[2]	83%	11%	20%	94%	**76%**
Long-term variable pay (% of maximum)	28%	27%	0%	0%	43.7%[1] n/a[2]	100%	63%	0%	0%	**48%**

1. Amounts shown in respect of François Wanecq for 2017 reflect payments in respect of his service as Chief Executive from 1 January 2017 to 31 August 2017 and the full value of his VSP award in relation to the performance period 2015–2017.
2. Amounts shown in respect of Patrick André for 2017 reflect payments in respect of his service as Chief Executive from 1 September 2017 to 31 December 2017.

Shareholder voting on remuneration resolutions

	Votes for	Votes against	Votes withheld
Approval of the Directors' Remuneration Policy 2020 AGM	244,618,671 (97.2%)	7,105,663 (2.8%)	3,640
Approval of the Annual Report on Remuneration 2022 AGM	243,341,031 (97.7%)	5,754,991 (2.3%)	5,500

The Directors' Remuneration Report has been approved by the Board and is signed on its behalf by

Kath Durrant
Chair of the Remuneration Committee
2 March 2022

Directors' Remuneration Report

Appendix: Supplementary share-related information

Share usage

Under the rules of the VSP, the Company has the discretion to satisfy awards either by the transfer of Treasury shares or other existing shares, or by the allotment of newly issued shares. Awards made under the Deferred Share Bonus Plan to satisfy shares awarded to Directors in respect of their Annual Incentive, and awards made to management of the Company over shares pursuant to the Medium-Term Incentive Plan, must be satisfied out of Vesuvius shares held for this purpose by the Company's Employee Benefit Trust (EBT).

The decision on how to satisfy awards is taken by the Remuneration Committee, which considers the most prudent and appropriate sourcing arrangement for the Company.

At 31 December 2022, the Company held 7,271,174 ordinary shares in Treasury and the EBT held 2,454,110 ordinary shares. No additional shares were purchased between 31 December 2022 and the date of this report.

The EBT can be gifted Treasury shares by the Company, can purchase shares in the open market or can subscribe for newly issued shares, as required, to meet obligations to satisfy options and awards that vest.

The VSP complies with the current Investment Association guidelines on headroom which provide that overall dilution under all plans over a rolling ten-year period should not exceed 10% of the Company's issued share capital, with a further limitation over a rolling ten-year period of 5% for discretionary share schemes. More than 9.9% of the 10% limit and more than 4.9% of the 5% limit remains available as headroom for the issue of new shares or the transfer of Treasury shares for the Company. No Treasury shares were transferred, or newly issued shares allotted under the VSP during the year under review.

Deferred Share Bonus Plan allocations – audited

33% of the Annual Incentives earned by Patrick André and Guy Young in respect of their periods of service as Directors of Vesuvius plc were deferred into shares under the Company's Deferred Share Bonus Plan. The following table sets out details of outstanding awards:

Grant and type of award	Total share allocations as at 1 Jan 2022	Additional shares allocated during the year	Allocations lapsed during the year	Shares vested during the year	**Total share allocations as at 31 Dec 2022**	Market price of the shares on the day before award (p)	Earliest vesting/ release date
Patrick André							
14 March 2019[1] Deferred Bonus Shares	29,646	–	–	(29,646)	**0**	608	14 Mar 2022
12 March 2020[2] Deferred Bonus Shares	7,044	–	–	–	**7,044**	391.8	12 Mar 2023
18 March 2021[3] Deferred Bonus Shares	9,430	–	–	–	**9,430**	538	18 Mar 2024
17 March 2022[4] Deferred Bonus Shares	–	75,207	–	–	**75,207**	385	17 Mar 2025
Total	46,120	75,207	–	(29,646)	**91,681**		
Guy Young[5]							
14 March 2019[1] Deferred Bonus Shares	19,028	–	–	(19,028)	**0**	608	14 Mar 2022
12 March 2020[2] Deferred Bonus Shares	5,345	–	–	–	**5,345**	391.8	12 Mar 2023
18 March 2021[3] Deferred Bonus Shares	6,093	–	–	–	**6,093**	538	18 Mar 2024
17 March 2022[4] Deferred Bonus Shares	–	46,235	–	–	**46,235**	385	17 Mar 2025
Total	30,466	46,235	–	(19,028)	**57,673**		

1. In 2019, Patrick André and Guy Young received Annual Incentive bonuses in respect of their service as Directors of Vesuvius plc in 2018 of £546,131 and £350,525 respectively. 33% of each bonus was awarded in deferred shares (conditional awards) under the Vesuvius Deferred Share Bonus Plan. The allocations of shares were made on 14 March 2019 and were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £6.079. The total value of these awards based on this share price was £180,218 and £115,671, respectively. There are no additional performance conditions applicable to these awards, therefore these shares vested in full on the third anniversary of their award date.
2. In 2020, Patrick André and Guy Young were awarded Annual Incentive bonuses in respect of their service as Directors of Vesuvius plc in 2019 of £83,775 and £63,569 respectively. 33% of each bonus was awarded in deferred shares (conditional awards). The allocations of shares were made on 12 March 2020 and were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £3.9248. The total value of these awards based on this share price was £27,646 and £20,978 respectively. There are no additional performance conditions applicable to these awards, therefore these shares will vest in full on the third anniversary of their award date.
3. In 2021, Patrick André and Guy Young were awarded Annual Incentive bonuses in respect of their service as Directors of Vesuvius plc in 2020 of £153,419 and £99,138 respectively. 33% of each bonus was awarded in deferred shares (conditional awards). The allocations of shares were made on 18 March 2021 and were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £5.3690. The total value of these awards based on this share price was £50,628 and £32,715 respectively. There are no additional performance conditions applicable to these awards, which will therefore will vest in full for Patrick André on the third anniversary of their award date.
4. In 2022, Patrick André and Guy Young were awarded Annual Incentive bonuses in respect of their service as Directors of Vesuvius plc in 2021 of £873,604 and £537,075 respectively. 33% of each bonus was awarded in deferred shares (conditional awards). The allocations of shares were made on 17 March 2022 and were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £3.872. The total value of these awards based on this share price was £291,202 and £179,022 respectively. There are no additional performance conditions applicable to these awards, which will therefore vest in full for Patrick André on the third anniversary of their award date.
5. Following his departure from the Company on 13 February 2023, Guy Young's outstanding awards vested in full.

Additional note:

6. The mid-market closing price of Vesuvius' shares during 2022 ranged between 284.6 pence and 491.0 pence per share, and on 30 December 2022, the last dealing day of the year, was 404.2 pence per share.

Vesuvius Share Plan award allocations – audited

The following table sets out outstanding awards that were allocated to Patrick André and Guy Young under the VSP:

Grant and type of award	Total share allocations as at 1 Jan 2022	Additional shares allocated during the year	Allocations lapsed during the year	Shares vested during the year	**Total share allocations as at 31 Dec 2022**	Market price of the shares on the day before award (p)	Performance period	Earliest vesting date	End of holding period[1]
Patrick André									
14 March 2019[2] Performance Shares	197,400	–	(197,400)	–	**0**	608	1 Jan 19– 31 Dec 21	14 Mar 2022	14 Mar 2024
12 March 2020[3] Performance Shares	282,772	–	–	–	**282,772**	391.8	1 Jan 20– 31 Dec 22	12 Mar 2023	12 Mar 2025
18 March 2021[4] Performance Shares	230,210	–	–	–	**230,210**	538	1 Jan 21– 31 Dec 23	18 Mar 2024	18 Mar 2026
17 March 2022[5] Performance Shares	–	319,900	–	–	**319,900**	385	1 Jan 22– 31 Dec 24	17 Mar 2025	17 Mar 2027
Total	710,382	319,900	(197,400)	0	**832,882**				
Guy Young[6]									
14 March 2019[2] Performance Shares	86,362	–	(86,362)	–	**0**	608	1 Jan 19– 31 Dec 21	14 Mar 2022	14 Mar 2024
12 March 2020[3] Performance Shares	132,120	–	–	–	**132,120**	391.8	1 Jan 20 31 Dec 22	12 Mar 2023	12 Mar 2025
18 March 2021[4] Performance Shares	107,562	–	–	–	**107,562**	538	1 Jan 21– 31 Dec 23	18 Mar 2024	18 Mar 2026
17 March 2022[5] Performance Shares	–	156,716	–	–	**156,716**	385	1 Jan 22– 31 Dec 24	17 Mar 2025	17 Mar 2027
Total	326,044	156,716	(86,362)	0	**396,398**				

1. Performance shares granted from 2019 onwards are subject to a further two-year holding period.
2. In 2019, Patrick André and Guy Young received allocations of Performance Shares worth 200% and 150% of their base salaries. These allocations were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £6.079. The total value of these awards based on this share price was £1,199,994 and £524,994 respectively. Following an assessment of the performance conditions, these awards lapsed in full in 2022.
3. In 2020, Patrick André and Guy Young were entitled to receive allocations of Performance Shares worth 200% and 150% of their base salaries respectively. In light of the volatile share price, the Committee applied its discretion so that the number of shares in these allocations were capped at a level based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the February 2020 Remuneration Committee meeting of £4.371. As a result, Patrick André received an award of 282,772 shares which, at grant, was equivalent in value to 180% of his base salary (£1,109,823*) and Guy Young received an award of 132,120 shares which, at grant, was equivalent in value to 135% of his base salary (£518,544*).

   * Grant values are based on the average closing mid-market price of Vesuvius' shares on the five dealing days prior to grant (£3.9248).
4. In 2021, Patrick André and Guy Young were entitled to receive allocations of Performance Shares worth 200% and 150% of their base salaries respectively. These allocations were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the award was made, being £5.3690. The total value of these awards based on this share price was £1,235,997 and £577,500 respectively.
5. In 2022, Patrick André and Guy Young were entitled to receive allocations of Performance Shares worth 200% and 150% of their base salaries respectively. In light of the volatile share price, the Committee applied its discretion so that the number of shares in these allocations were capped at a level based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the February 2022 Remuneration Committee meeting of £4.02. As a result, Patrick André received an award of 319,900 shares which, at grant, was equivalent in value to 193% of his base salary (£1,239,653**) and Guy Young received an award of 156,716 shares which, at grant, was equivalent in value to 144% of his base salary (£606,804**).

   ** Grant values are based on the average closing mid-market price of Vesuvius' shares on the five dealing days prior to grant (£3.872).
6. Guy Young's outstanding awards lapsed in full on his departure from the Company on 13 February 2023.

Additional notes:

7. If the respective performance conditions for Patrick André's awards are not met, then the awards will lapse. If the threshold level of either of the two performance conditions applicable to the awards is met, then 12.50% of the awards will vest.
8. The Remuneration Committee also has the discretion to award cash or shares equivalent in value to the dividend that would have been paid during the vesting period on the number of shares that vest.
9. The mid-market closing price of Vesuvius' shares during 2022 ranged between 284.6 pence and 491.0 pence per share, and on 30 December 2022, the last dealing day of the year, was 404.2 pence per share.

Directors' Report

The Directors submit their Annual Report together with the audited financial statements of the Group and of the Company, Vesuvius plc, registered in England and Wales No. 8217766, for the year ended 31 December 2022.

The Companies Act 2006 requires the Company to provide a Directors' Report for Vesuvius plc for the year ended 31 December 2022.

Information incorporated by reference

The information that fulfils this requirement and which is incorporated by reference into, and forms part of, this report is included in the following sections of the Annual Report:

- The Section 172(1) Statement
- The Non-financial and sustainability information statement (the Sustainability section)
- The Governance section, including the Corporate Governance Statement
- Financial instruments: the information on financial risk management objectives and policies contained in Note 25 to the Group Financial Statements

This Directors' Report and the Strategic Report contained on pages 1 to 85 together represent the management report for the purpose of compliance with DTR 4.1.8 R of the Financial Conduct Authority's Disclosure and Transparency Rules.

Going concern	Information on the business environment in which the Group operates, including the factors that are likely to impact the future prospects of the Group, is included in the Strategic Report. The principal risks and uncertainties that the Group faces throughout its global operations are shown on pages 32 and 33. The financial position of the Group, its cash flows, liquidity position and debt facilities are also described in the Strategic Report. In addition, the Group's Viability Statement is set out within the Strategic Report on page 31. Note 25 to the Group Financial Statements sets out the Group's objectives, policies and processes for managing its capital; financial risks; financial instruments and hedging activities; and its exposures to credit, market (both currency and interest rate related) and liquidity risk. Further details of the Group's cash balances and borrowings are included in Notes 13, 14 and 25 to the Group Financial Statements. The Directors have prepared profit and loss, balance sheet and cash flow forecasts for the Group for a period in excess of 12 months from the date of approval of the 2022 financial statements. On the basis of the exercise described above, the Directors have prepared a going concern statement which can be found on page 31.
Events since the balance sheet date	On 6 February 2023, we announced that we had suffered a cyber security incident. In order to contain the threat, we voluntarily shutdown our systems on a precautionary basis. During this period our sites instigated manual procedures and work arounds to maintain production, shipping and invoicing. We have since worked tirelessly on the reinstatement of our systems, and I am pleased to report that the initial period of major disruption has been short, and all sites and significant systems are now operational. As such we expect the impact on trading to be modest, limited to one-off costs of between £3m and £5m.
Future developments	A full description of the activities of the Group, including performance, significant events affecting the Group in the year and indicative information in respect of the likely future developments in the Group's business, can be found in the Strategic Report.
Financial instruments	Information on Vesuvius' financial risk management objectives and policies can be found in Note 25 to the Group Financial Statements.
Research and development	The Group's investment in research and development (R&D) during the year under review amounted to £36m (representing approximately 1.8% (2021: 1.8%) of Group revenue). Further details of the Group's R&D activities can be found in the Operating reviews and Sustainability section of the Strategic Report.
Political and charitable donations	In accordance with Vesuvius policy, the Group did not make any political donations or incur any political expenditure in relation to any UK or non-UK political parties during 2022 (2021: nil). The Company made charitable donations of £0.5m in the UK in 2022. In 2021 no charitable donations of more than £2,000 were made in the UK.

Task Force on Climate-related Financial Disclosures (TCFD)	The Group has reported its climate-related information in accordance with the TCFD disclosure framework. The majority of this information is included in the Sustainability section of the Strategic Report. A schedule of disclosure is included on page 54.
Energy consumption and efficiency/greenhouse gas emissions	Information on our reporting of greenhouse gas emissions, and the methodology used to record these, is set out on page 67 of the Strategic Report. Details of the Group's energy usage for 2022, and the efficiency initiatives currently being undertaken, can be found in the Sustainability section on pages 57–70.
Branches	A number of the Group's subsidiary undertakings maintain branches; further details of these can be found in Note 33.1 to the Group Financial Statements.
Dividends	An interim dividend of 6.5 pence (2021: 6.2 pence) per Vesuvius ordinary share was paid on 16 September 2022 to shareholders on the register at the close of business on 5 August 2022. The Board is recommending a final dividend in respect of 2022 of 15.75 pence (2021: 15.0 pence) per ordinary share which, if approved, will be paid on 31 May 2023 to shareholders on the register at 21 April 2023.
Accountability and audit	A responsibility statement of the Directors and a statement by the Auditor about its reporting responsibilities can be found on pages 150, and 151–159, respectively. The Directors fulfil the responsibilities set out in their statement within the context of an overall control environment of central strategic direction and delegated operating responsibility. As at the date of this report, as far as each Director of the Company is aware, there is no relevant audit information of which the Company's Auditors are unaware and each Director hereby confirms that they have taken all the steps that they ought to have taken as a Director in order to make themselves aware of any relevant audit information and to establish that the Company's Auditor is aware of that information.
Auditors' reappointment	PricewaterhouseCoopers LLP (PwC) were reappointed as External Auditors for Vesuvius plc for the year ended 31 December 2022, at the 2022 AGM. PwC have been Vesuvius' External Auditors since 2017 and have expressed their willingness to continue in office as Auditors of the Company for the year ending 31 December 2023. Consequently, resolutions for the reappointment of PwC as External Auditors of the Company and to authorise the Directors to determine their remuneration are to be proposed at the 2023 AGM.
Directors	The current Directors of the Company are Patrick André, Carla Bailo, Kath Durrant, Carl-Peter Forster, Dinggui Gao, Friederike Helfer, Jane Hinkley and Douglas Hurt. Carl-Peter Forster joined the Board on 1 November 2022 and succeeded John McDonough CBE as Chairman of the Company on 1 December 2022. Carla Bailo joined the Board as a Non-executive Director on 1 February 2023. John McDonough CBE served on the Board as Chairman of the Company until he stepped down on 1 December 2022. Guy Young resigned from the Board and as Chief Financial Officer on 17 February 2023. All the current Directors, with the exception of Jane Hinkley who will step down from the Board at the close of the 2023 AGM, will retire at the 2023 AGM on 18 May 2023 and offer themselves for election or re-election. Biographical information for the Directors is given on pages 88 and 89. Further information on the remuneration of, and contractual arrangements for, the Executive and Non-executive Directors is given on pages 116-143 in the Directors' Remuneration Report. The Non-executive Directors do not have service agreements.
Directors' indemnities	The Directors have been granted qualifying third-party indemnity provisions by the Company and the Directors of the Group's UK Pension Plans Trustee Board (none of whom is a Director of Vesuvius plc) have been granted qualifying pension scheme indemnity provisions by Vesuvius Pension Plans Trustees Limited. The indemnities for Directors of Vesuvius plc have been in force since the date of their appointments. The Pension Trustee indemnities were in force throughout the last financial year and remain in force.

Directors' Report continued

Annual General Meeting

The Annual General Meeting of the Company will be held at the offices of Linklaters LLP, One Silk Street, London EC2Y 8HQ on Thursday 18 May 2023 at 11.00 am.

Amendments of Articles of Association

The Company may make amendments to the Articles by way of special resolution in accordance with the Companies Act. The Articles were last amended at the 2021 AGM, to reflect changes in the law and developments in market practice and technology.

Share capital

As at the date of this report, the Company had an issued share capital of 278,485,071 ordinary shares of 10 pence each; 7,271,174 of these ordinary shares are held in Treasury. Therefore, the total number of Vesuvius plc shares with voting rights is 271,213,897.

Further information relating to the Company's issued share capital can be found in Note 9 to the Company Financial Statements.

The Company's Articles specify that, subject to the authorisation of an appropriate resolution passed at a General Meeting of the Company, Directors can allot relevant securities under Section 551 of the Companies Act up to the aggregate nominal amount specified by the relevant resolution. In addition, the Articles state that the Directors can seek the authority of shareholders in a General Meeting to allot equity securities for cash, without first being required to offer such shares to existing ordinary shareholders in proportion to their existing holdings under Section 561 of the Companies Act, in connection with a rights issue and in other circumstances up to the aggregate nominal amount specified by the relevant resolution.

At the AGM on 18 May 2022, the Directors were authorised to issue relevant securities up to an aggregate nominal amount of £9,040,463, and, in connection with a rights issue, to issue relevant securities up to a further nominal value of £9,040,463. In addition, the Directors were empowered to allot equity securities, or sell Treasury Shares, for cash on a non-pre-emptive basis up to an aggregate nominal amount of £1,356,069, and for the purposes of financing (or refinancing, if the authority is to be used within six months after the original transaction) a transaction which the Board of the Company determines to be an acquisition or other capital investment, to allot equity securities, or sell Treasury Shares, for cash on a non-pre-emptive basis up to an additional nominal amount of £1,356,069. Each of the authorities given in these resolutions expires on 30 June 2023 or the date of the AGM to be held in 2023, whichever is the earlier. The resolutions were all tabled in accordance with the terms of the Pre-Emption Group's Statement of Principles. The Directors propose to table updated resolutions at the 2023 AGM, to reflect the revised Pre-Emption Group guidance. In the year ahead, other than potentially in respect of Vesuvius' ability to satisfy rights granted to employees under its various share-based incentive arrangements, the Directors have no present intention of issuing any share capital of Vesuvius plc.

Authority for purchase of own shares

Subject to the provisions of company law and any other applicable regulations, the Company may purchase its own shares. At the AGM on 18 May 2022, Vesuvius shareholders gave authority to the Company to make market purchases of up to 27,121,389 Vesuvius ordinary shares, representing 10% of the Company's issued ordinary share capital as at the latest practicable day prior to the publication of the Notice of AGM. This authority expires on 30 June 2023 or the date of the AGM to be held in 2023, whichever is the earlier. The Directors will seek renewal of this authority at the 2023 AGM.

In 2013, the Company acquired 7,271,174 ordinary shares, representing a nominal value of £727,117 and 2.6% of the entire called up share capital of the Company prior to the purchase. These shares were purchased pursuant to the Board's commitment to return the majority of the net proceeds of the disposal of the Precious Metals Processing Division to shareholders. These shares are currently held as Treasury shares. The Company has not subsequently disposed of any of the repurchased shares. During the year, the Company did not make any further acquisitions of shares nor did it dispose of any shares previously acquired. The Company does not have a lien over any of its shares.

Share plans

Vesuvius operates a number of share-based incentive plans. Under these plans, the Group can satisfy entitlements by the acquisition of existing shares, the transfer of Treasury shares or by the issue of new shares. Existing shares are held in an employee benefit trust (EBT). The Trustee of the EBT purchases shares in the open market as required to enable the Group to meet liabilities for the issue of shares to satisfy awards that vest. The Trustee does not register votes in respect of these shares at the Company's Annual General Meetings and has waived the right to receive any dividends.

At 31 December 2021, the EBT held 884,856 ordinary shares of 10p each in the Company. During the year, the EBT sold/transferred 239,233 ordinary shares to satisfy the vesting of awards under the Company's share-based incentive plans. It also purchased 1,808,487 ordinary shares in Vesuvius with a nominal value of £180,849 at a total cost, including transaction costs, of approximately £6.9m, to hold to satisfy the future vesting of awards under the Company's share incentive plans. As at 31 December 2022, the EBT held 2,454,110 ordinary shares. The total purchases during the year represented <1% of the Company's called up share capital. As at the date of this report the EBT held 2,438,772 ordinary shares.

Restrictions on transfer of shares and voting

The Company's Articles do not contain any specific restrictions on the size of a holding or on the transfer of shares. The Directors are not aware of any agreements between holders of the Company's shares that may result in restrictions on the transfer of securities or voting rights.

No person has any special rights with regard to the control of the Company's share capital and all issued shares are fully paid. This is a summary only and the relevant provisions of the Articles should be consulted if further information is required.

Change of control provisions

The terms of the Group's committed bank facility and US Private Placement Loan Notes contain provisions entitling the counterparties to exercise termination or other rights in the event of a change of control on takeover of the Company. A number of the arrangements to which the Company and its subsidiaries are party, such as other debt arrangements and share incentive plans, may also alter or terminate on a change of control in the event of a takeover. In the context of the Group as a whole, these other arrangements are not considered to be significant.

Interests in the Company's shares

The Company has been advised in accordance with DTR 5 of the Disclosure and Transparency Rules of the following notifiable interests of 3%, or more, of its issued ordinary shares:

	As at 31 Dec 2022	As at 2 Mar 2023
Cevian Capital	21.11%	**21.11%**
GLG Partners LP	6.26%	**6.26%**
Martin Currie	4.83%	**4.83%**
BlackRock Inc	5%	**5%**
Aberforth Partners	4.93%	**4.93%**

The interests of Directors and their connected persons in the ordinary shares of the Company as disclosed in accordance with the Listing Rules of the Financial Conduct Authority are as set out on pages 138 and 139 of the Directors' Remuneration Report and details of the Directors' Deferred Share Bonus Plan and Vesuvius Share Plan are set out on pages 142 and 143.

Suppliers, customers and others

Information summarising how the Directors have regard to the need to foster the Company's business relationships with suppliers, customers and others is included in the Group's Section 172(1) Statement on pages 22–26. This also details how that regard impacted the principal decisions taken by the Directors during the year.

Our approach to business places a significant number of Vesuvius Steel employees at customer sites on a permanent basis. In the Foundry Division, our success is built on our deep understanding of customer processes and technical requirements, and our ability to assist them in delivering the greatest efficiency from their operations.

During the year, our supplier audit programme covered the operations of 139 suppliers. This approach allows Vesuvius to gain a deep understanding of our suppliers' operations to ensure sustainability and quality of supply.

Vesuvius agrees payment terms with its suppliers and seeks to pay in accordance with those terms.

Directors' Report continued

Equal opportunities employment

Vesuvius is an equal opportunities employer, and decisions on recruitment, development, training and promotion, and other employment-related issues are made solely on the grounds of individual ability, achievement, expertise and conduct. These principles are operated on a non-discriminatory basis, without regard to race, colour, nationality, culture, ethnic origin, religion, belief, gender, sexual orientation, age, disability or any other reason not related to job performance or prohibited by applicable law. In cases where employees are injured or disabled during employment with the Group, support, including appropriate training, is provided to those employees and workplace adjustments are made as appropriate in respect of their duties and working environment, supporting recovery and continued employment.

Employee engagement

Information on the mechanisms through which Vesuvius engages with its workforce is included in the Section 172(1) Statement on pages 22–26 and in the Sustainability section on pages 76-80.

Pensions

In each country in which the Group operates, the pension arrangements in place are considered to be consistent with good employment practice in that particular area. Independent advisers are used to ensure that the plans are operated in accordance with local legislation and the rules of each plan. Group policy prohibits direct investment of pension fund assets in the shares of Vesuvius plc.

The majority of the ongoing pension plans are defined contribution plans, where our only obligation is to make contributions, with no further commitments on the level of post-retirement benefits. During 2022, cash contributions of £10.8m (2021: £10.2m) were made into the defined contribution plans and charged to trading profit.

The Group's principal defined benefit pension plans are in the UK and the US, the benefits of which are based upon the final pensionable salaries of plan members. The assets of these plans are held separately from the Group in trustee-administered funds. The Trustees are required to act in the best interests of the plans' beneficiaries. The Group also has defined benefit pension plans in other territories but, except for those in Germany, these are not individually material in relation to the Group.

Vesuvius continues to seek ways to de-risk its existing pension plans through a combination of asset matching, buy-in opportunities and, where prudent, voluntary cash contributions. The total gross defined benefit obligations at 31 December 2022 were £416.0m funded (2021: £565.9m funded) and £60.2m unfunded (2021: £77.2m unfunded). After asset funding there was a net deficit of £56.1m (2021: £77.0m) representing a decrease of £20.9m. The Group's UK defined benefits plan (the 'UK Plan') and the main US defined benefits plans are closed to new entrants and have ceased providing future benefits accrual, with all eligible employees instead being provided with benefits through defined contribution arrangements. For the Group's closed UK Plan, a Trustee Board exists comprising employees, former employees and an independent trustee. The Board currently comprises six trustee Directors, of whom two are member-nominated. The administration of the UK Plan is outsourced. The Company is mindful of its obligations under the Pensions Act 2004 and of the need to comply with the guidance issued by the Pensions Regulator. Regular dialogue is maintained between the Company and the Trustee Board of the UK Plan to ensure that both the Company and Trustee Board are apprised of the same financial and other information about the Group and the UK Plan. This is pertinent to each being able to contribute to the effective functioning of the UK Plan. In November 2021, the Trustee of the Vesuvius Pension Plan signed a pension insurance buy-in agreement with Pension Insurance Corporation plc (PIC). This buy-in secured an insurance asset from PIC that matches the remaining pension liabilities of the UK Plan, with the result that the Company no longer bears any investment, longevity, interest rate or inflation risks in respect of the UK Plan. All benefits in the UK Plan (with the exception of a small amount of benefits expected to arise in future as a result of guaranteed minimum pensions (GMP) equalisation) are now insured with PIC.

The Group has several defined benefit pension plans in the US, providing retirement benefits based on final salary or a fixed benefit. The Group's principal US defined benefit pension plans are closed to new members and to future benefit accrual for existing members. The Group has several defined benefit pension arrangements in Germany which are unfunded, as is common practice in that country. In 2016, the main German defined benefit plan was closed for new entrants and existing members were offered a buy-out of their benefits under this plan. Those who accepted this buy-out then joined the new defined contribution plan.

Listing Rule 9.8.4C R Disclosures

The following disclosures are made in compliance with the Financial Conduct Authority's Listing Rule 9.8.4C R:

Disclosure requirement under LR 9.8.4 R	Reference/Location
(1) Interest capitalised by the Group during the year	None
(2) Publication of unaudited financial information	Not applicable
(3) Details of any long-term incentive schemes	Pages 133 and 134
(4) Director waiver of emoluments	Not applicable
(5) Director waiver of future emoluments	Not applicable
(6) Allotment for cash of equity securities made during the year	Not applicable
(7) Allotment for cash of equity securities made by a major unlisted subsidiary during the year	Not applicable
(8) Details of participation of parent undertaking in any placing made during the year	Not applicable
(9) Details of relevant material contracts in which a Director or controlling shareholder was interested during the year	Not applicable
(10) Contracts for the provision of services by a controlling shareholder during the year	Not applicable
(11) Details of any arrangement under which a shareholder has waived or agreed to waive any dividends	Vesuvius plc holds 7,271,174 of its 10 pence ordinary shares as Treasury shares. No dividends are payable on these shares. The Trustee of the Company's EBT has agreed to waive, on an ongoing basis, any dividends payable on shares it holds in trust for use under the Company's Employee Share Plans, details of which can be found on pages 142, 143 and 147
(12) Details of where a shareholder has agreed to waive future dividends	See above
(13) Statements relating to controlling shareholders and ensuring company independence	Not applicable

The Directors' Report has been approved by the Board and is signed, by order of the Board, by the Secretary of the Company.

Henry Knowles
Company Secretary
2 March 2023

Statement of Directors' Responsibilities in respect of the Financial Statements

The Directors are responsible for preparing the Annual Report and Financial Statements in accordance with applicable law and regulation.

Company law requires the Directors to prepare financial statements for each financial year. Under that law, the Directors have prepared the Group financial statements in accordance with UK-adopted international accounting standards and the Company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 'Reduced Disclosure Framework', and applicable law).

Under company law, the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss of the Group for that period. In preparing the financial statements, the Directors are required to:

- Select suitable accounting policies and then apply them consistently
- State whether applicable UK-adopted international accounting standards have been followed for the Group financial statements and United Kingdom Accounting Standards, comprising FRS 101 have been followed for the Company financial statements, subject to any material departures disclosed and explained in the financial statements
- Make judgements and accounting estimates that are reasonable and prudent
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and Company will continue in business

The Directors are also responsible for safeguarding the assets of the Group and Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group's and Company's transactions and disclose with reasonable accuracy at any time the financial position of the Group and Company and enable them to ensure that the financial statements and the Directors' Remuneration Report comply with the Companies Act 2006.

The Directors are responsible for the maintenance and integrity of the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors' confirmations

The Directors consider that the Annual Report and Financial Statements, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group and Company's position and performance, business model and strategy.

Each of the Directors, whose names and functions are listed below, confirm that, to the best of their knowledge:

- The Company financial statements, which have been prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 Reduced Disclosure Framework, and applicable law), give a true and fair view of the assets, liabilities and financial position of the Company
- The Group financial statements, which have been prepared in accordance with UK-adopted international accounting standards, give a true and fair view of the assets, liabilities, financial position and profit of the Group
- The Strategic Report includes a fair review of the development and performance of the business and the position of the Group and Company, together with a description of the principal risks and uncertainties that the Group faces

The names and functions of the Directors of Vesuvius plc as at the date of signing these financial statements are as follows:

Carl-Peter Forster	Chairman
Patrick André	Chief Executive
Douglas Hurt	Non-executive Director, Senior Independent Director and Chair of the Audit Committee
Carla Bailo	Non-executive Director
Kath Durrant	Non-executive Director and Chair of the Remuneration Committee
Dinggui Gao	Non-executive Director
Friederike Helfer	Non-executive Director
Jane Hinkley	Non-executive Director

On behalf of the Board

Patrick André
Chief Executive
2 March 2023

Independent auditors' report to the members of Vesuvius plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Vesuvius plc's Group financial statements and Company financial statements (the "financial statements") give a true and fair view of the state of the Group's and of the Company's affairs as at 31 December 2022 and of the Group's profit and the Group's cash flows for the year then ended;
- the Group financial statements have been properly prepared in accordance with UK-adopted international accounting standards as applied in accordance with the provisions of the Companies Act 2006;
- the Company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, including FRS 101 "Reduced Disclosure Framework", and applicable law); and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report, which comprise: the Group and Company Balance Sheets as at 31 December 2022; the Group Income Statement, the Group Statement of Comprehensive Income, the Group Statement of Cash Flows and the Group and Company Statements of Changes in Equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided.

Other than those disclosed in Note 6.2 of the Group financial statements, we have provided no non-audit services to the Company or its controlled undertakings in the period under audit.

Independent auditors' report to the members of Vesuvius plc continued

Our audit approach

Context

The Vesuvius Group (Vesuvius plc together with its subsidiaries) has operations in 40 countries, including 68 sales offices and has 55 production sites. In 2022, as set out in the Chief Executive's strategic review, Vesuvius delivered record results, despite a difficult market environment in both Steel and Foundry reporting segments and challenging inflationary cost pressure. The results were driven by market share and pricing performance in both Steel and Foundry. The sustainability strategy is important for the Group and includes plans to achieve a net zero carbon footprint by 2050 at the latest. The 'Sustainability' section of the Strategic report sets out the Group's climate change risk assessment, the climate related targets set and an evaluation of the potential financial impacts. We specifically considered the impacts of climate change on the audit and these are set out within the 'The impact of climate risk on our audit' section in this report.

Overview

Audit scope

- Our audit included full scope audits of 18 components and specific audit procedures on certain balances and transactions for 14 additional components.
- Taken together, the components at which either full scope audit work or specified audit procedures were performed enabled us to get coverage on 71% of revenue, 80% of profit before tax and 82% of profit before tax and separately reported items (Headline profit before tax).

Key audit matters

- Impairment of goodwill (Group)
- Provisions for exposures (Legacy matter lawsuits) (Group)
- Impairment of investment in subsidiaries (Company)

Materiality

- Overall Group materiality: £10.3 million (2021: £6.3 million) based on approximately 4.7% (2021: approximately 4.6%) of profit before tax and separately reported items ('Headline profit before tax').
- Overall Company materiality: £10.3 million (2021: £6.3 million) based on 1.0% of total assets, capped at the level of overall Group materiality.
- Performance materiality: £7.73 million (2021: £4.73 million) (Group) and £7.73 million (2021: £4.73 million) (Company).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

The key audit matters below are consistent with last year.

Key audit matter

Impairment of goodwill (Group)

At 31 December 2022, the carrying value of goodwill is £657.9 million (2021: £614.2 million). Goodwill arising from acquisitions has an indefinite expected useful life and so is not amortised but rather is tested for impairment at least annually at the cash-generating unit ("CGU") level. Management has determined its CGUs to align with the operating segments, which are Steel Advanced Refractories, Steel Flow Control and Foundry. Steel Sensors and Probes goodwill was previously impaired and is fully written down.

Management prepares a Value in Use (VIU) model (discounted cash flow) to test for impairment of the carrying value of the above CGUs. This is based on a Board approved budget and 3 year forecast, on which a terminal value is calculated based on long term growth rates. The VIU model requires estimation of projected future cash flows and involves making key assumptions of revenue and trading profit growth rates, an appropriate discount rate and long term growth rates for each of the CGUs. In making such future assumptions there is an inherent level of estimation uncertainty to consider, including impacts to the forecast cash flows that may arise from climate change, inflationary conditions and COVID-19.

We focused on the valuation of the goodwill due to its material carrying value, and with regard to the estimation uncertainties arising from the factors set out above.

Refer to Intangible Assets (Note 16), Impairment of Tangible and Intangible Assets (Note 17),Critical Accounting Judgements and Estimates (Note 3) and Significant issues and material judgements in the Audit Committee report.

How our audit addressed the key audit matter

Our audit procedures included:

- For each CGU we obtained management's Value in Use model. We ensured the calculations were mathematically accurate and that the valuation methodology conformed with the requirements of IAS 36 'Impairment of Assets'.
- For key assumptions made by management in respect of forecast revenue and trading profit growth:
  - We obtained management's supporting evidence such as the Board approved budget and 3 year forecast. We agreed the forecast cash flows and underlying assumptions to these and assessed historical evidence of CGU growth rates. We also challenged the extent to which climate change considerations had been reflected in management's forecast cash flows.
  - We obtained evidence through our own independent research. This included evidence of forecast production and demand levels for the CGU's end customer markets, inflation forecasts, climate change driven trends and recovery and growth in cyclical end markets.
  - We considered market valuation evidence such as current and target share price and understood material differences.
  - Our audit evidence corroborated trends in the cash flows modelled, although in year 2 and 3 and into perpetuity estimation uncertainty increases (see our sensitivities below).
- We utilised internal valuations experts to support our audit procedures over the discount rate and long term growth rate assumptions used in the impairment model and sensitised the impacts of changes in the discount rate within our view of a reasonable range.
- We remained professionally sceptical of the impacts of forecasting uncertainty, particularly where evidence in later years is more judgemental as set out above. We determined alternative sensitivity scenarios to ascertain the extent of changes in projections that would be required for the goodwill to be impaired. These included scaling back year 3 forecasts and factoring in historical levels of forecasting inaccuracy. We also evaluated the sensitivity of impairment model cash flows to the impacts of climate change set out in the 'Sustainability' section of the Strategic report, including identified costs of working to 'net zero' and the potential financial impacts of the scenarios for temperature change. We did not identify reasonable sensitivities that would result in impairment of any of the CGUs being tested.

In addition to the above procedures (which comprised our area of focus), we instructed our component audit teams to evaluate the appropriateness of management impairment indicator assessments performed within the components and to also assess any material impacts of climate change. These assessments focused on individual or groups of assets below the levels of the CGUs. Our component teams, under our supervision, did not identify any additional impairments required or inconsistent findings to our Group level assessment in respect of climate change.

From our procedures we concluded that estimates and key assumptions made by management in performing impairment testing, including reasonably possible downside sensitivities which showed no scenarios of impairment, were supported. Appropriate disclosures have been included within the Annual Report. The Critical Accounting Judgements and Estimates note (Note 3) accordingly highlights this area as a critical accounting estimate although it is not expected to materially impact the financial statements in the next 12 months. Our findings were discussed with the Audit Committee.

Independent auditors' report to the members of Vesuvius plc continued

Key audit matter	How our audit addressed the key audit matter
Provisions for exposures (Legacy matter lawsuits) (Group) The Group holds a provision for 'Disposal, closure and environmental costs' (which includes provisions relating to legacy matter lawsuits for closed businesses) amounting to £57.7 million (2021: £41.7 million). Determining the quantum of this provision involves modelling and estimation of expected future legal claim periods, volumes, settlement amounts and associated legal costs. It also requires the directors to use judgement to determine whether associated insurance recoverable amounts should be recognised within assets. We specifically focused on the provision in respect of legacy matter lawsuits due to the material quantum of the provision and the judgement and estimates involved in determining its valuation. Refer to Critical Accounting Judgements and Estimates (Note 3), Provisions (Note 30), Contingent Liabilities (Note 32) and Significant issues and material judgements in the Audit Committee report.	Our audit procedures included: – Obtaining management's model of the estimated legal costs, associated insurance recoverable and testing the mathematical accuracy and integrity of this model. – We challenged claims arising, settlements made and expected trends with management's in-house and external legal experts. – We tested the accuracy of historical source data which is used to determine estimates of future trends of claim volumes, types of future claims and settlement amounts and legal costs associated with claims, to supporting claim documentation. – We utilised our own auditor's expert to support our audit of the key assumptions and to independently determine a reasonable range for the provision estimate based on reasonably possible changes in significant assumptions due to the estimation uncertainty involved. – We inspected evidence of the available insurance cover, the routine and consistent collection of this and considered the financial condition of insurance providers to gain evidence over the recognition and recoverability of the insurance asset. We also verified that this was appropriately presented as gross of the associated provisions (within 'Other receivables'). From our procedures, we concluded the amount of the provision held was within our acceptable range, albeit more towards the optimistic end of the range. We evaluated the level of disclosures and that these adequately explain estimation uncertainty of key assumptions including over the longer term. Critical Accounting Judgements and Estimates (Note 3) highlights this area as a critical accounting estimate. Our findings were discussed with the Audit Committee.
Impairment of investment in subsidiaries (Company) The Company holds investments in subsidiaries with a total carrying amount of £1,778.0 million at 31 December 2022 (2021: £1,778.0 million) in addition to amounts owed to subsidiary undertakings of £1009.8 million (2021: £977.4 million). IAS 36 'Impairment of assets' requires management to consider whether there are any indicators of impairment in respect of non-financial assets. Due to the quantum of the carrying amount, levels of estimation uncertainty that exist similar to assumptions used in testing for impairment of goodwill (Group) and the market capitalisation of the Company this was an area of focus for the audit of the Company. Consistent with the prior year management performed an impairment test utilising cash flow forecasts used for testing for impairment of the Group's goodwill together with additional considerations of cash flows relevant to the subsidiaries that the Company owns. The judgements and estimates required to determine the cash flow forecasts are aligned with those set out in 'Impairment of goodwill (Group)' above. Refer to Investments (Note 7), Other Creditors including Taxation and Social Security (Note 8), Critical Accounting Judgements and Estimates (Note 3) in the Company financial statements and Significant issues and material judgements in the Audit Committee report.	Our audit procedures included: – We assessed the results of the Value in Use model used for the impairment test for goodwill, together with adjustments made to reflect cash inflows to subsidiaries due from the Company. – Our testing of the Group Value in Use model, including procedures performed over management's model and evidence obtained in respect of key assumptions made is set out in Key audit matter 'Impairment of goodwill'. We also compared the carrying value of the investment in subsidiaries and the Group Value in Use to the market capitalisation and market valuation expectations. – We performed sensitivity analyses which showed there was no reasonably possible scenarios of impairment when taking account of estimation uncertainty in key assumptions. Scenarios modelled included consideration of historical forecasting inaccuracies, scaling back year 3 forecasts and impacts of climate change. – This indicated headroom in the determined Value in Use and that the investment in subsidiaries balance was not impaired. We reviewed financial statement disclosures and these are consistent with the results of management's testing and our audit evidence Critical Accounting Judgements and Estimates (Note 3) in the Company financial statements highlights this area as a critical accounting estimate although it is not expected to materially impact the financial statements in the next 12 months. Our findings were discussed with the Audit Committee.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Group and the Company, the accounting processes and controls, and the industry in which they operate.

The Vesuvius Group (Vesuvius plc (Company) together with its subsidiaries) has operations in 40 countries, including 68 sales offices and has 55 production sites. The Group consolidates financial information through reporting from its components which include divisions and functions at these sites.

Our audit scope was determined by considering the significance of the component's contribution to profit before tax and separately reported items (Headline profit before tax). We also evaluated contribution to revenue and to other individual financial statement line items, with specific consideration to obtaining sufficient coverage over areas of heightened risk and locations.

We identified one component (2021: none) as financially significant in 2022. The audit scope comprised of a further 17 components for which we determined that full scope audits would need to be performed and 14 components for which specific audit procedures on certain balances and transactions were performed by either component teams or the Group team. This collectively provided audit coverage of 71% of the Group's revenue, 80% of the Group's profit before tax and 82% of the Group's Headline profit before tax. This, together with the additional procedures performed at the Group level, including testing the consolidation process, gave us the evidence we needed for our opinion on the financial statements as a whole.

In establishing the overall approach to the Group audit, we determined the type of work that needed to be performed by us, as the Group audit team, or by component auditors in both PwC network firms and other audit firms. Where the work was performed by component auditors, we determined the level of involvement and oversight we needed to have in the audit work at those components to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the financial statements as a whole. This was achieved through:

– Issuance of formal instructions and regular communications with the component auditors throughout the audit, including visits to 2 components by Group audit senior team members;

– Attendance at audit clearance meetings by Group audit senior team members;

– Interactions with local component management;

– Our direction and supervision of the audit approach and review of audit findings;

– Review of selected audit workpapers of certain in-scope component, including for the financially significant component and material components; and

– For the financially significant component and material components, meetings with the Group audit quality review partner.

The Group audit team also performed the audit of the Company and other procedures over those components of the Group not subject to full scope audits.

The impact of climate risk on our audit

The 'Sustainability' section of the Strategic report sets out the Group's climate change risk assessment, the climate related targets set and an evaluation of the potential financial impacts. In planning and executing our audit we considered management's risk assessment and analysis of impacts to the financial statements. We made enquiries of management to understand the process adopted by management to assess the extent of the potential impact of climate related risk and targets established by management on the Group's financial statements and support the disclosures made within the 'Sustainability' section of the Strategic Report and Note 2.6 of the financial statements. Management has made commitments to achieve net zero for the Group's Scope 1 and Scope 2 carbon emissions by 2050 as disclosed in the 'Sustainability' section of the Strategic report of the Annual Report. Management considers the impact of climate risk gives rise to a potential material financial statement impact in the long term (between 2025 and 2050).

We challenged the completeness of management's climate risk assessment by:

– Reading additional sustainability related reporting made by management on the Group's website and in its Carbon Disclosure Project public submission and making management aware of any internal inconsistencies in its climate reporting;

– Challenging the consistency of management's climate impact assessment disclosed within the 'Sustainability' section of the Strategic Report and Note 2.6 of the financial statements with internal climate plans and board minutes, including consideration of whether the time horizons management has used take account of transition risks;

– Using our knowledge of the business to evaluate management's risk assessment, its judgements and estimates as set out in note 2.6 and note 3 of the financial statements and resulting disclosures where significant; and

– Considering findings from our own independent research in respect of climate change driven trends to the Group's end customer markets.

Based on the procedures set out above, we understood the key impacts to the Group could include potential increases in costs from carbon pricing mechanisms, costs and benefits of technology transition in Iron and Steelmaking and the conversion of manufacturing processes to clean energy. This would most likely impact the financial statement line items and estimates associated with future cash flows because the impact of climate change for the Vesuvius Group is expected to become more notable in the medium to long term. We considered the following areas to potentially be materially impacted by climate risk and consequently we focused our audit work in these areas: valuation of goodwill and other non-financial assets (Group), useful lives applied to tangible and intangible assets (Group) and impairment of investment in subsidiaries (Company), with impairment of goodwill (Group) and impairment of investment in subsidiaries (Company) determined to be key audit matters for the year ended 31 December 2022. In our audit of the forecasts used by management in its Value in Use models prepared to test for

Independent auditors' report to the members of Vesuvius plc continued

impairment of goodwill (Group) and investment in subsidiaries (Company), we challenged management on how the impact of climate commitments made by the Group would impact the discounted forecast cash flows prepared by management. We also evaluated the sensitivity of impairment model cash flows to the impacts of climate change set out in the 'Sustainability' section of the Strategic report, including identified costs of working to 'net zero' and the potential financial impacts of the scenarios for temperature change. We did not identify reasonable sensitivities that would result in impairment of Group's goodwill or the Company's investment in subsidiaries carrying value. We also assessed the appropriateness of the associated disclosures. For further details see our Key Audit Matter on impairment of goodwill (Group) and impairment of investment in subsidiaries (Company).

Additionally, we considered the consistency of the disclosures in relation to climate change (including the disclosures in the Task Force on Climate-related Financial Disclosures (TCFD) related reporting within the 'Sustainability' section of the Strategic report, with the financial statements and our knowledge obtained from our audit. This included considering whether the assumptions made by management in the TCFD scenario analysis are consistent with the assumptions used elsewhere in the financial statements.

We have not noted any issues as part of this work which contradict the disclosures in the Annual Report or materially impact the financial statements, or our key audit matters for the year ended 31 December 2022.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements – Group	Financial statements – Company
Overall materiality	£10.3 million (2021: £6.3 million).	£10.3 million (2021: £6.3 million).
How we determined it	Approximately 4.7% (2021: approximately 4.6%) of profit before tax and separately reported items ('Headline profit before tax')	1.0% of total assets, capped at the level of overall Group materiality
Rationale for benchmark applied	We believe that profit before tax and separately reported items ('Headline profit before tax') provides us with an appropriate basis for determining our overall Group audit materiality given it is a key measure for users of the financial statements both internally and externally. Headline profit before tax is an Alternative Performance Measure presented and defined in the Annual Report. (2021: Headline profit before tax)	We believe that total assets is an appropriate basis for determining materiality for the Company, given this entity is an investment holding company and this is an accepted auditing benchmark. The materiality was capped to the level of Group overall materiality. The Company is not an in-scope component for our Group audit. (2021: 1% of total assets, capped at the level of overall Group materiality)

For each component in the scope of our Group audit, we allocated a materiality that is less than our overall Group materiality. The range of materiality allocated across components was £0.7 million and £6.5 million. Certain components were audited to a local statutory audit materiality that was also less than our overall Group materiality.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% (2021: 75%) of overall materiality, amounting to £7.73 million (2021: £4.73 million) for the Group financial statements and £7.73 million (2021: £4.73 million) for the company financial statements.

In determining the performance materiality, we considered a number of factors – the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls – and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £515,000 (Group audit) (2021: £350,000) and £515,000 (Company audit) (2021: £350,000) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the Group's and the Company's ability to continue to adopt the going concern basis of accounting included:

- Evaluating management's base case and severe but plausible downside case for liquidity and available financial resources and obtaining supporting evidence for key assumptions. This included agreeing the underlying cash flow projections to the Board approved forecast, assessing how these forecasts were compiled and assessing the historical accuracy of the forecasts. We also evaluated current performance and available financing facilities and related liquidity headroom.
- Testing the accuracy of cash flow models used to assess available liquidity during the going concern period disclosed.
- Determining alternative sensitivity scenarios to ascertain the impact of changes in assumptions. These included scaling back forecasts and increasing working capital as a percentage of forecast revenue.
- Reading management's disclosures in the financial statements and relevant 'other information' in the Annual Report, and assessing consistency with the financial statements and our knowledge based on our audit.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and the Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the Group's and the Company's ability to continue as a going concern.

In relation to the directors' reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information, which includes reporting based on the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic report and Directors' report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic report and Directors' report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic report and Directors' report for the year ended 31 December 2022 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the Group and Company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic report and Directors' report.

Directors' Remuneration

In our opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Independent auditors' report to the members of Vesuvius plc continued

Corporate governance statement

The Listing Rules require us to review the directors' statements in relation to going concern, longer-term viability and that part of the corporate governance statement relating to the Company's compliance with the provisions of the UK Corporate Governance Code specified for our review. Our additional responsibilities with respect to the corporate governance statement as other information are described in the Reporting on other information section of this report.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit, and we have nothing material to add or draw attention to in relation to:

- The directors' confirmation that they have carried out a robust assessment of the emerging and principal risks;
- The disclosures in the Annual Report that describe those principal risks, what procedures are in place to identify emerging risks and an explanation of how these are being managed or mitigated;
- The directors' statement in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the Group's and Company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- The directors' explanation as to their assessment of the Group's and Company's prospects, the period this assessment covers and why the period is appropriate; and
- The directors' statement as to whether they have a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the period of its assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our review of the directors' statement regarding the longer-term viability of the Group and Company was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statement; checking that the statement is in alignment with the relevant provisions of the UK Corporate Governance Code; and considering whether the statement is consistent with the financial statements and our knowledge and understanding of the Group and Company and their environment obtained in the course of the audit.

In addition, based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- The directors' statement that they consider the Annual Report, taken as a whole, is fair, balanced and understandable, and provides the information necessary for the members to assess the Group's and Company's position, performance, business model and strategy;
- The section of the Annual Report that describes the review of effectiveness of risk management and internal control systems; and
- The section of the Annual Report describing the work of the Audit Committee.

We have nothing to report in respect of our responsibility to report when the directors' statement relating to the Company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified under the Listing Rules for review by the auditors.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities in respect of the Financial Statements, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or the Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the Group and industry, we identified that the principal risks of non-compliance with laws and regulations related to income and other tax, international trade restrictions, health and safety, environmental and anti-bribery, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006 and Listing Rules of the Financial Conduct Authority (FCA). We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries and management bias in accounting estimates. The Group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the Group engagement team and/or component auditors included:

- Enquiries of Group and local management, those charged with governance, internal audit and the Group's legal counsel (internal and, where relevant, external), including consideration of known or suspected instances of non-compliance with laws and regulations and fraud;
- Understanding and evaluation of the design and implementation of management's controls designed to prevent and detect irregularities, including compliance, whistle-blowing arrangements and the results of management's investigation of such matters;
- Inspecting management reports and Board minutes in relation to health and safety and other compliance matters;
- Reading and assessing key correspondence with regulatory authorities, including in respect of uncertain tax positions;
- Testing assumptions and judgements made by management in their critical accounting estimates, in particular relating to impairment of goodwill (Group), provisions for exposures (Legacy matter lawsuits) (Group) and impairment of investment in subsidiaries (Company) (see related key audit matters section of this report);
- Identifying and testing journal entries, in particular any journal entries posted with unusual account combinations including in respect of journals posted to revenue; and
- Obtained an understanding of the nature of any trade restrictions and our component auditors tested relevant supporting evidence that exists locally.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the Company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the Company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the Audit Committee, we were appointed by the members on 10 May 2017 to audit the financial statements for the year ended 31 December 2017 and subsequent financial periods. The period of total uninterrupted engagement is 6 years, covering the years ended 31 December 2017 to 31 December 2022.

Other matter

In due course, as required by the Financial Conduct Authority Disclosure Guidance and Transparency Rule 4.1.14R, these financial statements will form part of the ESEF-prepared annual financial report filed on the National Storage Mechanism of the Financial Conduct Authority in accordance with the ESEF Regulatory Technical Standard ('ESEF RTS'). This auditors' report provides no assurance over whether the annual financial report will be prepared using the single electronic format specified in the ESEF RTS.

Darryl Phillips (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London
2 March 2023