Porvair plc
Annual Report & Accounts 2019

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COMPANIES HOUSE

Aerospace & Industrial | Laboratory | Metal Melt Quality

Growing sustainably

About Porvair

Porvair is a specialist filtration and environmental technology group.

We focus on specialist filtration markets which have long term growth potential of which aerospace, energy and industrial process, laboratories and metal melt quality are the most important.

At the heart of what we do is filtration and engineering expertise, which enables us to solve our customers' increasingly complex challenges across all the markets we serve. In a changing world, requirements for sustainable technology solutions drive enduring demand for our products and services.

Our strategy focuses on generating sustainable value through the development of specialist filtration and environmental technology businesses, both organically and by acquisition, for the benefit of customers, our people, shareholders and wider stakeholders.

Our performance 2019
See: Chief Executive's report on pages 16 to 25.

Growing sustainably
See: The markets we serve on pages 04 to 13.

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Key performance highlights in 2019

Highlights

Record revenue and profit before tax, and strong cash generation

- Record revenue was up 13% to £144.9 million (2018: £128.8 million), 10% on a constant currency basis*.
- Profit before tax was up 16% to a record £14.0 million (2018: £12.0 million).
- Adjusted profit before tax* was up 9% to £14.8 million (2018: £13.5 million).
- Basic earnings per share were up 7% to 23.6 pence (2018: 22.1 pence) per share.
- Adjusted basic earnings per share* up 10% to 25.3 pence (2018: 22.9 pence) per share.
- Net cash was £4.0 million (2018: £6.6 million) at 30 November 2019 after £14.1 million (2018: £13.5 million) invested in acquisitions and capital expenditure.
- Recommended final dividend of 3.2 pence (2018: 3.0 pence) per share, an increase of 7%.
- Dahlman Industrial Group B.V. ("Royal Dahlman") was acquired in September 2019 for £7.0 million and traded in line with expectations in its first quarter.

*See notes 2 and 8 for definitions and reconciliations.

Revenue (£m)

£144.9m ↑ +13%

(2018: £128.8m)

Adjusted profit before tax* (£m)

£14.8m ↑ +9%

(2018: £13.5m)

Adjusted basic earnings per share* (pence)

25.3p ↑ +10%

(2018: 22.9p)

Adjusted operating profit* (£m)

£15.6m ↑ +9%

(2018: £14.3m)

Basic earnings per share (pence)

23.6p ↑ +7%

(2018: 22.1p)

Total dividend (pence per share)

4.9p ↑ +7%

(2018: 4.6p)

Our business explained

The Group has three market focused divisions: Aerospace & Industrial, Laboratory and Metal Melt Quality.

Our divisions

45% Approximate split of Group revenue

Aerospace & Industrial division

The Aerospace & Industrial division designs and manufactures a broad range of specialist filtration equipment for applications in aerospace, energy, and industrial applications. It has operations in the UK, US and the Netherlands and its sales are global.

Our main operating companies and principal markets

- Porvair Filtration Group
- Royal Dahlman

- Aerospace
- General Industrial
- Energy
- Petrochemical

2019 performance

Revenue
£64.6m ↑ +28%
(2018: £50.5m)

Adjusted operating profit
£8.5m
(2018: £8.0m)

30% Approximate split of Group revenue

Laboratory division

The Laboratory division designs and manufactures instruments and consumables for use in environmental and bioscience laboratories with a particular focus on water analysis instruments and sample preparation equipment. It has operations in the UK, US, Germany, the Netherlands and China and its sales are global.

Our main operating companies and principal markets

- Seal Analytical
- Porvair Sciences
- JG Finneran ("JGF")

- Environmental
- Sample preparation
- Chromatography

2019 performance

Revenue
£41.3m ↑ +7%
(2018: £38.7m)

Adjusted operating profit
£6.6m
(2018: £6.5m)

25% Approximate split of Group revenue

Metal Melt Quality division

The Metal Melt Quality division designs and manufactures porous ceramic filters for the filtration of molten metals. It is the world leader in the filtration of cast house aluminium and super alloys. It has operations in the US and China and its sales are global.

Our main operating companies and principal markets

- Selee Corp
- Selee China

- Global Aluminium
- US Foundry
- Super Alloys

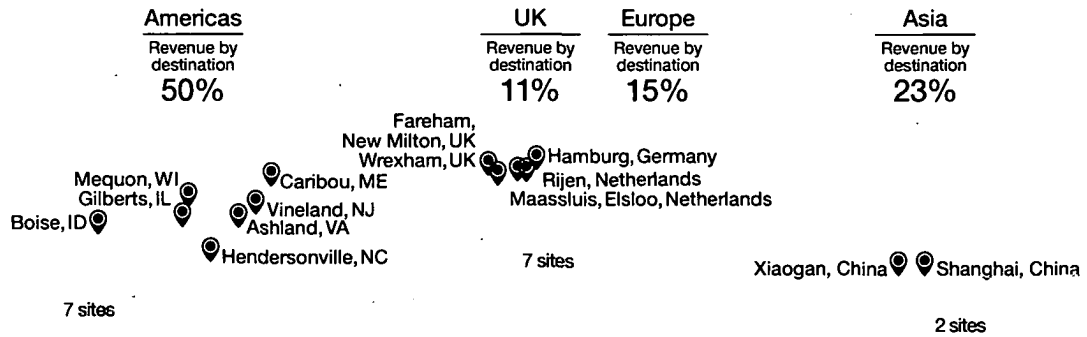
2019 performance

Revenue
£39.0m -2% ↓
(2018: £39.6m)

Adjusted operating profit
£2.8m
(2018: £2.4m)

We have manufacturing operations in the UK, US, Germany, the Netherlands and China and we sell our products globally. We operate in close partnership with our customers and our strategy is to expand geographically to support our chosen markets.

Our global operating network



Key to manufacturing operations:

- Aerospace & Industrial
- Laboratory
- Metal Melt Quality

Manufacturing revenue by region

In 2019, 52% of revenue was manufactured in the US, 35% in the UK, 9% in Continental Europe and 4% in China.

Investment

In the last five years we have invested £22 million in capital expenditure to increase production capacity. In 2019, we invested £4.3 million in capital expenditure. £2.2 million in the US; £1.7 million in the UK; and £0.4 million elsewhere.

Acquisitions

In the last five years we have invested £29 million in acquisitions. In 2019, we invested £9.8 million in acquistions. £7.0 million was spent to acquire Royal Dahlman.

Regional dynamics

Americas

The Group continues to expand its footprint in North America:

The Group has seven manufacturing sites in the US. Over the last five years it has grown its manufacturing revenue organically and by acquisition by 12% per annum to £74 million, just over half of the Group's manufacturing.

As the footprint in the US grows the Group seeks to produce more in the US for domestic use, importing less from other locations. Export sales from the US, particularly to the Middle East and Asia, form an important part of each division's sales.

UK and Europe

Phased investments in the UK and Europe:

The acquisition of Royal Dahlman in 2019 increases the Group's footprint in Continental Europe giving the Aerospace & Industrial division new capabilities in the oil and gas sector and providing new routes to market particularly in the Benelux region. Rohasys, acquired in 2017, has accelerated the Laboratory division's drive into robotic automation for laboratories.

Asia

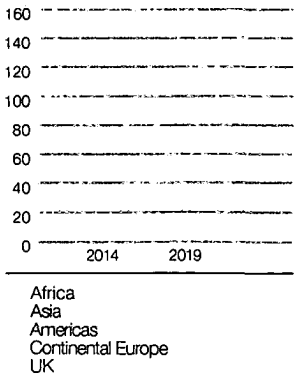
The Group continues to build its presence in Asia:

The Chinese government's 'China 2025' drive to increase domestic high value manufacturing should raise the quality requirements of domestic aluminium cast houses. This offers opportunities for the Group's Metal Melt Quality plant in Xiaogan for its high quality filtration solutions. The plant has had significant investment over the last five years and operates to the equivalent high standards of safety and quality as those met in the US.

Revenue growth by region

Revenue growth coming from the US and Continental Europe (£m)

Revenue growth since 2014 has predominantly been in the US and Continental Europe.



Market overview

The Group is positioned to benefit from global megatrends: population growth; climate change; regulatory compliance; and manufacturing efficiency.

Global trends and challenges

Population growth

Global population is expected to increase to 8.5 billion by 2030, which will increase demand for clean water and energy. In tandem, a growing middle class, particularly in Asia, will drive growth in aviation passenger air miles.

(Source: United Nations Sustainable Development Report)

Climate change and waste

Environmental issues, including climate change and plastic waste, are challenging all businesses globally. Our products are used to reduce emissions. Our aluminium filters help in the conversion of plastic to 100% recyclable aluminium.

Increasing regulatory compliance: emissions

Governments, regulatory authorities and businesses are mandating tighter standards of environmental cleanliness; product performance; testing regimes; and product quality. For filtration specialists this is an opportunity.

Improved manufacturing efficiency

Improved process efficiency and performance is a key driver to reduce waste and improve energy efficiency. Developments in our filtration and separation technologies help drive manufacturing efficiency; increase the accuracy of analytical tests; and provide cleaner emissions.

The markets we serve

Aerospace

Industrial

Laboratory

Metal Melt Quality

Global trends including: tighter environmental regulations; growth in analytical science; the expansion of air travel; the replacement of plastic by aluminium; and the drive for manufacturing process efficiency offer opportunities for which the Group seeks differentiated product developments.

Growing sustainably/ Our strategic approach

We focus on markets which have long term growth potential; clear product regulation requirements; and require strong engineering or technical skills. Many of the products developed by Porvair are used to the benefit of the environment and wider society and we recognise that our operations can make an important contribution to a more sustainable world.

We seek markets with robust demand drivers and where we can maintain barriers to entry through our specialist design and engineering skills, patent protection and quality accreditation.

Many of the Group's products are consumable; have long lifecycles; and are essential for safety or reliability. Our products and services are often bespoke.

We continue to invest in research and development to provide innovative products that solve the challenges our customers face and provide Porvair with further opportunities for growth.

Aerospace

The Group is a leading specialist in the design and manufacture of filtration components and assemblies for the aerospace industry. Our products are specified on most of the world's commercial airframes mainly in fuel systems, hydraulic systems and coolant systems.

Key trends and growth drivers

The Group's aerospace business supplies parts for new aircraft and for maintenance spares.

Growth drivers include:

- Aircraft new build rates
- The frequency of maintenance schedules
- New airframes and engines
- Retrofit programmes

All of these are driven by the global demand for air travel, measured in passenger miles flown and the constant drive to reduce energy consumption per passenger. Long term growth rates for passenger miles flown are around 4.7% per annum.

Our niche positions

The Group provides a wide range of aerospace filters but has particularly strong niche positions in:

- Fuel tank inerting
- Coolant systems for aircraft control systems
- Fuel line and hydraulic filters

Our competitive advantage

The Group has a long track record of design engineering skills using a wide range of filter media. It has a large installed base of bespoke filters, whose designs are owned by the Group.

Our recent new products

The Group's larger new aerospace products include filters for:

- Fuel tank inerting
- Boeing 787 coolant systems
- A range of Airbus A350 applications
- A range of Airbus New Engine Option applications

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Growing sustainably/Case Study

Meeting the demands and challenges of long term aviation growth.

More air travel drives demand for new generation aircraft. Both airlines and passengers are increasingly demanding more cost-effective journeys that are quieter and more environmentally friendly. To achieve this, aircraft need to incorporate innovative products, materials and new advanced manufacturing capabilities.

Porvair's expertise: Our filters are embedded in new airframes and engines
Our filters are found in almost all airframes and engines, contributing to the safe operation of aircraft fuel, hydraulics and cooling systems. As the industry demands lighter and more efficient filtration systems our designs evolve to incorporate better filtration technology in packages of more complex assemblies. New airframe designs or significant upgrades to existing airframes and engines present opportunities for the Group to deliver improved filtration technology packages.

6 billion

—

'The number of people expected to fly annually by 2030'.

Source: Rolls Royce

-75%

—

'Reduction in CO_2 per passenger KM* across the aerospace sector by 2050 targeted by European Commission's *Flightpath 2050 Vision for Aviation*'.

* Relative to the capabilities of typical new aircraft in 2000. Source: Rolls Royce

Market overview continued

Industrial

The Group provides filtration solutions for energy and industrial process applications. Our filters are to be found in many of the harshest industrial environments. Applications include high temperature gas filtration and the containment of waste nuclear material.

Key trends and growth drivers

The Group has a wide industrial filtration range, with a particular expertise in nuclear containment and gasification filtration.

Growth drivers include:

- Gasification build rates
- Maintenance schedules
- Nuclear clean-up
- Energy efficiency and security

Our niche positions

The Group has niche expertise in:

- Hot gas and gasification filtration
- Pulse jet filtration systems
- Nuclear containment filtration
- Ballast water filtration
- FCC slurry oil filtration
- Microelectronics manufacturing filtration

Our competitive advantage

The Group has a long track record of design engineering skills using a wide range of filter media. It has a large installed base of bespoke filters, whose designs are owned by the Group.

Our recent new products

Significant products include:

- A new high strength HEPA filter for the US nuclear industry
- Filters for use in maritime ballast water applications
- Petrochemical slurry oil and flue gas filters

SO_x emissions

—

'Limiting SO_x emissions from ships will improve air quality and protects the environment'.

Source: IMO

Growing sustainably/Case Study

Meeting global IMO regulations for ballast water and bunker fuel to protect our oceans and reduce air pollution.

International shipping transports more than 80 per cent of global trade to peoples and communities all over the world.

Ballast water may be taken onboard by ships for stability and can contain thousands of aquatic or marine microbes, plants and animals, which are then carried across the globe.

10 billion tonnes

'The amount of ballast water transported by global shipping per year'.

Source: IMO

Untreated ballast water released at a ship's destination could potentially introduce invasive marine species. Hundreds of such invasions have already taken place, sometimes with devastating consequences for the local ecosystem.

Large ocean-going ships tend to use bunker fuel, the world's dirtiest diesel fuel. New global rules for shipping to cut sulphur pollution are due to come into force in 2020. This will significantly reduce the amount of sulphur oxides emanating from ships and should have major health and environmental benefits for the world, particularly for populations living close to ports and coasts.

Porvair's expertise: Advanced filters for shipping
Porvair has designed a range of ballast water filters, which prevent organic material from re-entering the ocean when ballast water is pumped out. These systems are required on all large ships to meet IMO ballast water regulations.

Porvair, through its newly acquired subsidiary, Royal Dahlman, has an expertise in the filtration involved in FCC slurry oil filtration systems, which remove catalyst fines from the oil. These systems are part of the oil industry response to the requirement to provide ships with cleaner bunker fuel to meet the emerging IMO regulations.

Market overview continued

+10%

'Spending on health is growing faster than the rest of the global economy, accounting for 10% of global gross domestic product (GDP)'.

Source: WHO

1.4 billion

'By 2030, the number of people aged 60 years and over worldwide will have increased to 1.4 billion, placing growing demand on analytical science'.

Source: WHO

Laboratory

The Group designs and manufactures a range of equipment for use in laboratories. Seal Analytical is a global leader in the manufacture of laboratory based instruments and robotics for clean water analysis. Porvair Sciences produces a broad range of laboratory microplates, tubing and associated consumables used in sample preparation and chromatography applications.

Key trends and growth drivers

The market for clean water and environmental testing is growing throughout the world as more of the world's population seeks access to clean water and environmental regulations tighten. The market for sample preparation is increasing as lower cost analytical instruments become more widely used and the need for more accurate analysis grows.

Growth drivers include:

- Regulated water testing
- Analytical science
  - Detection limits
  - Falling costs per test
  - Automation

Our niche positions

The Group has niche expertise in:

- Clean water analysis
- Environmental laboratory robotics
- Sample preparation: filtration and separation
- The filtration of genetic material
- Chromatography consumables

Our competitive advantage

The Group's Laboratory businesses benefit from design protections on equipment; a broad range of approved methods and the customer qualifications of a large and loyal customer base.

Its porous plastics are protected by intellectual property and related patents.

Our recent new products

The Group continues to broaden its range of water analysis equipment with the first sales of the AA500 in 2019.

JGF and Rohasys bring a broad product range of laboratory consumables and automation particularly focused on sample preparation and chromatography.

Growing sustainably/Case Study

Delivering innovative filtration of genetic materials

Epigenetics is the study of genetic expressions. Scientists are unravelling the mechanisms controlling epigenetics, and have discovered that chemical modifications to proteins and DNA change the epigenome. Epigenetics is one of the fastest growing fields of research for therapeutic development in autoimmune, inflammatory, neurological and metabolic diseases.

Porvair's expertise: Growing demand for sample preparation and testing
Porvair has developed Chromatrap®, a disruptive chromatin isolation platform technology based on a range of products that isolate DNA fragments for downstream analysis. Chromatrap® is particularly useful for small genetic samples. The immunoprecipitation technique used requires filtration technology proprietary to Porvair.

Metal Melt Quality

The Group's Metal Melt Quality division specialises in the design and manufacture of filters for molten metal. The Group provides patent protected filters for: the aluminium cast house industry; the filtration of gray and ductile iron, mainly in the US; and the filtration of super alloys used in the manufacture of turbine blades.

Key trends and growth drivers

Aluminium consumption has grown steadily over 30 years, driven by the growth in aerospace, the light weighting of vehicles, and more recently the replacement of plastic packaging.

US car and light truck production is a proxy for the demand for iron foundry. Production fell in 2019.

Industrial and aerospace turbine blade demand is driven by aviation passenger miles and the demand for electricity generated by gas turbines

Growth drivers include:

- Aluminium consumption
- US auto and light truck production
- Increased use of high grade and exotic alloys
- Expansion in China

Our niche positions

The Group has a high market share of:

- The global market for cast house aluminium filters
- The North American market for gray and ductile iron filters
- The global market for exotic alloy filters

Our competitive advantage

The Group's competitive advantage comes from its metallurgical and ceramics expertise, which enables the Group to develop differentiated and patent protected filters.

Our recent new products

The division's principal products are all patented.

The principal products are:

- Selee CSX™ for aluminium filtration
- Selee IC™ for gray and ductile iron filtration
- Selee SA™ for high grade alloys

The division continues to develop range extensions of these products. In 2019 the Group broadened its customer base for ceramic 3D printed filters for the super alloy market.

Growing sustainably/Case Study

Meeting the growing demand for stronger, light-weight and sustainable metals.

As the world strives for a more fuel efficient and recyclable future, aluminium is a big part of the solution. Light-weight, strong and highly recyclable, value-added aluminium products can lower energy costs and reduce plastic consumption in dozens of applications. Nearly 75% of all aluminium ever produced is still in use today. From light weighting vehicles and aircraft to replacing plastic packaging, aluminium is part of a sustainable future.

Porvair's expertise: World-leading aluminium cast house filtration

Filtration is a critical step in the production of high grade aluminium. Porvair's CSX™ filters deliver a better environmental profile and improved filtration compared with the competition with lower risk of inclusions passing into the metal. Inclusion free metal is essential in challenging aerospace and packaging applications which require high purity aluminium.

90%

—

'Recycling aluminum saves more than 90% of the energy needed to make new aluminum'.

Source: US Aluminum Association

100% recyclable

—

'Aluminium is a 100% recyclable and sustainable metal'.

Source: US Aluminum Association

Chairman's statement

"Over the last ten years the Group has delivered compound annual growth in revenues of 10%. Record results in 2019 demonstrate the benefits of Porvair's strategy. The Group is looking forward with confidence."

John Nicholas Chairman

+13%
Revenue up 13% to £144.9 million (2018: £128.8 million).

+9%
Adjusted profit before tax up 9% to £14.8 million (2018: £13.5 million).

23.6p
Basic earnings per share up 7% to 23.6 pence (2018: 22.1 pence) **per share.**

25.3p
Adjusted basic earnings per share up 10% to 25.3 pence (2018: 22.9 pence) **per share.**

4.9p
Dividend increased by 7% to 4.9 pence (2018: 4.6 pence) **per share.**

Introduction
I am pleased to report that Porvair continues to make progress against its financial and strategic objectives.

Results
Revenue in the year to 30 November 2019 increased 13% to £144.9 million (2018: £128.8 million). Operating profit increased to £14.8 million (2018: £12.9 million) and adjusted operating profit rose by 9% to £15.6 million (2018: £14.3 million). Basic earnings per share increased to 23.6 pence (2018: 22.1 pence) and adjusted earnings per share increased to 25.3 pence (2018: 22.9 pence), an increase of 10%. These are record results for the Group.

Record revenue in the Aerospace & Industrial division and improved margins in the Metal Melt Quality division have driven the improved performance.

On 4 September 2019 the Group purchased 100% of the share capital of Dahlman Industrial Group B.V. ("Royal Dahlman"), a Netherlands based company. Royal Dahlman brings engineering expertise in petrochemical emissions control applications where regulations are expected to tighten. It also has excellent routes to market in Benelux and Northern Europe for industrial filtration through which the combined business can offer a much wider product range. Royal Dahlman has a strong and experienced management team who will lead the division's expansion in Europe.

Cash generated from operations was £16.8 million (2018: £15.3 million). After deducting interest and tax, net cash generated from operating activities was £13.2 million (2018: £12.6 million). £14.1 million (2018: £13.5 million) was invested in acquisitions and capital expenditure for future growth. At 30 November 2019 the Group had net cash on hand of £4.0 million (2018: £6.6 million). The Company has £19.2 million (2018: £19.5 million) of distributable reserves at 30 November 2019.

Dividends
The Board has grown the dividend every year for the last ten years and re-affirms its progressive dividend policy. The Board recommends an increased final dividend of 3.2 pence per share, a cost of £1.5 million. (2018: 3.0 pence per share, a cost of £1.4 million). The full year dividend increased by 7% to 4.9 pence per share, a cost of £2.2 million (2018: 4.6 pence per share, a cost of £2.1 million).

Governance
The Board sets high standards for its corporate governance and expects steady and continuous improvement in the Group's governance procedures. It has in place monitoring systems to ensure that standards are upheld throughout the Group. The Board complied with all aspects of the UK Corporate Governance Code published in 2016 throughout the year ended 30 November 2019, with the exception of fixed terms of employment for Non-Executive Directors, noting instead that all of the Directors offer themselves for re-election at each Annual General Meeting.

The Porvair Board recognises the importance of effective corporate governance in supporting the long term success and sustainability of our business.

The 2018 UK Corporate Governance code applies to the Group from 1 December 2019. The impact on the current financial year and the Group's compliance will be disclosed in full in the Report and Accounts for the year ending 30 November 2020.

Developments in 2019
In 2019 the Group has:

- Continued refinement of the approach to financial risk and internal controls. We have introduced additional executive review processes and have used PricewaterhouseCoopers LLP to provide internal audit services in China.
- Carried out extensive preparations to be ready for the implementation of the new Corporate Governance Code, which will apply to the Group for the first time from 1 December 2019.

Board changes
In June we were pleased to welcome Jasi Halai to the Board. Jasi is Financial Controller and Operating Officer for 3i plc. She has joined the Audit, Remuneration and Nomination Committees. Paul Dean, currently Senior Non-Executive Director and Chair of the Audit Committee, will step down from the Board following the publication of these results. Paul has been an outstanding Non-Executive Director of Porvair since 2012 and we are most grateful for his many contributions. Sally Martin will become Senior Non-Executive Director and Jasi Halai will chair the Audit Committee.

Staff
Porvair prides itself on its people and their ability to provide innovative solutions for our customers. We seek to promote equal opportunities and diversity; provide career opportunities through training and engagement; and operate with due regard for human rights and local laws. During the year we welcomed the staff of Royal Dahlman to the Group. We are delighted to be working with them. We recognise that Porvair's success is largely due to the skill and commitment of its staff, to whom we offer our sincere thanks.

Current trading and outlook
These results demonstrate the benefits of Porvair's strategy. Some segments have grown in 2019, others have maintained momentum through operational improvements. 2020 is likely to be similar but the Group's fundamentals are robust. Over the last ten years, Porvair has delivered revenue growth of 162% (10% CAGR). The Group is positioned to benefit from global trends: tighter environmental regulations; growth in analytical science; the expansion of air travel; the replacement of plastic by aluminium; and the drive for manufacturing process efficiency. These trends offer opportunities for which the Group develops differentiated products. Trading in 2020 has started well, order books are healthy and investment plans are on track. Recent acquisitions are trading as expected. The Group is looking forward with confidence.

John Nicholas Chairman
31 January 2020

Governance

The Board recognises the importance of effective corporate governance in supporting the long term success and sustainability of our business. We try to plan for the long term, upholding ethical standards and requiring integrity and accountability from management.

2018 UK Corporate Governance Code
The 2018 UK Corporate Governance Code (the 2018 Code) applies to the Group from 1 December 2019.

The 2018 Code contains a number of new provisions which primarily focus on corporate culture, stakeholder engagement (with specific provisions on workforce engagement, remuneration and succession).

The Group has made plans accordingly, and the Group's compliance will be disclosed in full in the Report and Accounts for the year ending 30 November 2020.

The ongoing success of the Group depends on developing and maintaining open and strong relationships with all our key stakeholders.

Stakeholder engagement: **page 42**

Board of Directors: **page 50**

Chairman's introduction to governance: **page 51**

Chief Executive's report

"Porvair follows a clear strategy and straightforward business model. Market fundamentals are driven by global megatrends as set out on page 4 of this report. We see plenty of opportunity ahead."

Ben Stocks Group Chief Executive

+13%

Revenue up 13% to £144.9 million
(2018: £128.8 million).

£16.8m

Cash generated from operations
(2018: £15.3 million).

£14.1m

Invested in capital expenditure and acquisitions
(2018: £13.5 million).

Divisional performance: **pages 20 to 25**

Market overview: **pages 04 to 13**

Overview of 2019

Financial highlights 2019

	2019 £m	2018 £m	Growth %
Revenue	**144.9**	128.8	13
Operating profit	**14.8**	12.9	15
Adjusted operating profit*	**15.6**	14.3	9
Adjusted profit before tax*	**14.8**	13.5	9
Profit before tax	**14.0**	12.0	16
Adjusted earnings per share*	**25.3p**	22.9p	10
Earnings per share	**23.6p**	22.1p	7
Cash generated from operations	**16.8**	15.3	9
Net cash	**4.0**	6.6	

*See note 2

Revenue growth was 13% (10% at constant currency). Strength in Aerospace & Industrial was partially offset by a slower start to the year in markets affected by global trade disturbances.

Profit before tax rose 16%. Adjusted (see note 2) profit before tax rose 9% and adjusted earnings per share increased 10% to 25.3 pence. The Group invested £14.1 million (2018: £13.5 million) in acquisitions and capital expenditure in 2019.

The Group's five and ten year record for growth, cash generation and investment is as follows:

	5 years CAGR	10 years CAGR
Revenue growth	7%	10%
Earnings per share growth	10%	31%
Adjusted earnings per share growth	12%	25%
	£m	£m
Cash from operations	71	123
Investment in acquisitions and capital expenditure	51	70

Corporate social responsibility

The Board recognises that responsible and sustainable business development is essential for creating long term value for stakeholders. Most of the products made by Porvair are used to the benefit of the environment. Our water analysis equipment measures contamination levels in water. Industrial filters are typically needed to reduce emissions or improve efficiency. Aerospace filters improve process reliability. Nuclear filters confine fissile materials. Metal Melt Quality filters reduce waste and help improve the strength to weight ratio of metal components. Our manufacturing facilities have limited emissions and we aim to reduce carbon intensity each year.

A full Corporate Social Responsibility report is set out on pages 43 to 48.

We have a consistent strategy and business model and our strategic objectives provide a clear focus both in running our core operations and developing new opportunities.

Strategy and business model

Our strategy

Porvair's strategy is to generate shareholder value through the development of specialist filtration and associated environmental technology businesses, both organically and by acquisition. Such businesses have certain key characteristics in common:

- Specialist design or engineering skills are required;
- Product use and replacement is mandated by regulation, quality accreditation or a maintenance cycle; and
- Products are typically designed into a system that will have a long life-cycle.

This strategy continues to work well for the Group, which, from a position of relative financial strength, invests in both organic and acquired growth, as appropriate.

Business model outline

We operate in attractive niche markets and our strategy is designed to respond to the challenges and opportunities in each sector. Porvair's extensive industry know-how, engineering capabilities and strong customer relationships ensure we are well positioned:

- Our customers require filtration or emission control products that perform to a given specification.
- Orders are won by offering the best technical solutions for these requirements at an acceptable commercial cost.
- Filtration expertise is applicable across all markets with new products often being adaptations of existing designs.
- Experience in specific markets or applications is valuable in building customer confidence. Domain knowledge is important, as is deciding where to direct resources.

Our business model has five principles:

1

Focus on markets where we see long term growth potential.

We focus on three operating segments: Aerospace & Industrial; Laboratory; and Metal Melt Quality. All have clear structural growth drivers.

Structural growth drivers

- Population growth.
- Environmental and emissions regulations.
- Growth in analytical sciences.
- Manufacturing process quality and efficiency.

2

Look for applications where product use is mandated and replacement demand is regular.

Our products typically clean, or confine emissions to protect complex downstream systems and are replaced regularly. A high proportion of our annual revenue is from repeat orders.

Repeat orders

- Aviation filters are replaced as part of regular maintenance checks.
- Metal melt filters are replaced after each use.
- Sample preparation filters used in analytical sciences are replaced after each use.

3

Make new product development a core business activity.

Through a focus on new product development, we aim to generate growth rates in excess of the underlying market. Where possible, we build differentiation and intellectual property around our product developments.

Robust intellectual property

- Around 20% of revenues are covered by patents.
- Most individual filtration products require process qualification.
- All aviation filters have design accreditation.

4

Establish geographic presence where end-markets require.

Our geographic presence follows the markets we serve. In the last twelve months: 50% of revenue was in the Americas; 23% in Asia; 15% in Continental Europe; 11% in the UK; and 1% in Africa. The Group has plants in the US, UK, Germany, the Netherlands and China. In the last twelve months, 52% of revenue was manufactured in the US, 35% in the UK, 9% in Continental Europe and 4% in China.

Geography

- Most aviation engineering is done in the US and EU, with China and Brazil also active.
- Water cleanliness regulation is currently active in the EU, US and China.
- Most higher grades of aluminium are smelted in the US and EMEA, but China is developing quickly.

5

Invest in both organic and acquired growth.

We aim to meet dividend and investment needs from free cash flow and modest borrowing facilities. In recent years we have expanded manufacturing capacity in the UK, Germany, US and China and made several acquisitions. All investments are subject to a hurdle rate analysis based on strategic and financial priorities.

Key developments

- Over the last five years the Group has delivered £71 million in cash from operations and invested £51 million in capital expenditure and acquisitions.
- In 2019 the Group generated £16.8 million in cash from operations and invested £14.1 million in acquisitions and capital expenditure.
- Royal Dahlman was acquired in September 2019 for £7.0 million.

Chief Executive's report continued

How we create, protect and deliver value for all our stakeholders

- Align to long term global megatrends
- Strong market positions in attractive niches
- Strong technological and engineering capabilities
- Long term customer relationships
- High quality and differentiated products and solutions
- Capacity platform for future growth
- Financial strength and discipline

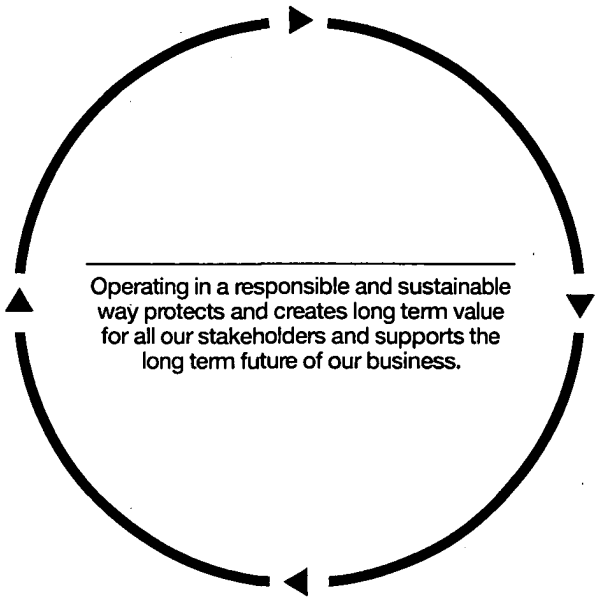
Invest/

We deploy capital in areas where we identify the greatest strategic benefit and financial return, whilst maintaining relatively low levels of financial risk in the Group. Expansion of our operations has enabled the Group to increase its range of products and improve quality and delivery performance.

Develop/

New product development continues to be a core activity for the Group. We undertake it to generate growth rates in excess of the underlying market.

We aim to innovate and develop new products to realise growth opportunities.



Grow/

The long term fundamentals of our business and the markets we serve are positive, and we have a robust and sustainable business model. Our balance sheet continues to be strong, allowing us to invest in further growth opportunities.

Strengthen/

Organic growth generates the financial and business resources we need to fund strategic acquisitions. We acquire businesses that add complementary technologies and products, expand our geographic footprint, extend our expertise into new filtration markets and leverage our existing scale and infrastructure.

Customers

We aim to differentiate our products and enhance the range of capabilities and solutions we can offer to both new and existing customers.

- Innovative solutions
- High product quality
- Research & development
- Differentiated products
- Commitment to service and solving our customers' challenges

Shareholders

Our focus on cash generation enables us to reinvest in the business to: drive growth; generate attractive returns; and deliver a progressive dividend.

- Dividend growth
- EPS increase

Employees

We recognise the value our people contribute to our culture and collective success.

- Workplace engagement
- Development & equal opportunities
- Training
- Robust Health & Safety
- Employee diversity
- Loyalty
- Retention

Communities & Environment

We understand our role in the communities in which we operate and beyond.

- Creating a positive social impact in the local communities in which we operate
- Many of Porvair's products are used to the benefit of the environment and wider society

Measuring performance

Key performance indicators: pages 32 to 34

Managing risk

Principal risks and uncertainties: pages 35 to 40

Sound governance

Governance: pages 49 to 77

Operating responsibly

CSR report: pages 43 to 48

Stakeholder engagement

Stakeholder engagement: page 42

Aerospace & Industrial/ Meeting the growing demand for cleaner, safer and more efficient manufacturing operations.

Performance summary

- 28% revenue growth
- £11m of gasification spares delivered
- Maritime emissions control strong
- Microelectronics and some US industrial demand lower

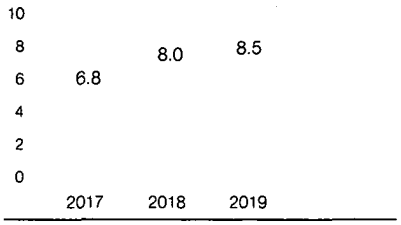
2020 outlook

- Strong aerospace order book
- Royal Dahlman integration benefits
  - Slurry oil emissions
  - European distribution

"Our divisional strategy focuses on building, maintaining and enhancing closer customer relationships."

Adjusted operating profit* (£m)

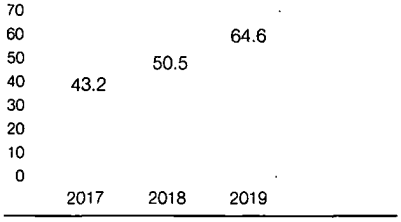
£8.5m
(2018: £8.0m)



*See note 2

2019 Revenue (£m)

£64.6m
(2018: £50.5m)



Advanced water filtration for the oil and gas industry

Across industrial, marine or resource drilling applications, Porvair is helping to ensure the world's industries have access to the most advanced filtration solutions.

Differentiation is achieved through design engineering; the development of intellectual property; and quality accreditations.

The next generation A320neo (new engine option) is one of many upgrades introduced by Airbus to help maintain the A320's position as the world's most advanced and fuel-efficient single-aisle aircraft family.

Financial highlights 2019

	2019 £m	2018 £m	Growth %
Revenue	64.6	50.5	28
Operating profit	8.2	7.7	6
Adjusted operating profit*	8.5	8.0	6

*See note 2

Performance in 2019

The Aerospace & Industrial division designs and manufactures a wide range of specialist filtration products, demand for which grows as aerospace and industrial customers seek cleaner, safer or more efficient operations. Differentiation is achieved through design engineering; the development of intellectual property; and quality accreditations.

Revenue increased by 28% (26% at constant currency). Within the market segments served however, demand across the year was mixed. Shipments of spares for gasification accounted for revenue of £10.9 million (2018: £1.9 million). As noted previously, sales of these filters should repeat but will not be regular and are not expected to approach such levels in 2020. Aerospace offers more consistent growth, up 15% in the year, with demand driven by new work with Boeing, Bombardier and in fuel system inerting products. In the US, demand for marine emissions control filters was robust, with new regulations issued by the International Maritime Organization requiring tighter standards for the disposal of ballast water. These stronger areas were offset by weakness in microelectronics and certain US general industrial customers affected by US/China trade issues.

Investments were made to expand the plant in Boise, ID; to increase machining capacity in the UK; and in manufacturing productivity improvements across the division.

In September 2019 the Group acquired Royal Dahlman. Based in the Netherlands, Royal Dahlman specialises in industrial filtration and has particular expertise in certain petrochemical applications for which emission standards are expected to tighten. The business also offers well established routes to market in Benelux and Northern Europe, through which the combined business can offer its wider product range. It has been integrated into the division and traded as expected since acquisition.

Increase in demand for higher levels of performance and quality

A feature common to all our customers across the Aerospace & Industrial division is the increasing demand for higher levels of performance and quality. Whether in regulated markets or not, our products are inspected and tested as part of the manufacturing process. We make increasing use of automated inspection equipment to tighten measurement tolerances and speed up the inspection process.

Chief Executive's report continued
Divisional performance

Laboratory/ Meeting the growing demand for clean water and accuracy in analytical science.

Performance summary

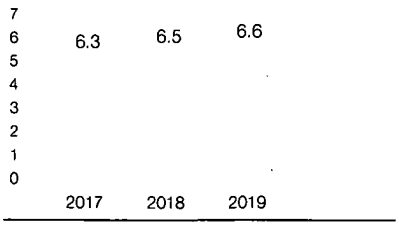
- Porvair Sciences up 9%
- Seal Analytical revenue flat

2020 outlook

- Seal AA500 and minilabs growing
- Bioscience new capacity
- JG Finneran new capacity
- Sample preparation products: coatings, plates and applications

Adjusted operating profit* (£m)

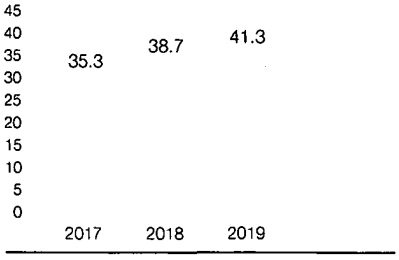
£6.6m
(2018: £6.5m)



*See note 2

2019 Revenue (£m)

£41.3m
(2018: £38.7m)



"Our divisional strategy focuses on new product development in analytical and bioscience technology."

Quality clean room manufacture and customer service

As Bioscience applications become a more important part of our growth we have invested in people, laboratories and clean rooms in the US and UK.

This division serves the analytical laboratory market, where increasing availability of smaller automated instruments and the growing requirement for ever improving detection limits drives demand for sample preparation and testing.

Above: Rohasys samplers are now specified as standard equipment for use with Seal analysers.

Financial highlights 2019

	2019 £m	2018 £m	Growth %
Revenue	43.7	41.2	6
Inter segment revenue	(2.4)	(2.5)	
External revenue	41.3	38.7	7
Operating profit	6.4	6.2	2
Adjusted operating profit*	6.6	6.5	2

*See note 2

Performance in 2019

The Laboratory division has two operating businesses: Porvair Sciences (including JG Finneran) and Seal Analytical.

- Porvair Sciences manufactures laboratory filters and associated consumables. Differentiation is achieved through proprietary manufacturing capabilities and filtration media.
- Seal Analytical is a leading supplier of instruments and consumables for environmental laboratories for which demand is driven by water quality regulations. Differentiation is achieved through consistent new product development.

Revenue in 2019 was up 6% with growth in Porvair Sciences offset by a flat year for Seal Analytical.

Porvair Sciences grew sales by 9% with demand increasing in most segments, supported by new filtration media products. Investments were made in production equipment and laboratory capability in the UK, where the patented molecular separation technology acquired in 2018 is being developed. These investments improved productivity and set-up times, and expanded laboratory capabilities, enhancing our ability to offer test facilities for customer-driven new product ideas. In the US, new clean room manufacturing capacity is being built in the Vineland, NJ plant.

Seal Analytical sales were flat, with demand from China affected by tariff changes, and lower production in the first half during the switch to the newest instrument platform, the AA500. Orders and shipments for this model increased through the second half, as did shipments of the complementary range of products made by Rohasys, the Dutch company acquired by the Group in 2017. Orders going into 2020 are healthy.

Investment in filtration media

In-line measurement, automatic visual inspection and high value capacity investments have enabled the division to maintain compliance with FDA, USP Class VI and European Pharmacopoeia statutory regulations. Vyon® materials can be manufactured free of any additives or release agents with the result that porous plastic materials have a level of purity readily compatible with even the most challenging laboratory, medical and healthcare applications.

Metal Melt Quality/ Meeting the need for clean molten metal to improve downstream products.

Performance summary

- Revenue down 6% at constant currency
- Global trade issues/US industrial slowdown
- Record US margins
- Growth in China and superalloys
- Productivity improvements

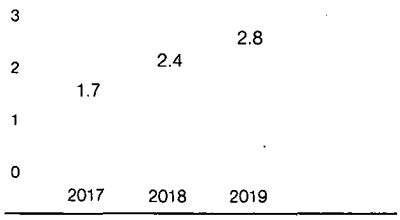
2020 outlook

- Growth in China
- Range and volume growth in ceramic 3D printing for Aerospace and IGT

"Our divisional strategy focuses on building market share using intellectual property and differentiated products."

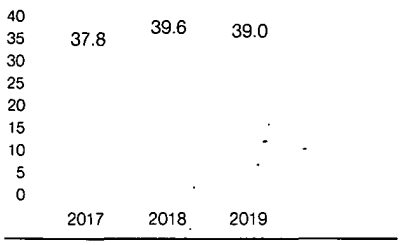
Operating profit (£m)

£2.8m
(2018: £2.4m)



2019 Revenue (£m)

£39.0m
(2018: £39.6m)



The Metal Melt Quality division has a well differentiated product range based on patented products.

Above: Our 3D manufactured parts are used in the manufacture of turbine blades for IGT power plants and aircraft engines.

Financial highlights 2019

	2019 £m	2018 £m	Growth %
Revenue	39.0	39.6	(2)
Operating profit	2.8	2.4	20

Performance in 2019
The Metal Melt Quality division manufactures filters for molten metal, specialising in aluminium, ductile iron and nickel-cobalt alloys. It has a well differentiated product range based on patented products.

Reported revenues were 2% lower, but fell 6% at constant currency, affected in the US by global trade issues in automotive, industrial and agricultural end markets. Revenue in China grew 5%, as did sales of the more specialist metal filtration products used in nickel cobalt alloys and investment casting. 2019 was therefore a more difficult trading year and it is encouraging to report that operating profits nevertheless increased by 20%, with the management team focused on productivity and manufacturing efficiency.

Progress with our proprietary 3D manufactured filters has been promising, with new customers added in the year, and our advanced ceramics business based in Illinois has had a strong year.

Losses in China reduced by 33% in constant currency, helped by increased local sourcing of raw materials. As a proportion of the Group's profits these losses are modest but improvement must continue. Chinese aluminium smelters are starting to look more carefully at their supply chains, prompted both by 25% tariffs on imported aluminium filters and the Chinese government's 'China 2025' quality and environmental improvement programme. This is encouraging, as only Porvair offers a phosphate-free filter to the market, but qualification processes are slower than we would like.

Developments in China

The Chinese government's 'China 2025' drive to increase domestic high value manufacturing should increase the quality requirements of domestic aluminium cast houses. This offers opportunities for the Group's Metal Melt Quality plant in Xiaogan for its high quality filtration solutions.

In the aluminium smelting process, phosphates can cause problems, including: reacting with certain alloys to contaminate the metal; reacting with water to release phosphine gas; and leaching out of spent filters in the waste stream. Only Porvair offers a phosphate-free filter to the market.

Finance Director's review

"Generating free cash flow is key to the Group's business model."

Chris Tyler Group Finance Director

Performance highlights

- **Adjusted operating profit up 9% to £15.6 million** (2018: £14.3 million)*.
- **£14.1 million invested in capital expenditure and acquisitions** (2018: £13.5 million).
- **Return on capital employed 14%** (2018: 15%)*.
- **Return on operating capital employed was 36%** (2018: 43%)*.

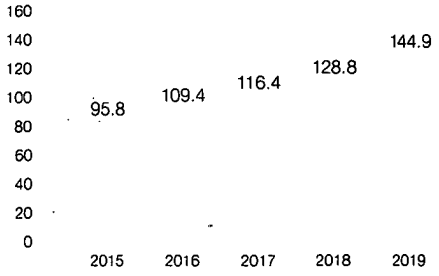
25.3p

Adjusted basic earnings per share up 10% to 25.3 pence (2018: 22.9 pence) **per share***.

*See notes 2 and 8 for definitions and reconciliations.

Turnover (£m)

£144.9m ↑ +13%



Group results

	2019 £m	2018 £m	Growth %
Revenue	**144.9**	128.8	13
Operating profit	**14.8**	12.9	15
Profit before tax	**14.0**	12.0	16
Profit after tax	**10.8**	10.0	7

Reported revenue growth was 13%, 10% at constant currency. 8% was generated from organic growth and 2% from acquisitions. Operating profit was £14.8 million (2018: £12.9 million) and profit before tax was £14.0 million (2018: £12.0 million). Profit after tax increased by 7% to £10.8 million.

Alternative performance measures – profit

	2019 £m	2018 £m	Growth %
Adjusted operating profit	**15.6**	14.3	9
Adjusted profit before tax	**14.8**	13.5	9
Adjusted profit after tax	**11.5**	10.4	11

The Group presents constant currency revenue measures and other alternative performance measures in note 2 to enable a better understanding of its trading performance. Adjusted operating profit and adjusted profit before tax exclude:

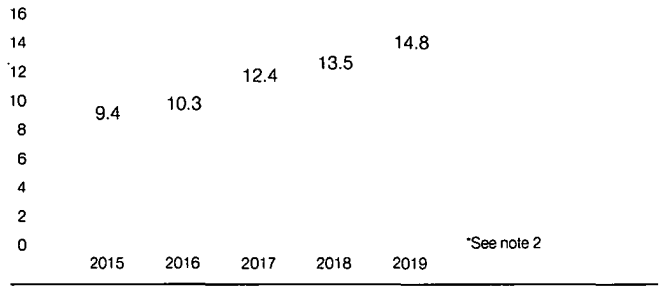
- The impact of acquiring businesses:
  - the amortisation of acquired intangible assets of £0.6 million (2018: £0.6 million); and
  - acquisition expenses and other adjustments charged to the income statement related to acquiring businesses of £0.3 million (2018: £0.1 million).
- Other items that are considered significant and where treatment as an adjusted item provides a more consistent assessment of the Group's trading. In the prior year, the adjusted operating profit and adjusted profit before tax included an exceptional charge of £0.8 million (2019: £nil). Following legal guidance, the benefits provided by the Group's defined benefit pension plan were enhanced in the prior year to equalise its guaranteed minimum pensions for men and women on benefits earned between 17 May 1990 and 6 April 1997.

Revenue growth captures our performance in the main tenets of our business model:

Meeting customer requirements | Developing new products | Expanding geographically | Making acquisitions

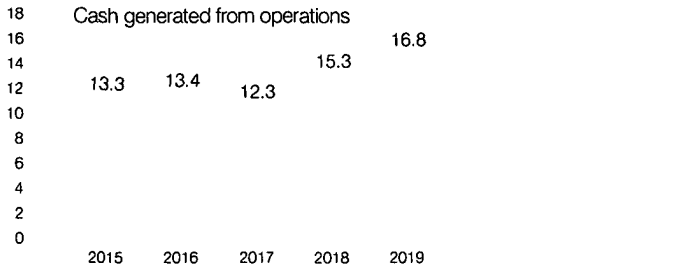
Adjusted profit before tax* (£m)

£14.8m ↑ +9%



Cash generation (£m)

£16.8m ↑ +9%



Adjusted profit after tax excludes the adjustments to profit before tax described above and, in the case of the prior year, excludes the tax effect of the adjusted items and an exceptional one off tax credit of £0.8 million (2019: £nil), reflecting a reduction in the Group's deferred tax liability from the change in US tax rates from December 2017 enacted in the US Tax Cuts and Jobs Act.

Group operating performance

Revenue growth was 13% (10% at constant currency) and adjusted operating profit growth was 9%. Adjusted operating margin was 10.8% (2018: 11.1%). Adjusted operating margins in the Aerospace & Industrial division were 13.2% (2018: 15.9%). Additional costs were incurred to meet the strong aerospace order book; operating profits fell in the two US plants associated with global microelectronics and US general industrial; and further amounts were provided for gasification warranty risks. Adjusted operating margins in the Laboratory division were 15.1% (2018: 15.8%), held back marginally by currency translation effects. Metal Melt Quality operating margins increased to 7.3% (2018: 6.0%). Improved operational efficiencies in the US increased margins to 11.3% (2018: 11.0%) and losses in China fell by 33%. Adjusted Central costs reduced to £2.4 million (2018: £2.6 million).

Impact of exchange rate movements on performance

The international nature of the Group's business means that relative movements in exchange rates can affect reported performance. The rate used for translating the results of overseas operations were:

	2019	2018
Average rate for translating the results:		
US $ denominated operations	**$1.27:£**	$1.34:£
Euro denominated operations	**€1.14:£**	€1.13:£
Closing rate for translating the balance sheet:		
US $ denominated operations	**$1.29:£**	$1.28:£
Euro denominated operations	**€1.17:£**	€1.13:£

A weaker Sterling average rate against the US dollar over the year increased reported revenues on translation by 3%.

In the year, the Group sold US$27.0 million (2018: US$17.8 million) at an average rate of US$1.28:£1 (2018: US$1.33:£1) and €3.5 million (2018: €3.9 million) at an average rate of €1.14:£1 (2018: €1.13:£1).

At 30 November 2019, the Group had US$9.9 million (2018: US$nil) of outstanding forward foreign exchange contracts, hedge accounting has been applied to US$8.6 million of these contracts. The Group had US$7.8 million (2018: US$6.2 million) of net current assets on the UK operations' balance sheet.

Impact of the adoption of IFRS 15

The Group has adopted IFRS 15 for the first time in the year ended 30 November 2019. The majority of the Group's transactions are unaffected by IFRS 15, however, when the standard is applied to specific customer contracts previously recognised under construction contract accounting (IAS 11), this leads to a difference in the timing of recognising revenue. The impact of the timing difference varies from contract to contract. In addition, certain companies provide installation services for goods shipped to customers as part of their sale of goods contracts. Having reviewed these installation contracts, there is a change in accounting required under IFRS 15 to defer the related revenue.

Comparatives for the year ended 30 November 2018 have not been restated. Instead, an adjustment to reduce retained earnings by £57,000 as at 1 December 2018 has been recognised in the opening retained earnings. On initial adoption at 1 December 2018 the Group recognised £8.2 million of provisions and eliminated deferred revenue of £7.7 million.

Had IFRS 15 not been adopted by the Group in the current year, revenue would have been £4.0 million higher and operating profit would have been £0.4 million lower.

Finance costs

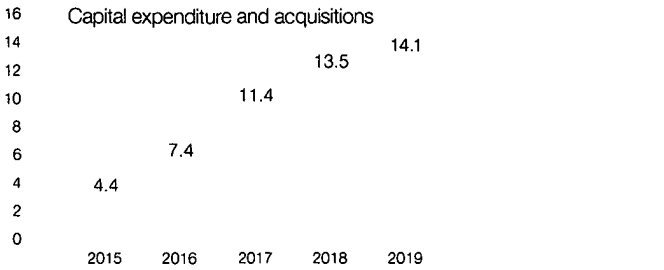
Net interest payable comprises bank borrowing costs, interest on the Group's pension deficit and the cost of unwinding discounts on provisions. Overall, it remained stable at £0.8 million (2018: £0.8 million). The defined benefit pension scheme interest cost was £0.4 million (2018: £0.4 million), bank interest and borrowing facilities non-utilisation fees were £0.3 million (2018: £0.3 million) and there was a charge of £0.1 million (2018: £0.1 million) for unwinding discounted provisions.

Interest cover was 19 times (2018: 17 times). Interest cover on bank finance costs was 45 times (2018: 44 times).

Finance Director's review continued

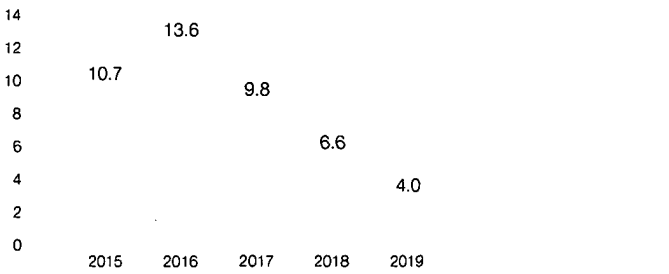
Investment (£m)

£14.1m ↑ +5%



Net cash (£m)

£4.0m



Tax

The Group tax charge was £3.2 million (2018: £2.0 million, after removing the adjusting items described in note 2 to the accounts, the Group's underlying tax charge was £3.1 million). This is an effective rate of 23% (2018: 24%), which is higher than the UK standard corporate tax rate of 19.0% (2018: 19.0%). The tax rate in the UK was lower than the standard rate because of tax relief on the exercise of share options. US tax was at an effective rate of 23% (2018: 23%). The Group tax rate was pushed up by profits made in Germany, which attract a 30% tax rate (2018: 32%). The Group has not taken a tax credit relating to the losses arising in China because it cannot be certain that the asset would be recovered, this has increased the tax rate by 2.0% (2018: 3.2%).

The tax charge comprises current tax of £2.6 million (2018: £2.7 million) and a deferred tax charge of £0.6 million (2018: credit of £0.7 million).

The Group has current tax provisions of £0.6 million (2018: £1.5 million). The current tax provision includes £1.2 million (2018: £1.0 million) for uncertainties relating to the interpretation of tax legislation in the Group's operating territories.

The Group carries a deferred tax asset of £2.4 million (2018: £2.3 million) and a deferred tax liability of £2.6 million (2018: £2.0 million). The deferred tax asset relates principally to the deficit on the pension fund and share-based payments. The deferred tax liability relates to accelerated capital allowances, capitalised development costs and other timing differences, predominantly arising in the US and acquired intangibles in the Netherlands.

Total equity and distributable reserves

Total equity at 30 November 2019 was £95.3 million (2018: £89.5 million, £89.4 million after adoption of IFRS 15), an increase of 7% over the prior year.

Increases in total equity arose from: profit after tax of £10.7 million (2018: £10.0 million); employee share option schemes net of tax of £0.7 million (2018: £0.4 million); and £0.6 million (2018: £0.1 million) arising on the proceeds of the issue of shares on share option exercises.

Reductions in total equity arose from: dividends paid of £2.1 million (2018: £2.0 million); purchases by the Employee Benefit Trust of the Company's own shares charged directly to equity of £0.6 million (2018: £0.4 million); a pension scheme actuarial loss (net of tax) of £2.3 million (2018: gain of £2.9 million); and exchange losses (net of tax) on translation of £1.1 million (2018: gain of £3.5 million). The Company had £19.2 million (2018: £19.5 million) of distributable reserves at 30 November 2019. The Company's distributable reserves increased in the year as a result of dividends received from other Group companies, offset by an actuarial loss, head office costs and dividends paid to shareholders.

Return on capital employed

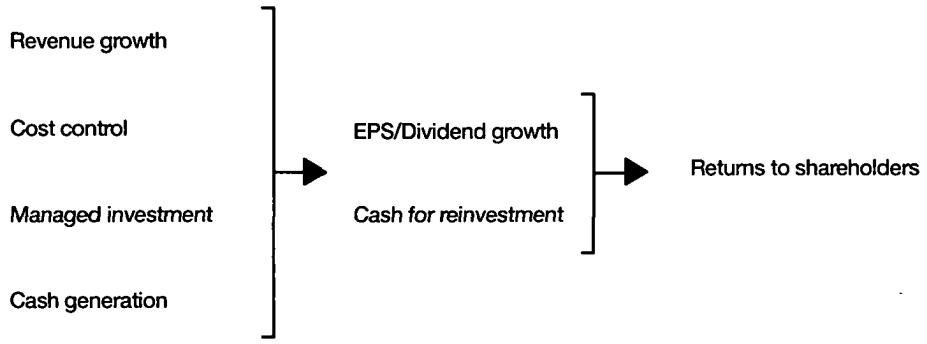
The Group's after tax return on capital employed of 14% (2018: 15%) gives a measure of the operating return the Group makes on all its invested capital. It fell slightly in the year as a result of acquiring Royal Dahlman in the final quarter of the year. The after tax return on operating capital employed of 36% (2018: 43%) gives a measure of the returns that the Group makes on its fixed assets and working capital. It fell in 2019, as a result of increases in inventories and trade receivables from strong trading in the final quarter and a good order book for the first quarter of 2020. The Group's divisions have post-tax weighted average costs of capital of between 7% and 8%.

Cash flow

The table below summarises the key elements of the cash flow for the year:

	2019 £m	2018 £m
Operating cash flow before working capital	**18.1**	17.0
Working capital movement	**(1.3)**	(1.7)
Cash generated from operating activities	**16.8**	15.3
Interest	**(0.3)**	(0.3)
Tax	**(3.3)**	(2.4)
Capital expenditure net of disposals	**(4.3)**	(4.5)
	8.9	8.1
Acquisitions	**(9.8)**	(9.0)
Dividends	**(2.1)**	(2.0)
Share issue proceeds	**0.5**	0.1
Purchase of EBT shares	**(0.6)**	(0.4)
Net cash decrease in the year	**(3.1)**	(3.2)
Exchange gains	**0.5**	–
Net cash at 1 December	**6.6**	9.8
Net cash at 30 November	**4.0**	6.6

Continuing to drive improved returns to shareholders



Generating free cash flow is key to the Group's business model and operating cash flow of £16.8 million (2018: £15.3 million) represented an 89% (2018: 88%) conversion rate of operating profit before depreciation and amortisation. Net working capital increased by £1.3 million (2018: £1.7 million), mainly arising in the Aerospace & Industrial division. A strong final quarter and purchases made for manufacture and delivery of the strong order book meant that receivables increased by £0.7 million (2018: £1.6 million) and inventories increased by £2.3 million (2018: £2.5 million). Payables and provisions increased by £1.7 million (2018: £2.4 million).

Provisions, contingent liabilities and performance bonds

At 30 November 2019, the Group had the following advanced payment bonds (relating to monies received in advance on contracts) and performance bonds issued to customers in US dollars and Euros:

	$'000	€'000
Performance bonds	8,534	638
At 30 November 2019	**8,534**	**638**

	$'000	€'000
Advanced payment bonds	2,360	–
Performance bonds	7,476	–
At 30 November 2018	9,836	–

US$8,478,000 (2018: US$7,476,000) of the performance bonds relate to the contracts for filtration systems provided for gasification projects. These projects are being commissioned, a process which is taking several years. The Group has provided its best estimate of the amount of any potential loss arising from rectification and claims arising on these contracts within the £9.5 million warranty provisions disclosed in note 20. The maximum potential unprovided exposure under these contracts is limited to £11.5 million. In December 2019, a US$930,000 performance bond was called by a customer, paid and cancelled. The uncalled performance bonds are expected to be called or released no later than March 2023.

Capital expenditure

Capital expenditure was £4.3 million (2018: £4.5 million) in the year. Expenditure was spread across each division: £0.6 million was spent on buildings and infrastructure including adding a further 20,000 square feet of space in the Laboratory division in the US; £3.3 million was spent on plant and machinery; £0.4 million specifically related to health and safety upgrades; £2.9 million related to capacity and productivity improvements; and £0.4 million was spent on intangible assets including software upgrades and intellectual property costs.

Acquisitions

£9.8 million was spent on acquisitions in the year. £6.8 million was spent to acquire Dahlman Industrial Group B.V. ("Royal Dahlman") to increase the Aerospace & Industrial division's expertise in petroleum filtration and engineering. The Company, based in the Netherlands, designs and builds filtration packages for oil and gas applications and distributes filters for industrial applications in the Benelux region. £3.0 million was paid to settle earn out payments in relation to Rohasys B.V. and J G Finneran Associates, Inc..There is up to £0.9 million, based on an earnout, to be paid over the next two years in relation to the acquisition of Rohasys.

Pension schemes

The Group supports its defined benefit pension scheme in the UK ("the Plan"), which is closed to new members, and provides access to defined contribution schemes for its other employees. A summary of the costs of pension provision is given below:

	2019 £m	2018 £m
Charged to operating costs:		
Defined contribution schemes	**2.1**	1.7
Defined benefit scheme	**0.6**	1.5
Pension protection levy	**0.1**	0.1
Total pensions charged to operating costs	**2.8**	3.3
Charged to interest payable:		
Defined benefit scheme	**0.4**	0.4
Total pensions charged to interest payable	**0.4**	0.4
Total pension costs	**3.2**	3.7

Finance Director's review continued

The Group's cash contributions paid to the Plan were £1.6 million (2018: £1.6 million).

The Group's net retirement benefit obligation was £14.5 million (2018: £12.4 million). The Plan's liabilities increased to £45.2 million (2018: £39.2 million). The Plan's assets increased to £30.8 million (2018: £27.0 million). There were a further £0.1 million (2018: £0.2 million) of non-Plan liabilities.

The actuarial loss in the year of £2.7 million (2018: gain of £3.6 million) was recognised in the statement of comprehensive income. The Plan's assets achieved an actuarial gain of £3.2 million (2018: loss of £1.4 million). The experience loss of £0.9 million (2018: £nil) relates to adjustments arising from the triennial valuation completed in the year. The actuarial loss on the liabilities of £5.0 million (2018: gain of £5.0 million) arose principally from changes to the discount rate used to value the Plan's liabilities and a change in the mortality assumption:

- The discount rate reduced from 3.0% to 1.95%, as a result of lower AA bond yields, which accounted for £5.9 million in increased liabilities.
- The mortality assumptions have been updated to incorporate the CMI 2018 Core Projection Model. This reduced the life expectancy of 65 year old women by 0.5 years and men by 0.4 years. The liabilities reduced by £0.9 million as a result.

The triennial actuarial valuation of the Plan determines the cash contributions that the Group makes to the Plan. A full actuarial valuation was completed in the year based on the Plan's position at 31 March 2018. Based on the valuation, the Group agreed to set the employer's contributions at 20.9% (previously 18.9%) of salary. The Group committed to making a £0.2 million annual contribution towards the running costs of the Plan from April 2019, which will increase by 3.5% per annum thereafter. The Group also committed to make additional annual contributions to cover the past service deficit of £1.6 million (previously £1.0 million) per annum from 1 December 2019 until 1 December 2028.

Borrowings and bank finance

At the year end, the Group had cash balances of £12.9 million (2018: £11.5 million) and borrowings of £8.9 million (2018: £4.9 million).

In 2017, the Group secured a five year revolving credit facility of €23 million (£20.4 million) with Barclays Bank plc and Handelsbanken plc. The facility has a margin over LIBOR of 1.5% and a non-utilisation fee of 0.4375%. The Group also has a £2.5 million overdraft facility provided by Barclays Bank plc. The financial covenants require the Group to maintain interest cover of 3.5 times and net debt to be less than 2.5 times EBITDA.

At 30 November 2019, the Group had net cash of £4.0 million (2018: £6.6 million), €13.3 million (£11.4 million) of unused facilities (2018: €17.3 million of unused facilities (£15.3 million)), and an unutilised overdraft facility of £2.5 million (2018: £2.5 million).

Finance and treasury policy

The treasury function at Porvair is managed centrally, under Board supervision. It seeks to limit the Group's trading exposure to currency movements. The Group does not hedge against the impact of exchange rate movements on the translation of profits and losses of overseas operations.

The Group finances its operations through share capital, retained profits and, when required, bank debt. It has adequate facilities to finance its current operations and capital plans for the foreseeable future.

Adoption of IFRS 16 in year ending 30 November 2020

The Group will adopt IFRS 16 in its accounts for the year ending 30 November 2020. The most significant impact identified will be that the Group's leases for property, plant and equipment will be brought on to the balance sheet as 'right-of-use assets'. This will result in around £14.3 million of additional fixed assets being recognised at 1 December 2019; around £14.8 million of discounted future lease commitments recognised as liabilities; and adjustments to eliminate rent prepayments, lease incentives, and onerous lease commitments. There is not expected to be any change to opening reserves.

The profile of expenses related to leasing arrangements will change. Straight line operating lease expenses will be replaced by a straight-line depreciation of the right-of-use assets and interest charges on lease liabilities, which follow a reducing-balance profile. Consequently, there will be earlier recognition of cost under IFRS 16 compared to the current treatment under IAS 17. If no additional leases are signed in the year ending 30 November 2020, then the overall impact on the Group's income statement for the year will be to reduce profit before tax by no more than £0.3 million. Over the lifetime of each lease there will be no change in the overall income statement impact or the cash paid out.

International Trade

50% of Group revenue is manufactured in the US and higher US tariffs have had an effect on trading. A few customers in the US and China have switched back to domestic suppliers, and the Group has both won and lost accounts as a result. The net effect has been small. The UK leaves the EU on 31 January 2020 with transitional arrangements coming into force until at least 31 December 2020. The Board does not expect the impact in the coming year to be significant. Until specific future EU trade arrangements become clear, a definitive statement of risks associated with the period after 31 December 2020 cannot be made. The Group has reviewed tariff categories that would apply to its products under WTO terms and has confirmed that its EU nationals staff have a right to remain in the UK. The Board notes that revenues between the UK and Continental Europe were less than 10% of total revenues in 2019.

Chris Tyler Group Finance Director
31 January 2020

Key performance indicators: **pages 32 to 34**

Principal risks and uncertainties: **pages 35 to 40**

Remuneration report: **pages 62 to 77**

Non-financial information statement

We aim to comply with the Non-Financial Reporting requirements contained in S414C of the Companies Act 2006. The table set out below, and the information it refers to, is intended to help stakeholders understand our position on key non-financial matters.

Reporting requirement	Policies and standards which govern our approach	Additional information
Stakeholder engagement	Summary statement	Page 42
Environmental matters	Environmental performance	Pages 46 and 47
Employees	Employee engagement	Page 44
	Whistleblowing policy	Page 58
	Health & Safety policy	Page 45
	Diversity policy	Page 44
	Training and development	Page 44
Human rights	Modern Slavery Act statement	Page 48
	Human Rights	Page 48
Social matters	Porvair in the community	Page 48
	Relationship with customers and suppliers	Page 48
Anti-corruption and anti-bribery	Anti-bribery and anti-corruption policy	Page 48
Description of principal risks and impact of business activity	–	Pages 35 to 40
Description of the business model	–	Pages 17 to 19
Non-financial performance indicators	–	Page 34

Key performance indicators

Measuring progress in improving financial performance and in embedding sustainable long term growth.

We align our KPIs with our strategy and use a number of financial and non-financial measures to track progress against it to create value:

1	2	3	4	5
Focus on markets where we see long term growth potential.	Look for applications where product use is mandated and replacement demand is regular.	Make new product development a core business activity.	Establish geographic presence where end-markets require.	Invest in both organic and acquired growth.

Financial KPIs – what we measure — Link to strategic objective

Revenue growth

1 2 3 4 5

Revenue growth captures our performance in the main tenets of our business model: meeting customer requirements; developing new products; expanding geographically; and making acquisitions.

Constant currency revenue growth presents a measure of the growth of the operations in their local functional currency.

Performance in 2019
The performance of the Group is explained in full in the Chief Executive's report.

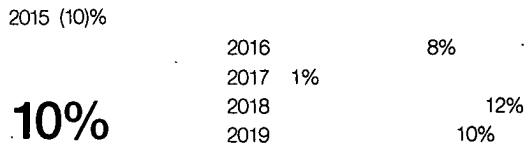
Revenue growth benefited from the weakness of Sterling compared with the US dollar.

In constant currency revenue growth was 10%. 26% growth in Aerospace & Industrial was offset by a 6% fall in revenue in Metal Melt Quality. Laboratory growth was 4%.

13%

Revenue growth at constant currency

10%



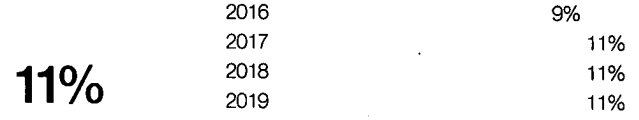
Adjusted operating margin

1 2 3

Operating margins demonstrate the Group's propensity to turn revenue into profits.

Performance in 2019
Overall adjusted operating margins fell slightly. Operating margins reduced in the Aerospace & Industrial division to 13.2% (2018: 15.9%). In the Laboratory division operating margins reduced to 15.1% (2018: 15.8%). Metal Melt Quality operating margins increased to 7.3% (2018: 6.0%).

11%



Variable remuneration of the Executive Directors is based on EPS growth and cash generation from operations. Senior management variable remuneration is based on cash generation from operations and longer term operating profit. Further details on remuneration policies and the metrics used to determine them are set out in the Remuneration Report.

We recognise that the management of risk has a key role to play in the achievement of our strategy and KPIs.

Strategy and business model: **page 17**

Principal risks and uncertainties: **pages 35 to 40**

Remuneration report: **pages 62 to 77**

Financial KPIs

Non-financial KPIs

Financial KPIs – what we measure

Link to strategic objective

Adjusted profit before tax growth

1 2 3

A measure of the profits of the business before corporation tax and excluding the items relating to acquisition costs, amortisation of intangible assets acquired on acquisition and other significant items which when excluded give a more consistent assessment of the Group's performance.

Performance in 2019
The performance is described in full in the Chief Executive's report and the Finance Director's review.

9%

2015	14%
2016	9%
2017	20%
2018	9%
2019	9%

Basic earnings per share growth

1 2 3

Basic earnings per share growth gives a measure of our ability to deliver earnings growth for our shareholders.

Performance in 2019
Basic earnings per share grew less than the profit before tax because tax was held low in the prior year by the adjustments described in note 2.

7%

2015	13%
2016	10%
2017	14%
2018	13%
2019	7%

Adjusted basic earnings per share growth

1 2 3

Adjusted basic earnings per share excludes acquisitions costs, amortisation of intangible assets acquired on acquisition and other significant items which, when excluded, give a more consistent assessment of the Group's trading.

Performance in 2019
Adjusted basic earnings per share growth is faster than the adjusted profit before tax growth because of a reduction in the tax rate from 24% to 23%.

10%

2015	13%
2016	9%
2017	18%
2018	11%
2019	10%

Cash generated from operations less interest

5

Cash generated from operations less interest gives a measure of the cash generating capabilities of the underlying operations.

Performance in 2019
The Group's cash performance was good with an 89% (2018: 88%) conversion of operating profit before depreciation and amortisation.

£16.4m

2015	£13.1m
2016	£13.2m
2017	£12.0m
2018	£15.0m
2019	£16.4m

Key performance indicators continued

Financial KPIs – what we measure

Link to strategic objective

Adjusted post tax return on capital employed

5

Adjusted post tax return on capital employed gives a measure of financial return from all of the invested capital in the business. A return higher than the Group's weighted average cost of capital is satisfactory.

Performance in 2019
The Group's return on capital employed dropped slightly compared with the prior year mainly as a result of acquiring Dahlman in the final quarter, which increased the capital employed but contributed very little operating profit. It exceeded the Group's post tax weighted average cost of capital which is between 4% and 9%.

14%

2015	16%
2016	16%
2017	16%
2018	15%
2019	14%

Adjusted post tax return on operating capital

5

Adjusted post tax return on operating capital employed gives a measure of the Group's ability to make financial returns from the fixed assets and working capital employed in its operations. It ignores the goodwill arising on acquisitions and the impact of the pension deficit.

It gives a simple measure of the Group's ability to make returns from its investments in plant and equipment and working capital.

Performance in 2019
The Group's return on operating capital employed dropped during the year as a result of higher capital employed from an increase in inventories and trade receivables from strong trading in the final quarter and a good order book for the first quarter of 2020.

36%

2015	51%
2016	49%
2017	48%
2018	43%
2019	36%

Non-Financial KPIs – what we measure

Lost time accidents per 100 employees

This gives a measure of the likelihood of an employee having an accident that results in time off work.

Performance in 2019
There were five lost time accidents in the year, compared with 12 in the prior year.

0.51

2016	0.85
2017	0.61
2018	1.40
2019	0.51

Days lost to accidents per 100 employees

In conjunction with the KPI above this gives a measure of the severity of accidents resulting in lost time.

Performance in 2019
One accident involving one person accounted for over 70% of the days lost. That employee has now returned to work.

13

2016	46
2017	12
2018	35
2019	13

Greenhouse gas total intensity ratio

The total intensity ratio is measured in kilogrammes of CO_2 per pound Sterling of revenue.

Performance in 2019
A falling intensity ratio shows that the Group is emitting less CO_2 per pound Sterling of revenue.

0.135

2016	0.172
2017	0.170
2018	0.161
2019	0.135

Principal risks and uncertainties

Our risk management framework

The Group has a well established governance structure with internal control and risk management systems. The risk management process provides a framework to identify, assess and manage risks in line with the Group's overall strategy and the operations of its divisions.

The Group operates in global markets. In pursuing its growth targets and strategic objectives, it is clear about the specific risks faced by the Group and has actions in place to manage them. Our approach to each risk will vary over time and will depend on changing circumstances and the external environment.

Risk Appetite

The Board considers risk as an integral part of decision making and performance management, both in relation to the current and future performance of the business. The Board manages this by linking risk appetite, which it has separately defined, to the strategic objectives, in order to assess where the level of risk sits.

Our approach to risk management

Risk management is embedded in the management processes of the Group. It has adopted the April 2016 UK Corporate Governance Code and the Guidance on Risk Management, Internal Controls and Related Financial and Business Reporting. The Board has carried out a robust assessment of the principal risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity, and has implemented a risk management process with specific steps scheduled throughout the financial year. The process adopted by the Group to embed risk management in the Group's operations is outlined below:

- The key risks are identified by the management team of each operation facilitated by the Group Chief Executive and Group Finance Director.
- Operations management teams maintain a register of risks, mitigations and weaknesses, which:
  - Makes an initial assessment of the risks identified;
  - Identifies the mitigation processes that are already in place; and
  - Highlights weaknesses that currently exist.
- This register is reviewed quarterly, which leads to mitigating actions which are incorporated in each operation's annual plans.
- The budget and strategy planning process then incorporates:
  - Capital or staff cost implications of improving the mitigation and reducing current weaknesses; and
  - Any other budget implications of improving risk management.
- Internal audit peer reviews analyse the risk registers kept by each business and ensure that:
  - The mitigation steps identified are in place; and
  - Any commitments made in the planning process have been actioned.
- The process is refined in the following year.

Risk Governance

The Board has overall responsibility for ensuring that the Group maintains an effective risk management system and actively monitors the risk management process. Specifically the Board:

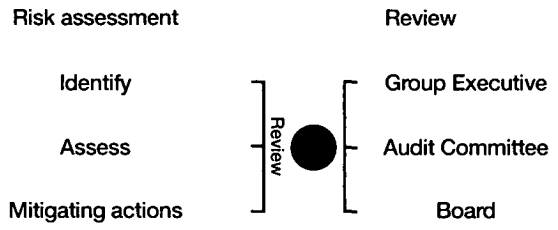
- Defines a process for ongoing monitoring of risk management taking into account:
  - The Group's risk appetite;
  - Any known incidence of significant control failure or weakness;
- Reviews the risk register and mitigation processes ahead of the strategy and budget process;
- Reviews the approach adopted to the ongoing monitoring of risk;
- Considers presentations on strategy and risk management from the operations' management as part of the strategy and budget process;
- Considers the findings of the internal audit reviews in relation to risk management; and
- Conducts a robust annual effectiveness review of the process.

Emerging risks

The 2018 UK Corporate Governance Code was adopted by the Group from 1 December 2019 and additional disclosure will be given in the Report & Accounts for the year ending 30 November 2020. In those accounts the Group will present an assessment of emerging risks.

- The long term impact of potential changes to trade terms could affect export sales. For the Group, changes to UK/US and US/China trade terms are the most significant.
- Longer term trends in the Group's end markets will affect sales revenues and the Group's business development activities focus on mitigating such risks and finding related opportunities. Examples include changes in aerospace airframe or engine architecture; the growth in electric vehicles; changes to emissions regulations; and changes in bioscience filtration protocols.

Risk assessment review



Our Group principal risks

Revenue risks
A – Existing market
B – New products and markets
C – Large contracts
D – Regulation
E – Competition

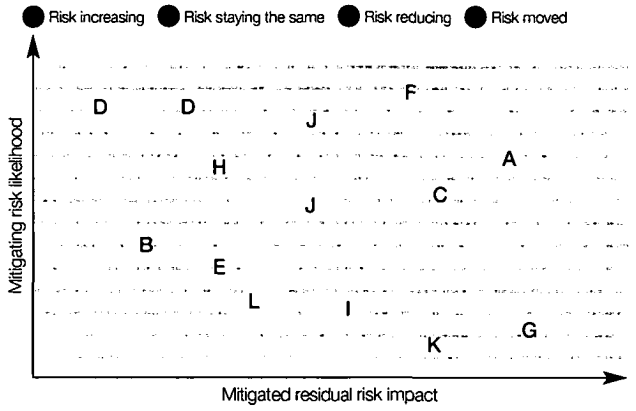
Manufacturing and operational risks
F – Raw materials, resources, price and production
G – Facilities and IT
H – Cyber attack

Finance and management risks
I – Acquisitions
J – Pensions
K – Financing and liquidity
L – Financial risk management

Risk trends

The ongoing review of the Group's principal risks focuses on how these risks may evolve. The chart below makes an estimate of the relative likelihood and impact of the risks described and shows which are considered to be increasing or decreasing in severity.

Risk impact analysis



Principal risks and uncertainties continued

Principal risks and uncertainties

The Group maintains a comprehensive register which identifies risks and uncertainties that could impact the operations; the mitigation processes in place; and outlines the weaknesses that should be addressed by the operations. The risk register includes over 140 individual risks and associated mitigation processes. The principal risks and uncertainties described on pages 35 to 40 are those which individually or collectively might be expected to have the most significant impact on the Group's long term performance and prospects.

Revenue risks

Risk description and impact	Link to strategic objective	Mitigation	Change
A – Existing market risk	1 2		↔
The Group serves the needs of a range of specialist filtration markets, such that it is not dependent upon any one market. However, the Group's four main markets are as follows: • aerospace filtration, where quality and accreditation of products are critical. Although product lifecycles are long there can be periods of reduced demand as a result of global impacts on commercial flying. • energy and industrial process filtration, where projects tend to be large and demand would be affected by a sustained economic downturn or a long period of low oil prices. • laboratory supplies, where revenue can be affected by access to capital in customers' markets (municipal/utilities and industrial labs); and • aluminium filtration, where demand for aluminium can fluctuate, producers have consolidated and recent demand growth has been driven by Chinese industrial production. Each of the above contribute more than 10% of the Group's revenue and the Group would be exposed to a significant decline in any of these markets.		Many of the Group's products are consumable and are essential to the safe operation of their respective systems and processes, so whilst volumes are impacted by changes in economic circumstances significant fluctuations for other reasons are rare. The aerospace market has traditionally been a very steady business as the product cycles are long and the Group offers a broad range of products split evenly between after-market and new build. Revenue can fluctuate as significant airframe programmes begin or end. The outlook for the aerospace market is for steady growth and the Group has a good pipeline of new programmes in development. There is unlikely to be such a rapid decline in the aerospace market that the Group could not manage the consequences over time. Energy and industrial process products serve a range of customers who use filters as an integral part of processes in their plants. Sales are both for new build and after market spares. The after market spares business should ensure that there is a regular revenue stream from the installations that the Group serves. Laboratory supplies are chiefly sold to laboratories undertaking sample preparation, chromatography and meeting the regulatory requirements for clean water. It is expected that the consumable nature of many of these products and the regulated nature of the activities conducted by the laboratories will mitigate cyclical changes. The market is expected to grow as regulations tighten throughout the world and demand for clean water in the developing world increases. Metal Melt Quality's revenue is affected by levels of aluminium production, which can fluctuate, but has grown by 3% per annum over the ten years to 31 December 2019, however the Group has a strong market position having successfully differentiated its products through improved filter formulations. In China, new capacity capable of producing higher grade aluminium is being added and older capacity retired. The Group has developed its products to address the requirements of customers requiring higher grade filtration.	
B – New products and markets risk	1 2 3		↔
The Group's strategy is to expand geographically into new markets as necessary. Outside its traditional markets of US and Europe, the Group has invested in operations in India and China. There is a risk that the additional complexity of operating in these regions will limit the return that the Group is able to make on its investments.		The Group invests in new geographic markets in support of its existing customers. It starts with small operations specifically supporting existing customers to gain experience of operating in the new market before making significant investment. New investment is subjected to the Group's normal capital approval processes.	

Key and links to strategy:

1 Focus on markets where we see long term growth potential.
2 Look for applications where product use is mandated and replacement demand is regular.
3 Make new product development a core business activity.
4 Establish geographic presence where end-markets require.
5 Invest in both organic and acquired growth.

Change in level of risk:

↔ No change to risk ↘ Risk exposure reduced ↗ Risk exposure increased

Revenue risks continued

Risk description and impact	Link to strategic objective	Mitigation	Change
C – Large contracts risk	1 2		↘
The Group has a number of large contracts for the installation of filtration systems. The Group's future results will be affected by the outcome of these contracts and the potential future revenue from the installations. Significant delays, engineering challenges or cost overruns with these contracts could impact the Group's expected performance. The Group also has a number of long term supply agreements for filters and agreements with key distributors for certain of its products. Its results would be affected should it lose a significant customer or distributor.		Larger contracts have direct senior management involvement on a day to day basis. The Group makes every effort to ensure that its commitments are met on time and in full. Detailed engineering and financial work plans, risk assessments and forecasts are maintained for each of these projects. The financial impact of reasonably foreseeable risks are included in these plans. Reports are produced every month which detail project progress and changes to planned schedules and assessment of risk. Provisions are held on the balance sheet to reflect management's best estimate of the cost of outstanding obligations. The Group maintains close contact with each of its long term customers and major distributors and has a long history of working with them. In each case the Group provides unique or patented products to the customers or distributors which provide additional permanence to the relationships.	
D – Regulation risk	1 2		↗
The Group trades in both the US and China. Uncertain tariffs and the consequences of trade war rhetoric could make export sales more uncertain and the profitability of those sales more difficult to predict. The Group trades in both the UK and EU. Uncertain tariff and trade regulations contribute a longer term risk. In the near term disruption to transport and customs over the Brexit transition are a risk.		The Group may have to amend how and where it manufactures goods to minimise tariff impacts, with operations in the US, UK, Europe and China, the Group has some flexibility on the original source of its products. It may benefit from increased volume of domestic sales and it is possible that the volume of products exported by the Group may reduce but the Group manufactures products that are often not easily sourced locally and this should mitigate tariff risks. Until specific future EU trade arrangements become clear, a definitive statement of risks associated with the period after 31 December 2020 cannot be made. The Group has reviewed tariff categories that its products would incur under WTO terms and has confirmed that its EU nationals staff have a right to remain in the UK. The Board notes that only 9% of revenues emanate from the EU. Revenues between the UK and EU were less than 10% of total revenues in 2019.	
E – Competitive risk	1 2		↔
Porvair operates in competitive global markets. The Group's achievement of its objectives is reliant on its ability to respond to many competitive factors including, but not limited to, new entrants, pricing pressures, technological innovations, product quality, customer service, currency movements, manufacturing capabilities and the employment and retention of qualified personnel. If the Group does not continue to compete in its markets effectively by developing innovative solutions for its customers and delivering high quality customer service, it could lose them and its results could be adversely affected.		The Group recognises that certain of its competitors are larger and have greater financial resources. This may enable them to deliver products on more attractive terms than the Group or to invest more resources, including research and development. The Group seeks to maintain its competitive advantage through technical differentiation and product quality rather than price. Through the development of a strategy that focuses on micro niches within the Group's chosen markets, the Group seeks to identify specific opportunities where it has a commercial, reputational or technological advantage that enables it to compete successfully.	

Principal risks and uncertainties continued

Manufacturing and operational risks

Risk description and impact	Link to strategic objective	Mitigation	Change
F – Raw materials, resources, price and production risk	1 2 5		↔
The Group uses a wide variety of different raw materials and subcontracted processes. In certain cases critical components or processes are single sourced either for regulatory or availability or performance reasons. In the event that supplies of these materials or processes become unavailable, the Group's ability to produce certain products could be delayed, or products may need to be redesigned. Prices for raw materials can be volatile and are affected by the cyclical movement in commodity prices such as oil, alumina, gas and steel. The Group's ability to pass on these price fluctuations to its customers is to some extent dependent on the contracts it has entered into and the prevailing market conditions. There may be times when the Group's results are adversely affected by an inability to recover increases in raw material prices. Not all of the Group's production equipment is duplicated. A significant failure of any of these pieces of equipment can result in production delays and a potential loss of revenue.		Wherever possible the Group seeks to dual source all of its supplies and processes. Where this is not possible the Group has in place long term agreements, or significant buffer stocks. It has an active programme of close monitoring of its suppliers including assisting them with improvements in quality and continuity. The Group is exposed to commodity price risk as a result of its operations. Where practical the Group seeks to fix its raw material prices. The Group buys certain raw materials and energy on long term or forward contracts to minimise its exposure to fluctuation in commodity prices. In all cases these contracts result in the ultimate delivery and use by the Group of the commodity. The Group has regular planned shutdowns for maintenance and equipment is maintained to a high standard. It has Standard Operating Procedures set out on each machine to ensure the safe and proper operation of the equipment. Failures of critical equipment are therefore rare.	
G – Facilities and IT risk	1 2		↔
The Group operates a number of production facilities, the largest facility generating between 20% and 25% of the Group's revenue. A disaster, such as a fire or flood, at any of the Group's facilities could have a material impact on the Group's performance. The Group relies on IT systems for all its record maintenance and is dependent upon good bandwidth connections between its sites. A loss of servers or bandwidth, or significant cyber or virus attack could interrupt the operations and result in a loss of data.		The Group maintains insurance of its equipment and facilities and carries business interruption insurance to cover loss of profits. In addition, the Group has ISO 9001 and other industry specific quality control systems which reduce the risk that a disaster will occur. The Group has resilient and distributed IT systems and invests in new servers, software and bandwidth to improve the resilience of its systems. It has comprehensive IT disaster recovery plans, which are tested periodically.	
H – Cyber attack risk	1 2		↔
The Group has experienced several minor cyber attacks. A cyber attack could cause loss or corruption of data or interrupt the operation of systems.		The Group's systems have been tested against actual cyber attacks and in each case systems have been out of action for less than 24 hours and only minimal data loss has been suffered. The Group has distributed systems. Each operation's systems are largely independent from the systems of the other operations, such that a virus or concerted cyber attack could be contained within one operation. The Board has conducted a review of the processes in place to reduce the risk of cyber attack. The Group is vigilant to attack and ensures that its systems are regularly improved to make them more secure and resilient. Although the systems are distributed, best practice ideas are shared within the Group's IT staff.	

Finance and management risks

Risk description and impact	Link to strategic objective	Mitigation	Change
I – Acquisitions risk	4 5		↔
The Group has an active programme of seeking and integrating complementary acquisitions. A poorly executed acquisition could affect Group financial performance.		The Group engages in thorough due diligence on its target companies and adopts a cautious approach in its selection and completion of acquisitions. In the case of each completed acquisition it develops and implements an integration plan.	
J – Pensions risk	5		↗
The Group operates a defined benefit pension scheme which is closed to new members but remains open for future accrual for the existing active members. The Group retains the ultimate responsibility for ensuring that the trust has sufficient funds to ensure that all current and future pensions can be paid in full. A significant shortfall in the value of the assets of the scheme compared with its liabilities could impair the Group's ability to pay dividends and require the Company to make additional payments to the scheme.		The Pension scheme is financed through a separate trust fund and administered by a Board of Trustees with an independent Chairman. The Group maintains a close oversight of the pension scheme through appointment of its own trustees to ensure that the scheme is properly administered and that sound investment advice is obtained. The Board regularly reviews the performance of the scheme and its investment strategy with a focus on reducing risk to the Group. The Group has a deficit recovery plan in place that is affordable for the Company and expected to reduce the current deficit. The deficit contribution is reviewed every three years as part of the triennial valuation.	
K – Financing and liquidity risk	1 2 3		↔
At certain times the Group uses borrowings to finance its operations. Damage to, or loss of, its banking relationships could have a material impact on the Group's ability to do this, which could damage the operations and profitability of the Group.		To mitigate this risk, the Group actively maintains a mixture of long term and short term debt finance that is designed to ensure the Group has sufficient available funds for operations and planned expansions. It has a policy of maintaining low gearing and significant headroom in normal circumstances in its covenants. It maintains close relationships with its bankers and carefully monitors the restrictions on its borrowings.	

Principal risks and uncertainties continued

Finance and management risks continued

Risk description and impact	Link to strategic objective	Mitigation	Change
L – Financial risk management	5		↔
The Group's operations expose it to a variety of financial risks that include the effects of: • foreign exchange risk; • credit risk; and • interest rate cash flow risk.		The Group has in place financial risk management procedures that seek to limit the adverse effects on the financial performance of financial risks. The principal procedures are described below: Foreign exchange risk The Group seeks to manage its exposure to the impact of exchange rate movements on its net investments by maintaining some borrowings in US dollars and some in Euros. The UK operations of the business generate significant revenues in US dollars and the Group seeks to minimise the impact of movements in the US dollar exchange rate on the value of these US dollar flows by using financial instruments to fix the future value of the US dollars. The Group does not apply hedge accounting to these transactions. In the case of large contracts where the future currency income is in a different currency from the operation's functional currency, is certain, and can be specifically assigned to individual transactions, the Group takes out forward foreign exchange contracts to minimize the impact of currency fluctuations. The Group applies hedge accounting to these transactions. The Group is also exposed to the impact of exchange fluctuations on the translation of its foreign subsidiaries' results. The Group cannot mitigate these effects. A sustained increase/decrease in the exchange rate of one cent in the dollar between US dollars and sterling would be expected to reduce/increase profit before tax by around £150,000. Credit risk The Group has implemented policies that require appropriate credit checks on potential customers before sales are made. Debtor finance is very rarely used and is reviewed on a case by case basis by the Board of Directors. The Group monitors the level of deposits held with overseas banks and financial institutions and repatriates cash as part of its treasury management. Interest rate cash flow risk The Group has only interest bearing liabilities. The Group has no exposure to equity securities price risk as it holds no listed or other equity investments.	

Viability and going concern

Selection of Viability period

The Group has significant revenue streams of bespoke consumable parts that as a result of either quality accreditation or regulatory requirements are expected to continue for many years. However, the Board considers that a review of the Group's plans over a three year period is reasonable because:

- The Group's planning processes extend over three years and provide the Board with a reasonable timeframe over which developments can be foreseen with a degree of certainty;
- Its specific investment plans can be reasonably foreseen and will be implemented within the period covered;
- There is a reasonable expectation that changes to current market trends can be anticipated over the period;
- To the extent that the Group has long term supply contracts with its key customers these usually have three year renewal periods; and
- Where the Group has large contracts these are rarely expected to be under construction for longer than three years.

Integration with the Group strategy and business model

The Group's strategy is set out on page 5. The aspects of the strategy that have the most impact on the viability of the business are:

- The characteristics of specialist filtration and environmental technology businesses. Generally, the products the Group designs and manufactures are mandated by regulation, quality accreditation or a maintenance cycle. Our products are generally protecting much more costly or complex downstream systems. Products are often designed for specific applications, which typically have long life cycles, and have regular replacement cycles. These characteristics provide the business with a degree of repeatability of orders and a reasonable level of revenue security.
- Our ability to apply our expertise to a range of attractive niche markets. Our customers require filtration and emission control products that perform to a given specification. Our filtration expertise is applicable across all our markets. We win business by applying that expertise to offer the best technical solution at an acceptable cost to a particular application.
- Our approach to investment and growth. We aim to meet our dividend and investment needs from free cash flow and modest borrowing. We aim for a mix of organic and acquisition growth funded from our own resources. Over the medium term the Group has demonstrated an ability to generate free cash flow and integrate modest acquisitions.

Annual assessment process

The Group has an annual Strategic Planning process, which comprises a strategic plan, a financial forecast for the current year and financial projections for the next three years. The strategic planning process is integrated with the risk management and reporting processes designed to produce consolidated and operating unit level business objectives, risk management plans and operating budgets.

The plans are reviewed each year by the Board as part of its strategy review process. Once approved by the Board, the plans are adopted throughout the operations and provide the basis for strategic decision making and objective setting. Progress towards these objectives and financial performance compared with plans are monitored by the Board throughout the year.

In undertaking its strategic review in 2019, the Board considered the prospects of the Group over the one and three year periods to 30 November 2020 and 2022, respectively. The one-year planning period has a greater level of certainty and is, therefore, used to set detailed budgetary targets throughout the Group – it is also used by the Remuneration Committee to set targets for annual incentives. The three-year period provides less certainty of outcome, but sets out the medium term objectives of the Group and the investment plans and financial targets associated with those objectives. It is also used by the Remuneration Committee for setting the performance targets for the long term incentive plans.

Stress tests and scenarios

As part of the Group's planning processes, the Group has analysed the adverse impacts that could arise as a result of the risks outlined on pages 36 to 40. The central planning assumptions were adjusted to test the impacts of the potential risks including:

- A severe economic recession, modelled on the impacts that the business has faced in previous downturns leading to customer destocking;
- A significant one-off global shock, such as a pandemic or terrorist activity, leading to lower aerospace revenue;
- The impact of global trade disturbances such as tariff barriers, protectionism and the impact of Brexit;
- A forced plant shutdown requiring lengthy remedial work;
- Significant adverse impacts arising from the commissioning of the Group's gasification filtration contracts; and
- Loss of business or reduced profitability arising from operational challenges including material sourcing and competitor risks.

The results of the stress tests demonstrated that the cash generating capabilities of the business and the availability of current financing facilities would enable the Group to withstand the impact of these scenarios arising in combination over the next three years. Further mitigations would be available to the Group including reductions in capital expenditure and cost reduction programmes. The Group's current banking facilities expire in May 2022. In the absence of further acquisitions, the viability tests show that the Group should not require new borrowing facilities on expiry of current facilities. It is, however, expected that the Group will seek to maintain a borrowing facility and the implied covenant calculations suggest that the Group would be able to arrange further facilities on reasonable terms.

Viability and going concern assessment

On the basis of this and other matters considered by the Board during the year, the Board has a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the three year period assessed. In doing so, it is recognised that such future assessments are subject to a level of uncertainty that increases with time and, therefore, future outcomes cannot be guaranteed or predicted with certainty.

After having made appropriate enquiries and reviewing the current financial position, including all the information presented in its strategic review of the business, the Directors have a reasonable expectation that the Group and Company have adequate resources to continue in operational existence for the twelve months from the date of this report. Accordingly, they continue to adopt the going concern basis in preparing these accounts.

Stakeholder engagement

The success of the Group depends on developing and maintaining open and strong relationships with all our key stakeholders. We operate with integrity; comply with laws and regulations as they apply in the locations where we operate; and endeavour to treat all stakeholders of the Group fairly.

Customers

How we engage

- We seek to build long term stable relationships with our customers.
- Our products are generally bespoke for specific customers and are designed and tested in partnership with those customers.
- Our products often have long lifecycles and our customers provide us with stable revenues.
- Through research and development, we seek to offer customers regular upgrades and improvements to the products we offer.
- We operate according to strict anti-corruption and anti-bribery policies.

Suppliers

How we engage

- The Group has a stable supplier base and seeks to build long term relationships.
- The Group seeks local suppliers to fulfil its requirements.
- Many of our suppliers are critical to the manufacture of specific parts.
- The Group works closely with its suppliers to ensure quality and delivery standards.

Employees

How we engage

- We provide a broad range of roles in design, manufacture, sales and administration.
- We have both formal and informal communication processes.
- We recruit, train and develop staff solely on the basis of ability.
- Our employees generally reflect the ethnic diversity of the local population close to each plant.
- We operate in accordance with local laws, customs and with due regard for human rights.

Group operating companies

How we engage

- The Board has overall responsibility for the control and management of Group strategy and performance.
- Each division has its own autonomous management team, financial systems and controls. Only demonstrably Group-wide activities are managed at the Group head office.
- The Board has established a framework of controls encompassing procedures applicable to all businesses that are subject to executive review.
- Each operating division operates its own accounting systems, internal controls and manages its own risks.

Shareholders

How we engage

- We seek to provide shareholders with informative and comprehensive communications.
- We seek to publish results promptly, usually within 10 weeks for year end results and 5 weeks for interim results.
- The Executive Board members meet regularly with our key investors to discuss Group performance and to hear their views.
- Board members make themselves available to meet with shareholders and potential investors when requested.

Communities

How we engage

- Our staff profiles mirror the diversity of the local communities around each plant.
- We seek to use local suppliers where possible.
- The local environment is important to us and we take care to keep our waste to a minimum.
- Our employees are active in their local communities and contribute time and money to local charities.

Corporate and social responsibility report

We recognise that the responsible and sustainable development of our business is important for our long term success and for creating and protecting value for Porvair and our stakeholders.

Why sustainability matters to Porvair

Our purpose is to enable our customers to meet their challenges sustainably and efficiently in a changing world. Sustainability underpins our strategic objectives and is integral to our purpose and values.

Acting in a sustainable way protects and creates long term value for all our stakeholders and the long term future of Porvair.

Porvair's products benefit the environment in reducing emissions, eliminating waste and improving process efficiency.

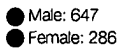
The Board requires that these beneficial outputs should be reflected in the values of the Group. Our corporate and social responsibility activities are central to the ethos by which Porvair is managed.

Our approach to sustainability

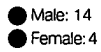
The Board focuses on how we treat our staff; how we manage health and safety; the environmental impact of our activities; and how we interact with stakeholders. Reports on all these are on pages 42 to 48. A report under S172 of the Companies Act 2006 will be provided in the 2020 Report and Accounts.

Corporate and social responsibility report
continued

Employee diversity



Senior Management diversity



Our People

Porvair provides employment in a wide range of disciplines associated with the design and manufacture of filtration and separation equipment.

Employee engagement
The Group involves employees through both formal and informal systems of communication and consultation. Managers have a responsibility to communicate effectively and to promote a better understanding by employees of the activities and performance of the Group. Information relating to trading, company strategy and any other matters of significance are communicated to all employees through local briefings.

The Group has regular consultations with staff so that their views can be taken into account in matters that affect their interests. Every plant convenes all hands town hall meetings at least quarterly and most carry them out every month. The agenda includes:

- Safety;
- Operations reviews;
- Significant plant developments e.g. changes to processes, benefits, scheduling etc;
- Continuous improvement;
- Staff questions and answers;
- Long service and other awards; and
- Local community interaction.

Each plant has its own additional communication procedures which may include:

- Daily floor walks and morning meetings at each work area;
- Regular all hands departmental meetings;
- Staff committees; and
- Staff surveys.

These processes together with the reviews conducted by the Group Executives and reported to the Board enable the Board to be kept informed of significant employee concerns or developments. Whistleblowing issues raised by the employees are fully investigated and the Board is kept informed of the issues raised and outcomes determined.

The Group has a UK share save scheme that encourages employees to save and share in the Group's performance.

Diversity
It is the Group's policy to recruit, train, promote and treat all personnel on grounds solely based on individual ability and performance. These principles are applied regardless of sex, sexual orientation, religion, age, nationality or ethnic origin. The staff employed in each plant are generally representative of the ethnic diversity and backgrounds of the local population surrounding the plant.

Porvair prides itself on its people and their ability to provide innovative solutions for its customers

We recognise that our competitive advantage can only be maintained by developing our own talent. This means encouraging and retaining able staff; a focus on skills and training; and targetted recruitment as required.

Training does not just mean skills necessary for the employees current activity. For example, the Metal Melt Quality division introduced a basic computing course for line workers. This course, paid for by the Group but completed in the employees' own time, gave line workers the computing skills they would need to be eligible for promotion into supervisory roles.

The Group's split between male and female permanent employees is shown in the table below:

	Female	Male	Total
Directors	2	4	6
Senior Managers (General Managers and statutory officers of subsidiary entities)	4	14	18
Employees	280	629	909
Total at 30 November 2019	**286**	**647**	**933**

Applications for employment by disabled persons are always considered in full, bearing in mind the respective aptitudes and abilities of the applicant concerned. In the event of members of staff becoming disabled, every effort is made to ensure that their employment with the Group continues and the appropriate training is arranged. It is the policy of the Group that the training, career development and promotion of a disabled person should, as far as possible, be identical to that of all other employees.

Training and development and growing our talent
We recognise that our competitive advantage can only be maintained by developing our own talent internally as well as recruiting the best skills from outside.

Training and development programmes are important both for our employees to fulfil their potential and to help our business achieve its goals. Much of our training however is by experience within our own operations.

Our training programmes mainly concern:

- Technical skills and knowledge transfer;
- Sponsorship for tertiary education qualifications;
- Team leadership;
- Training apprentices;
- Health & safety; and
- Quality.

Lost time accidents
per 100 employees

0.51

2016	0.85
2017	0.61
2018	1.40
2019	0.51

Days lost to accidents
per 100 employees

13

2016	46
2017	11
2018	12
2019	35
	13

Health and safety

Our approach

The Group recognises its responsibilities for the health and safety of its employees and to the communities in which the Group operates. By managing and controlling health and safety, and reducing accidents and injuries, the Group benefits from increased productivity, lower absenteeism, reduced insurance and healthcare premiums and ultimately a safety record which holds the Group in good stead for securing future projects.

Health and safety responsibility is delegated to senior managers within each business. These officers perform regular reviews and inspect the conditions in which the Group's employees work. Discretionary health and safety benefits for employees include the availability of gyms and onsite nursing and counselling staff at certain operations. The Group's regular reporting procedures include monthly review in Board papers of reportable accidents.

The Group's insurers and insurance brokers carry out a rolling programme of reviews of the Group's operations as part of their risk assessments and the recommendations of the consultants are generally implemented in full.

Progress against our objectives in 2019

The Group continues to implement health and safety improvements throughout its plants. In the current year £0.4 million of capital expenditure was spent on health and safety improvements. Health and safety projects included:

- A continuation of the rollout of LED lighting throughout our plants.
- In the Aerospace & Industrial division, each welding station has been equipped with dedicated extraction to minimise the impact of any off gases on the welders.
- In the Aerospace & Industrial division, occupational health monitoring is in place for all welders, machine operators and other employees exposed to hazardous chemicals.
- Pregnant worker protocol was implemented for the first time to protect pregnant staff from laboratory risks.
- Mobile extraction to be installed on all welding units.
- We now have 70 IOSH trained staff in the UK.
- Hand/Arm vibration survey completed.
- Noise and air monitoring tests were run in several plants. One machine was remediated.
- Our Metal Melt Quality plant in Hendersonville, NC is a Rising Star site as designated by the North Carolina Department of Labor for advanced health and safety programs that go beyond the standards and demonstrate best practices.
- Our Aerospace & Industrial plant in Caribou, ME is working towards SHARP certification, a similar programme to the Rising Star programme in North Carolina.
- Health and safety training included: Ladder Safety, Environmental Compliance, Accident Review, Ergonomics/Health, Emergency Actions Plans, Lockout Tagout, Respiratory Protection.
- Batching tower upgrades In Metal Melt Quality have reduced the amount of manual handling of raw materials.

Our health and safety programme

By reducing accidents and injuries, the Group benefits from increased productivity, lower absenteeism, reduced insurance and healthcare premiums and ultimately a safety record which holds the Group in good stead for securing future projects.

In the US, two of our plants either benefit from or are working towards accreditations to exempt them from routine OSHA inspections. Achieving these accreditations requires significantly enhanced health and safety controls and processes.

Corporate and social responsibility report continued

Environmental performance

Our products

Many of the products developed by Porvair are used to the benefit of the environment. Examples include:

- The Group's industrial filters contain and reduce emissions.
- The Group's water analysis equipment ensures drinking water is fit for consumption and waste water is not contaminated.
- The Group's maritime water analysis equipment monitors small changes in the oceans' chemical composition.
- The Group's nuclear filters prevent emissions of fissile material.
- The Group's Metal Melt Quality products prevent contamination of aluminium and iron and help to improve the strength to weight ratio of metal components.
- The Group's ballast water filters control emissions of contaminated ballast from ships.
- Many of the Group's filters provide protection from contamination for systems and processes, which helps improve their quality and longevity.

The Group consistently considers methods of improving its environmental profile. Environmental impacts are managed in conformity with local regulatory requirements. The Group's manufacturing processes have only a limited potential emissions impact. The Group uses solvents in certain of its processes and has procedures in place for their control. The Metal Melt Quality division manages emissions from its kiln firing operations within agreed regulatory parameters.

Our operations

Our operations are subject to a variety of emissions and discharge limits including discharges to the water course and emissions from smokestacks. The Group has been compliant with the locally enforced regulations throughout the period. Over time the Group has introduced more closed loop systems to ensure that hazardous material is contained within the plant and disposed of by regulated means.

Aerospace & Industrial

- The division has introduced an online database resource of over 500 chemical COSHH (control of substances hazardous to health) assessments. This provides material safety data sheets for all the chemicals the division anticipates using.
- Mist filtration has been installed on CNC machines in Segensworth, UK.
- The nano dust test rig in Segensworth, UK now has dust capture and control.
- We have introduced a closed loop water system in Caribou, ME to recycle all of the furnace cooling water.

Laboratory

- The laboratory business has widely distributed operations and is making increasing use of video conferencing for its review meetings to reduce air travel and be more time efficient.
- The new Seal Analytical AA500 analyser has lower power requirements and can analyse more samples making its costs per test much lower.

Metal Melt Quality

- In Hendersonville NC, Stormwater inspection action items were implemented in the year.
- The MAP acid tank has been discontinued which eliminates environmental risks.
- 50% of the Hendersonville plant's waste is now recycled or composted.

We seek continuous improvements in environmental performance

The Group consistently considers methods of improving its environmental profile. Environmental impacts are managed in conformity with local regulatory requirements. The Group's manufacturing processes have only a limited potential emissions impact.

In 2019 at our plant in Hendersonville, NC, we began using some of the waste which had previously been sent to a commercial compost manufacturer to fertilise a small vegetable garden we set up beside the factory. The plot was tended by some enthusiastic gardeners amongst the employees and the produce was shared out amongst the staff at the plant.

Geographical breakdown (tonnes CO_2)

Total for year ended 30 November 2019

Environmental performance continued

Greenhouse gas emissions

The Group has implemented the UK Government's guidance on measuring and reporting greenhouse gas emissions, in line with DEFRA guidelines, using conversion units published by Carbon Trust. The Group reports 'Scope 1 and 2' emissions in tonnes of carbon dioxide. Scope 1 covers direct emissions: those that emanate directly from Group operations. This is principally natural gas burned in manufacturing and fuel used in company owned vehicles. Scope 2 covers indirect emissions, those generated by key suppliers, principally electricity.

The Metal Melt Quality division runs gas powered furnaces to fire its ceramic filters. The gas to run these furnaces is the largest component of the Group's emissions. Electricity provides heat, light and power for the Group's premises and other plant and equipment. The plant and equipment is mainly light manufacturing equipment but does include some high pressure presses and electric furnaces.

2010 is used as a base year and 'kilogrammes of CO_2 emission per pound sterling of revenue' as a measure of intensity. The Group aims to reduce its total intensity ratio over time. Intensity in 2019 reduced in the year.

Energy Saving Opportunity Scheme (ESOS)

The UK Government established ESOS to implement Article 8 (4-6) of the EU Energy Efficiency Directive (2012/27/EU). ESOS is the mandatory energy assessment scheme for larger organisations in the UK meeting the qualification criteria. The Environment Agency (EA) is the UK scheme administrator.

Porvair has completed all of the second round of EA audits. Porvair is required to carry out further ESOS assessments every 4 years. Reports by the auditors will incorporate recommendations identifying opportunities for cost saving energy measures.

REACH

The first significant impacts of REACH (the European Union regulation concerning the Registration, Evaluation, Authorisation & restriction of Chemicals) have had an impact on some Porvair processes.

Trichloroethylene and chromium trioxide appear on the ECHA Annex XIV list of products that have been banned unless specifically authorised for use. Porvair Filtration Group's Segensworth site has eliminated Trichloroethylene from its processes. To replace chromium trioxide, used in Alocrom 1200, it has begun to design new products using a replacement treatment (SURTEC). For existing products, it has joined an aerospace group which has special dispensation to continue to use Alocrom 1200 on existing products. Air and manual handling procedures for the use of Alocrom 1200 have been significantly improved.

The Metal Melt Quality division keeps under review its use of boric acid, which is a substance named in the Candidate List of the REACH regulations, to ensure that it meets its REACH reporting obligations on filters shipped into the EU.

Greenhouse gas (GHG) emissions	Year ended 30 November 2019 tCO_2	Year ended 30 November 2018 tCO_2	Year ended 30 November 2010 tCO_2
Scope 1 - Direct GHG Emissions			
Gas	11,031	12,324	8,571
Owned vehicles	484	414	368
Total scope 1 gross emissions	11,515	12,738	8,939
Scope 2 - Indirect GHG Emissions			
Electricity	8,096	7,994	5,204
Total scope 2 gross emissions	8,096	7,994	5,204
Total gross emissions	**19,611**	**20,732**	**14,143**
	$kCO_2/£$	$kCO_2/£$	$kCO_2/£$
Scope 1 intensity ratio	0.079	0.099	0.142
Scope 2 intensity ratio	0.056	0.062	0.082
Total intensity ratio	**0.135**	**0.161**	**0.224**

Geographical breakdown (tonnes of CO_2)

	Year ended 30 November 2019			Year ended 30 November 2018			Year ended 30 November 2010		
	Scope 1 tCO_2	Scope 2 tCO_2	Total tCO_2	Scope 1 tCO_2	Scope 2 tCO_2	Total tCO_2	Scope 1 tCO_2	Scope 2 tCO_2	Total tCO_2
UK	439	2,348	2,787	502	2,226	2,728	479	1,497	1,976
US	10,047	5,374	15,421	10,943	5,417	16,360	8,350	3,639	11,989
ROW	1,029	374	1,403	1,293	351	1,644	110	68	178
Total	**11,515**	**8,096**	**19,611**	**12,738**	**7,994**	**20,732**	**8,939**	**5,204**	**14,143**

Corporate and social responsibility report continued

We create positive social impacts through our activities and local job creation where our global operations are located.

Relationships with customers
The Group's products are generally bespoke for specific customers and generally have a very long product lifecycle. This naturally requires the Group to build close relationships with its customers. A high percentage of the Group's annual revenue comes from repeat business from existing customers. Most new product introductions are developed with existing customers and when new customers are gained it is often after a long development period over which a close relationship has developed and a long term relationship is expected.

Particularly in aerospace and energy, the Group builds relationships with the immediate customer for the product and also with the ultimate end user or manufacturer, who is often the party that certifies the product. For example the airframe manufacturer will be an important stakeholder but the customer will usually be a sub-assembly manufacturer.

Relationships with suppliers
The Group has an extensive network of suppliers and subcontractors, many of whom are critical to the manufacture of specific parts. The Group has a stable supplier base. It seeks to increase its supplier base by extending the number of suppliers only where there are perceived to be risks of under capacity or resilience in its existing supply chain. Suppliers are generally only removed from the approved list for persistent quality or delivery failures.

Wherever possible, the Group seeks local suppliers to fulfil its requirements. The Group carefully selects its suppliers. As part of building a long term relationship with its critical suppliers, the Group works closely with them to ensure that the quality and delivery standards required by the Group are achieved.

Anti-bribery and corruption policy
The Group prohibits all forms of bribery and corruption within its business and complies with the requirements of all applicable laws designed to combat bribery and corruption. The Group requires all employees, agents, intermediaries and consultants to conduct themselves in accordance with the Group's anti-bribery and corruption policy. The Group conducts an annual compliance review and in 2019 provided expert professional training for its staff who have contact with customers and suppliers.

Porvair and the local community
The management of each operation is aware of its role within its local communities. They seek to recruit locally and retain a skilled local workforce and are encouraged to build relationships with local community organisations.

The Aerospace & Industrial division has contributed to a number of local charities to support disadvantaged local people and communities.

The Metal Melt Quality plant in Hendersonville, NC supports the United Way of Henderson County (UWHC), a charity local to its main plant; the division makes donations and employees make payroll deductions to donate to the charity. A number of employees participate in projects to repair homes and provide facilities for the disadvantaged in the community and are active in mentoring and providing support for the children of single parent families.
The Laboratory division in the US has contributed to a number of water initiatives and charities. Employees made donations to charities supporting cancer relief and local deprived children.

The Group is a significant employer in the Caribou area and one of the few businesses in the area to be expanding its workforce. It maintains close relations with the local authorities. It has been the beneficiary of local funding designed to promote employment and has joined programmes to promote local businesses and services in the area.

Modern Slavery
The Group has zero tolerance of slavery and human trafficking in all its different forms in any part of its business and in its supply chain. The approach reflects a commitment to act ethically and responsibly in all business relationships and to ensure that slavery and human trafficking are not present in any part of its business or in its supply chain.

A copy of the Group's policy on Modern Slavery is available on the Group's website at www.porvair.com.

Human rights
The Group supports and is committed to upholding the UN Guiding Principles on Business and Human Rights and the core labour standards set out by the International Labour Organisation.

The Group is aware of its requirements to respect human rights in all jurisdictions in which it operates. It pays particular attention to its responsibilities in its operations in China and India. The Group has nothing further to disclose.

Chris Tyler Company Secretary
31 January 2020

Governance

We recognise the importance of effective corporate governance in supporting the long term success and sustainability of our business.

In this section

50 Board of Directors
51 Chairman's introduction to governance
53 Directors' report
56 Corporate governance
59 Report of the Nomination Committee
60 Report of the Audit Committee
62 Remuneration report

Board of Directors

John Nicholas N R
Non-Executive Chairman

Appointed to the Board in October 2017.

Experience and external appointments:
John is an experienced Non-Executive Director with broad experience in manufacturing and service industries. He is Non-Executive Chairman of Diploma PLC. He was previously Senior Non-Executive Director of Mondi plc, Rotork plc and Ceres Power Holdings plc and Chairman of the Audit Committee of Hunting plc. He was Group Finance Director of Tate & Lyle plc from 2006 to 2008 and prior to that Group Finance Director of Kidde plc from its demerger from Williams plc in 2000 until its acquisition by United Technologies in 2005. John was a member of the UK Financial Reporting Review Panel for six years until April 2015. He holds an MBA from Kingston University and is a Chartered Certified Accountant.

Committee membership:
Chairman of the Nomination Committee and member of the Remuneration Committee.

The Board's role is to promote the long term success of the Group through the setting of a clear purpose and sustainable strategy which creates value for all our stakeholders.

Ben Stocks
Group Chief Executive

Appointed to the Board in February 1998.

Experience and external appointments:
Ben was previously Managing Director of the Speciality Packaging Division of Carnauld Metal Box. He holds an MBA from INSEAD.

Committee membership:
None.

Chris Tyler
Group Finance Director

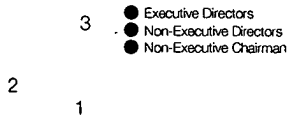
Appointed to the Board in September 2004.

Experience and external appointments:
Chris had previously held a number of senior financial positions at Cable & Wireless, latterly as Chief Financial Officer of Cable & Wireless in the Caribbean. He is a Chartered Accountant. He was a Non-Executive Director of Plant Impact plc and Chairman of its Audit Committee from 2015 to 2018.

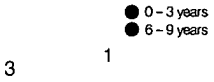
Committee membership:
Group Company Secretary and Pension Scheme Trustee.

Composition of the Board

Executive and Non-Executive Directors



Non-Executive Tenure



Key to Board Committee Membership

A Audit Committee
N Nomination Committee
R Remuneration Committee
Blue background denotes Committee Chairman

Paul Dean A N R
Senior Non-Executive Director

Appointed to the Board in August 2012.

Experience and external appointments:
Paul is a Non-Executive Director and Chair of the Audit Committee of Wincanton plc, Focusrite plc and Polypipe plc, where he is also the Senior Independent Director. He was Finance Director of Ultra Electronics plc from 2009 to 2013 having previously been Finance Director of Foseco from 2001. From 1989 to 2001, Paul held a number of senior finance roles in Burmah Castrol plc. He is a Chartered Management Accountant.

Committee membership:
Senior Independent Non-Executive Director, Chairman of the Audit Committee and member of the Remuneration and Nomination Committees.

Jasi Halai A N R
Non-Executive Director

Appointed to the Board in June 2019.

Experience and external appointments:
Jasi is Group Financial Controller and Operating Officer for 3i Group plc and has held a broad range of senior finance positions at 3i since 2005. She is a member of the Chartered Institute of Management Accountants and holds an MSc in investment management from the CASS Business School.

Committee membership:
Member of the Remuneration, Audit and Nomination Committees.

Sally Martin A N R
Non-Executive Director

Appointed to the Board in October 2016.

Experience and external appointments:
Sally is Supply and Trading Operations Manager for Europe & Africa in the Shell International Trading and Shipping Company Limited. In a thirty-year career with Shell, Sally has built a strong track record in strategy; M&A; international business development; and engineering and operations. She is a member of the Chartered Institute of Electrical Engineers.

Committee membership:
Chairman of the Remuneration Committee and member of the Audit and Nomination Committees.

Chairman's introduction to governance

The Board provides effective and strategic leadership to the Group within a framework of robust corporate governance.

Dear shareholder
The Board is committed to maintaining high standards of corporate governance and ensuring values and behaviours are consistent across the business. The Board expects steady and continuous improvement in the Group's governance procedures.

In the Governance section of this report the Board sets out the information, policies and procedures adopted by the Group to ensure compliance with the relevant governance codes and financial law. The Governance section includes the Directors' Report, the Corporate Governance Report, the Report of the Audit Committee and the Remuneration Report and Remuneration Policy.

The Board
The Board consists of four Non-Executive Directors and two Executive Directors. The Board provides strategic leadership and guidance with the aim of allowing the Executive team to develop the business profitably within the framework of risk management and compliance.

The Board has established three Committees to advise the Board:

- The Audit Committee advises the Board on matters relating to internal controls and financial reporting of the Group.
- The Remuneration Committee determines and recommends the framework and policy for the remuneration of the Executive Directors.
- The Nomination Committee provides a process and procedure for the appointment of new Directors.

Each Committee comprises all of the Non-Executive Directors.

I confirm that, following performance evaluation of each Non-Executive Director, their performance continues to be effective with appropriate commitment to the role.

Compliance with the Code
The Board complied with all aspects of the existing UK Corporate Governance code throughout the year ended 30 November 2019, with the exception of fixed terms of employment for Non-Executive Directors, noting instead that all of the Directors offer themselves for re-election at each Annual General Meeting.

The 2018 UK Corporate Governance code applies to the Group from 1 December 2019.

Developments in 2019

- Recruited Jasi Halai. Jasi will become Chairman of the Audit Committee when Paul Dean retires from the Board in February 2020.
- Sally Martin will become Senior Non-Executive Director when Paul Dean retires from the Board.
- Continued refinement of the approach to financial risk and internal controls. We have introduced additional executive review processes and have used PricewaterhouseCoopers LLP to provide some of our internal audit services.
- We have carried out extensive preparations to be ready for the implementation of the new Corporate Governance Code, which will apply to the Group for the first time from 1 December 2019.

John Nicholas Chairman
31 January 2020

Governance

The Board recognises the importance of effective corporate governance in supporting the long term success and sustainability of our business. We try to plan for the long term, upholding ethical standards and requiring integrity and accountability from management.

2018 UK Corporate Governance Code
The 2018 UK Corporate Governance Code (the 2018 Code) applies to the Group from 1 December 2019.

The 2018 Code contains a number of new provisions which primarily focus on corporate culture, stakeholder engagement (with specific provisions on workforce engagement, remuneration and succession).

The Group has made plans accordingly, and the Group's compliance will be disclosed in full in the Report and Accounts for the year ending 30 November 2020.

2016 Code Principles – how they are applied

- **Leadership**
  Continued focus on strategy and its execution.
- **Effectiveness**
  A strong, open and effective Board.
- **Accountability**
  Close scrutiny of risks and controls.
- **Remuneration**
  Prudent oversight of Executive remuneration.
- **Relations with shareholders**
  Open engagement with shareholders.

Chairman's introduction to governance continued

Porvair's governance structure

Good governance continues to provide the framework for effective delivery of our strategy. The Board is committed to maintaining very high standards of corporate governance and ensuring values and behaviours are consistent across the business. The Board provides strategic leadership and guidance with the aim of allowing the Executive team to develop the business profitably within the framework of risk management and compliance.

The Board

Provides strategic leadership to the Group within a framework of robust corporate governance and internal control, monitoring the culture, values and standards that are embedded throughout our business, to deliver long term sustainable growth for the benefit of our shareholders and other stakeholders.

Board Committees

Nomination Committee

Provides a transparent process and procedure for the appointment of new Directors to the Board. The Nomination Committee comprises all of the Non-Executive Directors and is chaired by the Chairman of the Company.

Audit Committee

Assists the Board by reviewing: the integrity of the Group's financial reporting; the quality of the external and internal audit review processes; the appropriateness of the Group's internal controls; and compliance with a range of financial, governance and other compliance issues.

Remuneration Committee

The Committee's remit is to set policies and levels of remuneration, which encourage actions by management that are in the long term interests of the Company and its shareholders.

Executive Directors and Senior Management

Responsible for the implementation of the Board's strategy, day-to-day management of the business and all matters which have not been reserved for the Board.

Group Divisions & Operating Companies

Aerospace & Industrial Division	Laboratory Division		Metal Melt Quality Division
Porvair Filtration Group Royal Dahlman	Seal Analytical	Porvair Sciences JG Finneran	Selee
UK, US, Netherlands & India	US, Germany & Netherlands	UK & US	US & China

Directors' report

The Directors are pleased to present their Annual Report and the audited accounts of the Group for the year ended 30 November 2019.

The Company
Porvair plc is a public limited company incorporated in England and Wales and domiciled in the UK, with a listing on the London Stock Exchange under the symbol PRV. The address of its registered office is 7 Regis Place, Bergen Way, King's Lynn, Norfolk, PE30 2JN.

Business review
The business review is covered in the Strategic report. The Group's strategy, objectives, key performance indicators, likely future developments and risks and uncertainties are discussed throughout the report.

Dividends
An interim dividend of 1.7 pence per share (2018: 1.6 pence per share) was paid on 30 August 2019. The Directors recommend the payment of a final dividend of 3.2 pence per share (2018: 3.0 pence per share) on 5 June 2020 to shareholders on the register on 1 May 2020; the ex-dividend date is 30 April 2020. This makes a total dividend for the year of 4.9 pence per share (2018: 4.6 pence per share).

Directors and their interests
The names and biographical details of the Directors are set out on page 50. Jasi Halai joined the Board on 18 June 2019. All the other Directors served throughout the year and up to 31 January 2020. Paul Dean will retire from the Board on 3 February 2020. In accordance with best practice, it is the Board's policy that all Directors, who continue to serve, should offer themselves for re-election each year.

The appointment and replacement of Directors is governed by the Articles, the Companies Act 2006, the UK Corporate Governance Code and related regulation and legislation applying to UK listed companies. The Articles require there to be a minimum of three Directors (and permit a maximum of 15) and provide that the business of the Company shall be managed by the Board of Directors which may exercise all powers of the Company. The Board of Directors may make such arrangements as they see fit to delegate those powers except that the Board retains specific authority over the matters reserved for the Board, which are summarised in the Board of Directors section in the Corporate governance report on page 56.

During the year, and up to the date of this report, the Group maintained insurance providing liability cover for its Directors.

Details of all the beneficial and non-beneficial interests of the Directors in the shares of the Company, share options and service contracts are set out in the Remuneration report on pages 62 to 77. None of the Directors had a material interest in any contract of significance in relation to the Company or its subsidiaries during the year.

There are no agreements between the Company and its Directors or employees that provide for compensation for loss of office or employment in the event of a takeover of the Company.

The Company has in place procedures to deal with conflicts of interest. The Company follows the guidance on conflicts of interest issued by the Association of General Counsel and Company Secretaries of the FTSE.

Research and development
The Group continues to undertake a research and development programme with the objective of identifying and developing new materials and products which have the potential to contribute to the growth of the Group. During the year, £4.2 million (2018: £4.0 million), of development expenditure was written off to the income statement and £nil (2018: £0.1 million) was capitalised. The expenditure is of a development nature and is largely undertaken in-house rather than by third parties.

Greenhouse gas emissions
The disclosure of the Group's greenhouse gas emissions is given in the Corporate and social responsibility report on page 47, which forms part of this report and is incorporated into it by cross-reference.

Share capital
The Company has one class of ordinary share capital which carries no right to fixed income. All of the Company's shares in issue are fully paid and each share carries the right to vote at general meetings of the Company. During the year, the Company issued 197,600 shares to satisfy the exercise of share options.

Further details of the share capital of the Company are given in note 21 to the financial statements.

There are no specific restrictions on the size of a holding in the Company nor on the transfer of shares, which are both governed by the provisions of the Articles and prevailing regulations and legislation governing UK listed companies. The Directors are not aware of any agreements between holders of the Company's shares that may result in restrictions on voting rights. No person has special rights of control over the Company's share capital.

Each year the Board seeks shareholder approval to renew the Board's authority to allot relevant securities and to purchase its own shares.

Contracts
The Company is party to a number of agreements that take effect, alter or terminate upon a change of control of the Company such as commercial contracts, banking agreements, property lease arrangements and employee share plans.

Non-financial information statement
Non-financial information required by s414C of the Companies Act 2006 can be found by using the references given on page 31 of the Strategic report.

Directors' report continued

Substantial shareholders
As at 31 January 2020, the Company has been notified of the following substantial shareholdings comprising 3% or more of the issued share capital of the Company.

	Ordinary shares (number)	Percentage (%)
GGG Spa	7,729,427	16.8
Lion Trust PLC	3,976,528	8.6
Vind LV AS	3,659,000	8.0
Aberdeen Standard Life Investments	3,581,364	7.8
Impax Asset Management	2,707,788	5.9
Financiere de L'Echiquier	1,462,994	3.2

Corporate governance
The Company's statement on corporate governance can be found in the Corporate governance report on pages 56 to 58 of these financial statements. The Corporate governance report forms part of this Directors' report and is incorporated into it by cross-reference.

Employment policies
The Group's employment policies are described in the Corporate and social responsibility report on page 43, which forms part of this report and is incorporated into it by cross-reference.

Financial risk management
The Group's operations expose it to a variety of financial risks that include the effects of price risk, foreign exchange risk, credit risk, liquidity risk and interest rate cash flow risk. The Group has in place risk management procedures that seek to limit the adverse effects on the financial performance of the Group of these financial risks.

Given the size of the Group, the Directors have not delegated the responsibility of monitoring financial risk management to a sub-committee of the Board. The policies set by the Board of Directors are implemented by the Company's finance department, which has a policy and procedures manual that sets out specific guidelines to manage interest rate risk and credit risk and circumstances where it would be appropriate to use financial instruments to manage these.

Further details on the specific risks related to financial management and their mitigation are given on page 40.

Acquisitions
On 4 September 2019 the Group, through its subsidiary Porvair Holdings B.V. purchased 100% of the share capital of Dahlman Industrial Group B.V. ("Royal Dahlman"). Royal Dahlman is based in Maassluis and Elsloo in the Netherlands and specialises in industrial filtration with particular expertise in petrochemical filtration engineering. The total consideration was €7,750,000 (£7,010,000) in cash.

Going concern
The Directors statement on going concern is incorporated in its review of viability and going concern on page 41.

Annual General Meeting
The Annual General Meeting of the Company is to be held on Tuesday 21 April 2020. The notice for this meeting and proxy forms have been sent to shareholders separately.

Statement of Directors' responsibilities
The Directors are responsible for preparing the Annual Report, the Directors' Remuneration report and the financial statements in accordance with applicable law and regulations.

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 International Financial Reporting Standards (IFRSs) as adopted by the European Union and the Parent Company financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law), including Financial Reporting Standard 101, Reduced Disclosure Framework (FRS 101). 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 the Company and of the profit or loss of the Group for that period. In preparing these financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- state whether applicable IFRSs as adopted by the European Union and applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the Group and Parent Company financial statements respectively; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and the Group and enable them to ensure that the financial statements and the Directors' Remuneration report comply with the Companies Act 2006 and, as regards the Group financial statements, Article 4 of the IAS Regulation. They are also responsible for safeguarding the assets of the Company and the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

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.

The Directors consider that the annual report and accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's performance, business model and strategy.

Each of the Directors, whose names and functions are listed on page 50, confirms that, to the best of their knowledge:

- the Group financial statements, which have been prepared in accordance with IFRSs as adopted by the EU, give a true and fair view of the assets, liabilities, financial position and profit of the Group; and
- the Strategic report and the Directors' report include a fair review of the development and performance of the business and the position of the Group, together with a description of the principal risks and uncertainties that it faces.

Directors' responsibility for provision of information to the auditor
So far as each Director is aware, there is no relevant audit information of which the Company's auditor is unaware; and each Director has 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.

This confirmation is given and should be interpreted in accordance with the provisions of s418 of the Companies Act 2006.

Independent auditor
Deloitte LLP has indicated its willingness to continue in office as the Company's auditor. A resolution concerning its appointment will be put to the Annual General Meeting.

By order of the Board

Chris Tyler
Company Secretary
31 January 2020

Corporate governance

Compliance
The following sets out the main principles of good governance in the 2016 UK Corporate Governance Code that have been followed by the Board and how those principles have been applied. The Directors are of the opinion that the Company has complied with the provisions of the UK Corporate Governance Code (which is publicly available at www.frc.org) throughout the year except:

- The Non-Executive Directors do not have a specific period for their appointment.

The Company will adopt the 2018 UK Corporate Governance Code for the year ending 30 November 2020.

Role of the Board
The Group is directed and controlled by the Board. It provides strategic leadership and support with the aim of developing the business profitably, whilst assessing and managing the associated risks. The Board ensures that the financial management, controls and resources are in place to enable the business to meet its objectives. The Directors take collective responsibility for the Group's performance.

The Board has a formal schedule for reviewing the Group's operating performance and has other specific responsibilities reserved to it, which include:

- Approval of the published financial results and dividends;
- Appointments to the Board and other Board committees;
- Approval of the strategic direction of the business;
- Approval of expenditure over certain limits;
- Approval for acquisitions and disposals;
- Approval of treasury policy and significant new financing; and
- Approval of the funding policies of the defined benefit pension scheme.

The Chairman is responsible for leadership of the Board. The responsibilities of the Chairman are set out clearly in a written document approved by the Board.

The Executive Directors manage the day to day operations of the business within the framework set out by the Board. Outside the formal schedule of Board meetings the Chairman and Non-Executive Directors make themselves available for consultation with the Executive team as necessary.

All Directors have access to the advice and services of the Company Secretary, who is responsible to the Board for ensuring that Board procedures are complied with. The Company Secretary is responsible for advising the Board, through the Chairman, on all governance matters.

The appointment and removal of the Company Secretary is a matter for the Board as a whole.

The Board has a schedule of six pre-arranged meetings during the year. In addition, such other meetings as are required are arranged to deal with specific issues or transactions. During the year there was full attendance at all pre-arranged Board meetings.

The Board undertook a rigorous self assessment review during the year to consider its own performance. The procedures included individual interviews by the Chairman with each Director, review of an assessment form and discussion of the findings at a Board meeting. The Senior Independent Non-Executive Director maintains regular contact with the other Independent Non-Executive Directors and the Executive Directors, sufficient to monitor the performance of the Chairman. The Chairman, in consultation with the Executive Directors, monitors the performance of the Non-Executive Directors.

Board of Directors
The Board consists of six Directors; two Executive Directors and four Non-Executive Directors, including the Chairman. The Board is chaired by John Nicholas. Ben Stocks is the Group Chief Executive and Chris Tyler is the Group Finance Director. Paul Dean, Jasi Halai, Sally Martin and John Nicholas are Independent Non-Executive Directors. Paul Dean is the Senior Independent Non-Executive Director. Paul Dean will retire from the Board on 3 February 2020, and Sally Martin will become the Senior Independent Non-Executive Director from that date.

The Directors' appointment and removal is a matter for the Board as a whole. The Senior Non-Executive Director is available for consultation with shareholders through the Company Secretary, by written submission. The Executive Directors and the Chairman have met with the Company's major shareholders and other potential investors on a regular basis and have reported to the Board on those meetings.

The Board considers the independence of each Non-Executive Director and assesses relationships and circumstances likely to affect each Director's judgement. The Board considers each Non-Executive Director to be independent of management.

The Non-Executive Directors' terms of appointment do not specify a specific period for their appointment and therefore the terms are not in compliance with provision B.2.3 of the UK Corporate Governance Code. However, in accordance with best practice all of the Directors offer themselves for re-election at each Annual General Meeting.

The Chairman has conducted interviews and assessments with each Director and the performance of the Executive Directors has been considered in detail by the Remuneration Committee. The Senior Non-Executive Director has reviewed the performance of the Chairman in consultation with the other Directors. The Chairman considers that, following the application of the Board's formal performance evaluation programme, each Director's performance continues to be effective and each Director has demonstrated commitment to their role.

On joining the Board a new Director receives appropriate induction including meeting with other Directors, visiting the Group's principal operations and meeting with senior management and the Group's principal advisers.

The Board has put in place a procedure by which any Director may take independent professional advice at the expense of the Company in furtherance of their duties as a Director of the Company.

The Company maintains Directors' and Officers' liability insurance.

Board Committees

Audit Committee
The Board has established an Audit Committee to review and advise the Board on matters relating to the internal controls and financial reporting of the Group.

The Report of the Audit Committee on pages 60 and 61 includes details of the Audit Committee's remit, composition, attendance, scope of work in the year and related judgements.

The Audit Committee's full terms of reference are available on the Group's website, www.porvair.com.

Remuneration Committee
The Board has established a Remuneration Committee to review and advise the Board on matters relating to the Executive Directors' remuneration.

The Remuneration report on pages 62 to 77 includes details on remuneration policy, practices and the remuneration of the Directors.

The Remuneration Committee's full terms of reference are available on the Group's website, www.porvair.com.

Nomination Committee
The Board has established a Nomination Committee to provide a transparent process and procedure for the appointment of new Directors to the Board.

The Report of the Nomination Committee on page 59 includes details of the Nomination Committee's remit, composition, attendance and scope of work in the year.

The Nomination Committee's full terms of reference are available on the Group's website, www.porvair.com.

Takeover Directive
Disclosures relating to the Takeover Directive are included in the Directors' report (under "Share capital") on page 53.

Internal control
The Board has overall responsibility for ensuring that the Group maintains a system of internal controls and for reviewing its effectiveness. The system is not designed to eliminate the risk that the Group's objectives will not be achieved but to ensure that there is an ongoing process for identifying, evaluating and managing the significant risks. As with any such system, it can only provide reasonable, but not absolute, assurance against material misstatement or loss. The Board has reviewed the effectiveness of the process regularly throughout the year. The Group's key procedures are as follows:

Control environment – Group management and Board controls – each operating business has its own management group which meets regularly to monitor operational matters. Each operating business is responsible for establishing its own system of internal controls and for ensuring compliance with those controls. The Divisional Director of each operating business reports to the Group Chief Executive, and clearly defined lines of responsibility have been established within this organisational structure. The senior finance executive in each operation has a dual responsibility to report within their operation to the Divisional Director and to the Group Finance Director. The Executive Directors visit all operations regularly to perform detailed reviews.

Control environment – Operational controls – in addition to the Group internal control systems, each business follows control procedures set out by regulators and customer requirements.

These include:

- ISO 9001 systems and controls;
- OSHA health and safety reviews;
- Quality control procedures and inspections;
- Insurance provider reviews;
- Export ITAR compliance controls;
- Customer site and product reviews;
- Aerospace/nuclear compliance and traceability;
- AS9100 compliance audits;
- EPA compliance audits; and
- GLP/FDA compliance.

Risk management – operating business management has a clear responsibility for the identification of risks facing each operation, and for establishing procedures to investigate and monitor such risks. A review of each operation's risk management is included in the normal cycle of Executive Directors' reviews of the operations. The Board reviews a group register of risks and mitigation on a regular basis as part of its normal Board reporting. The Board also commissions independent reviews of the key risks facing the Group as appropriate. Full details of the Group's risk management processes are given in the section on Principal risks and uncertainties on page 35.

Information and control systems – provide management with regular and reliable management information. The Group has a comprehensive process of annual budgets, target setting, and detailed monthly reporting. The annual budget of each operating business and the consolidated Group budget are approved by the Board as part of its normal responsibilities. Each operation produces full monthly management accounts comprising an income statement, cash flow statement, balance sheet and a forecast for the full year. These are consolidated at a Group level. The Executive management team review the performance with the operations' management. The Board receives copies of the monthly management accounts for each month and the performance of the Group is reviewed in detail at each Board meeting.

Corporate governance continued

Monitoring system – the Board has established a framework of controls encompassing procedures applicable to all businesses that are subject to executive review. The Group operates a self-assessment process so that the operating businesses can quantify the extent of their compliance with control objectives. Each separate accounting entity completes an annual self assessment questionnaire which highlights areas where control improvements could be made. The results of these control questionnaires are reviewed with senior management and new controls are implemented as necessary.

The Group operates an internal audit cycle conducted by external accounting firms and by peer reviews by the Group's financial controllers or other suitably experienced employees. The scope of the reviews each year is agreed in advance with the Audit Committee and the formal reports on each review are considered by the Audit Committee. In the current year the Group engaged PricewaterhouseCoopers LLP to conduct an internal audit of its manufacturing operation in China.

The Audit Committee considers the Group's internal audit arrangements to provide an acceptable level of review and to be appropriate for the current size of the business.

Whistleblowing policy – the Group has a formal whistleblowing procedure which gives employees the opportunity to escalate their concerns, ultimately to the Senior Non-Executive Director. There was one matter in 2019 that was treated as a whistleblowing incident (2018: none). A full review of the matter was undertaken and it was appropriately resolved. It was notified to the Board when it arose and a full report on the investigation and resolution was provided to the Board.

Consolidation process – full management accounts for each entity in the Group are consolidated each month and review and analysis is carried out on those results. These consolidated accounts form the basis of reports that are provided to Board members every month. Statutory consolidated results are prepared at each half year and full year and these are reconciled with the consolidated management accounts.

The Audit Committee and the Board have reviewed the effectiveness of the Group's internal controls for the period 1 December 2018 up to the date of approval of the Annual Report and Accounts and have addressed issues as they have been identified.

Chris Tyler
Company Secretary
31 January 2020

Report of the Nomination Committee

Governance
The Company's Nomination Committee provides a transparent process and procedure for the appointment of new Directors to the Board. The Nomination Committee comprises all of the Non-Executive Directors and is chaired by the Chairman of the Company. The Nomination Committee's responsibilities include:

- Identifying and nominating candidates to fill Board vacancies;
- Evaluating the balance of skills, diversity, knowledge and experience on the Board and the leadership needs of the organisation; and
- Succession planning.

The balance of skills, diversity, knowledge and experience, the leadership of the organisation and succession planning are considered by the Board as a whole at least annually.

Succession planning
The Committee monitors the length of service and the skills and experience of the Non-Executive Directors to assist in succession planning. Jasi Halai was recruited in the year to bring additional financial skills to the Board and will take on the Audit Committee Chairmanship when Paul Dean steps down from the Board on 3 February 2020. Succession plans for the Executive Directors are routinely discussed between them and the Chairman. The Committee is confident that the Board has the necessary skills and experience to contribute to the Company's strategic direction and expects to continue to strengthen the Non-Executive Directors' knowledge and experience of the Group's operations in the coming year.

Succession plans for the Group's 30 most senior executives are considered by the Board at least once a year to identify likely succession requirements and ensure that development plans are in place to prepare those managers expected to be able to fill more senior positions as they arise.

Boardroom diversity
Recruitment of Board candidates is conducted, and appointments made, on merit and suitability against objective selection criteria with consideration of, amongst other things, the benefits of diversity on the Board, including gender. The Board currently has six members, which will reduce to five when Paul Dean steps down on 3 February 2020. The Board expects to have either five or six members. The Board will seek to ensure that the composition of the Board includes at least two female and two male members. The gender ratio of the Board was 20% female: 80% male up until 18 June 2019, since when it has been 33% female: 67% male, from 3 February 2020 it will be 40% female and 60% male.

2019 activities
The Nomination Committee met twice during the year in relation to the appointment of Jasi Halai. The Group's leadership and succession planning were considered in a meeting of the full Board.

The Nomination Committee met twice during the year to consider the appointment of a new Non-Executive Director. All of the members of the Committee attended both meetings. The Group's leadership and succession planning was considered in a meeting of the full Board.

When recruiting new Directors, the Committee seeks to include candidates for a specific Executive vacancy, if appropriate, from the existing employees. An external search consultancy will generally be appointed to advise on all appointments to the Board. Candidates from an initial list are interviewed by the Chairman and Chief Executive. Following selection by the Chairman and Chief Executive, a shortlist, generally, of no more than three candidates are then interviewed by the other Directors. Once a suitable candidate has been identified, the Chairman of the committee recommends to the Board that the Company make a formal offer of employment to the candidate. During the year, the Committee recommended the appointment of Jasi Halai as a Non-Executive Director, from a shortlist of candidates compiled by an independent external search consultancy.

All Directors are required to submit themselves for re-election every year at the AGM.

John Nicholas
Chairman of the Nomination Committee
31 January 2020

Report of the Audit Committee

Statement by the Chairman of the Audit Committee

The Committee's role is to assist the Board by reviewing: the integrity of the Group's financial reporting; the quality of the external and internal audit review processes; the appropriateness of the Group's internal controls; and compliance with a range of financial, governance and other compliance issues.

The Committee has put a particular emphasis in the year on:

- Further refinements of the programme of the Group's internal audit reviews. The Group continues to use peer reviews for its internal audit work. In this year it requested PricewaterhouseCoopers LLP in China to carry out a review of the Metal Melt Quality plant in China.
- Reporting on the risks and provisioning related to the Group's gasification projects.
- The fair value accounting adopted for the acquisition of Dahlman Industrial Group B.V. with particular regard to the split between goodwill and intangible assets.
- The implementation of IFRS 15 – Revenue from Contracts with Customers – which is adopted in the accounts for the year ended 30 November 2019 for the first time.
- The progress towards the implementation of IFRS 16 – Leases – which will be adopted by the Group for the first time in the accounts for the year ending 30 November 2020.
- Scope of the audit performed by Deloitte LLP for the year ended 30 November 2019.

Paul Dean
Chairman of the Audit Committee
31 January 2020

Report of the Audit Committee

The Audit Committee has an agreed timetable of meetings with agendas. Representatives of the Group's auditor, Deloitte LLP, attend meetings by invitation. Other employees of the Company may be invited to attend meetings as and when required.

The Audit Committee comprised all the Independent Non-Executive Directors of the Company. Paul Dean was the Chairman of the Audit Committee throughout the period. He will resign from the Board and the Committee on 3 February 2020. Jasi Halai will become Chairman from that date. The Committee included John Nicholas, the Chairman of the Company, until 24 June 2019; he resigned from the Committee on that date in preparation for compliance with the 2018 UK Corporate Governance Code. The Board has designated Paul Dean and Jasi Halai as the members of the Committee with recent and relevant financial experience. All members of the Committee are deemed to have the necessary ability and experience to understand the financial statements. The Committee as a whole has competence relevant to the sector in which the Group operates.

The Audit Committee met three times during the year. There was full attendance by the members. Two of those meetings were held prior to the Board meetings to approve the announcement of the Group's full year and interim announcements. At those meetings the Committee considered the financial reporting judgements made by the management. Its deliberations are informed by accounting papers and financial reports prepared by management and reviews prepared by the Group's auditor.

The particular areas of focus for the Committee in reviewing the judgements underlying the financial statements this year are:

Revenue recognition: adoption of IFRS 15 and the impact on the accounting for significant gasification contracts
The Group has adopted IFRS 15 for the first time in these accounts. Revenue within all the entities in the Group is recognised on a ship and bill method in compliance with IFRS 15. On initial adoption of IFRS 15, the Group recognised specific provisions of £8.2 million and eliminated deferred revenue of £7.7 million.

The Group is party to significant gasification contracts that are of a long term nature and involve warranties. The accounting for these contracts was revised on adoption of IFRS 15 and the contracts were re-assessed for their performance obligations and potential provisions to be raised for future warranty cost claims. At 30 November 2019, the Group had total warranty provisions of £9.5 million, which included management's best estimate of the claims and expected rectification costs arising from these contracts. The Group has disclosed, as a contingent liability, a maximum unprovided exposure under these contracts of £11.5 million. Significant management judgement has been applied in determining the estimates applied in calculating the provisions.

The Committee has reviewed papers from the management setting out the approach to adopting IFRS 15 and its approach to assessing the risks in relation to the significant gasification contracts. It has satisfied itself that IFRS 15 has been appropriately adopted and that management's judgements are reasonable.

Other areas of focus
The Committee also reported to the Board that it considered that, taken as a whole, the 2019 Annual Report was fair, balanced and understandable and included the necessary information to assess the performance, business model and strategy of the Group. The Committee reviewed papers specifically relating to pension accounting, the carrying value of goodwill and intangible assets, and the disclosure of alternative performance measures on the face of the income statement and in note 2.

In addition to its work reviewing the Group's financial statements, the Committee has:

- reviewed announcements relating to the financial performance and reviewed significant financial reporting judgements contained therein;
- reviewed the work carried out by BDO LLP to assist in the valuation of the assets arising on the acquisition of Dahlman Industrial Group B.V.;
- reviewed the Group's accounting for the adoption of IFRS 15 – Revenue from Contracts with Customers. The Group has applied IFRS 15 for the first time in the year ended 30 November 2019 and a summary of the impact on the Group is given in note 1 of the accounts on pages 93 to 94;

- reviewed the Group's preparations for the introduction of IFRS 16 – Leases – including a report from PricewaterhouseCoopers LLP setting out the main adjustments that the Group would require. The Group will apply IFRS 16 for the first time in the year ending 30 November 2020 and a summary of the impact on the Group is given in note 1 of the accounts on pages 94 to 95;
- monitored the Group's internal financial controls and the Group's internal control and risk management systems and ensured that these are properly reviewed by the Group's management in line with the procedures set out on page 58;
- reviewed the scope of the internal audit work done in assessing the operating companies' internal controls and procedures. The internal audit work is undertaken mainly through a system of peer reviews by the Group's finance function. The Committee considers the Group to be too small to justify a dedicated internal audit function, however, this year the Committee engaged PricewaterhouseCoopers LLP to provide a local team to review the Group's operation in China. This was commissioned to ensure that the Chinese records could be reviewed in depth by a Chinese speaking team. The Committee considered the report's findings and the follow up work agreed;
- agreed the scope, remuneration and terms of engagement of the external auditor;
- monitored the external auditor's effectiveness, independence and objectivity. The Committee has carefully monitored the work undertaken by the auditor, Deloitte LLP, in the year and is satisfied by the quality and independence of their work. The Committee considered the robustness of the audit process; the quality and timeliness of its delivery; the quality of the auditor's staff and reporting; and its value for money. In making its assessment, the Committee made use of a professionally prepared checklist to guide its assessment; discussed the audit delivery with the management; met with the audit partner and audit management at the three Audit Committee meetings in the year; and the Committee Chairman met with the audit partner ahead of each Audit Committee meeting;
- assessed the extent to which the auditor challenged the judgements made by management. The Committee, management and the auditors consider the key areas of judgement within the accounts well in advance of the final year audit. These areas of judgement are included for specific focus in the audit plan. The Committee is presented with papers from the management on the key areas of judgement in the accounts. The judgements contained within these papers are assessed by the auditor in their reporting to the Committee. Outside the formal meetings the Chairman of the Committee meets with the audit partner ahead of each Committee meeting to obtain a detailed understanding of the audit work that has been undertaken;
- reviewed arrangements by which staff of the Group may raise concerns about possible improprieties in matters of financial reporting or other matters;
- considered its own effectiveness by means of a professionally prepared checklist and made recommendations to the Board for improvements where necessary; and
- reported to the Board on how it has discharged its responsibilities.

The Audit Committee has set a policy which is intended to maintain the independence and objectivity of the Company's auditor when acting as auditor of the Group accounts. The policy governs the provision of audit and non-audit services provided by the auditor and limits the fees and scope of the services that may be performed by the Group's auditor. In summary, the auditors are limited to fees of no more than 70% of the average fees agreed for the audit in the prior three years and may only undertake:

- reporting required by law or regulation to be provided by the auditor;
- reviews of the interim financial information;
- reporting on regulatory returns;
- reporting on government grants;
- reporting on internal financial controls when required by law or regulation;
- extended audit work that is authorised by the Audit Committee performed on financial information and/or financial controls where this work is integrated with the audit work and is performed on the same principal terms and conditions;
- reports required by competent authorities/regulators supervising the Group where the authority/regulator has either specified the auditor or identified to the Group that the auditor would be an appropriate choice of service provider; and
- audit or other services provided as auditor or reporting accountant, that an objective, reasonable and informed third party would conclude the understanding of the Group obtained by the auditor is relevant to the service and the nature of the service provided and would not compromise independence.

All non-audit services in excess of £20,000 provided by the auditor must be approved by the Committee.

The fees paid to the auditor for audit services, audit related services and other non-audit services are set out in note 4 of the consolidated financial statements. Deloitte LLP have not provided any other services to the Group in the year.

The Audit Committee is authorised to engage the services of external advisers, as it deems necessary, at the Company's expense in order to carry out its function.

Tenure of the auditor

Deloitte LLP was appointed following a competitive tender process in the final months of 2016. Deloitte's first assignment was a review of the interim results for the period ended 31 May 2017. Paul Schofield has been the audit partner since appointment. There are no plans to retender in the foreseeable future.

Remuneration report

Annual Statement by the Chairman of the Remuneration Committee ("the Committee")

On behalf of the Board, I am pleased to present our Remuneration report for 2019. In line with the Government reporting regulations on Directors' pay, introduced in October 2013, this report has been split into three sections:

- A statement by the Chairman of the Committee;
- An annual report on remuneration – that discloses how the current remuneration policy has been implemented during the year ended 30 November 2019 and includes a summary of the plans in place for 2020; and
- A policy statement – that sets out the components of the Company's remuneration policy, which was subject to shareholder approval at the Company's 2018 Annual General Meeting.

We will seek your support for the annual report on remuneration, in the form of an advisory vote at the AGM in April 2020. The Remuneration Policy included in this report was subject to approval by the shareholders at the Annual General Meeting in April 2018 and will remain in force until a new policy is approved in a general meeting no later than April 2021.

We would like to thank shareholders for their support of the 2018 Remuneration report. At the AGM on 11 April 2019, the advisory vote on the 2018 Directors' remuneration report received 96% of the votes in favour of the resolution.

The Committee's remit is to set policies and levels of remuneration to encourage actions by management that are in the long term interests of the Company and its shareholders. The Remuneration Committee met three times during the year and was fully attended by all of its members.

Porvair's strategy, as stated in the section "Strategy and business model" of the Annual Report, is to generate shareholder value through the development of specialist filtration and environmental technology businesses, both organically and by acquisition. Success of the strategy is measured by growth and cash generated from operations over the short and long term. The annual bonus is based on cash generated from operations as well as achievement of strategic objectives. Growth, measured by growth in earnings per share, is rewarded through the long term incentive award.

In the past year the cash generation performance of the Group has been on plan. £16.4 million of adjusted operating cash was generated in the year. This resulted in an award of the 25% of salary for the financial component of the annual bonus being awarded. Progress was made towards some of the agreed strategic objectives, resulting in 18% of the available 25% of base salary for the non-financial component of the bonus being awarded.

In 2016 the Committee set a target to achieve 100% vesting of the long term incentive award, that was granted in January 2017 and matures in January 2020, of earnings per share of 23.2 pence in the year ended 30 November 2019; this required growth in earnings per share over the three year period of 36%. Basic earnings per share in the year ended 30 November 2019 are 23.6 pence, a growth of 37% over the three year period. This growth allows 100% of the long term incentive award maturing in January 2020 to vest.

The Remuneration Committee aims to provide remuneration packages that:

- are competitive, but not excessive;
- are designed to attract, retain and motivate managers of high quality to deliver growth for the business;
- are aligned with shareholders' interests;
- include an element of the potential reward linked to personal performance; and
- encourage the Executive Directors to accumulate shares in the Company.

For 2020 the Committee has decided that the bonus should continue to have a maximum of 75% with 50% available for achievement of financial objectives and 25% available for progress on strategic objectives.

Sally Martin
Chairman of the Remuneration Committee
31 January 2020

ANNUAL REPORT ON REMUNERATION

This report complies with the UK Corporate Governance Code published in April 2016 (the "UK Corporate Governance Code") and other relevant regulation, including the remuneration reporting regulations (The Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013) (the "Remuneration Regulations"). It sets out the Group's remuneration policy and details of Directors' remuneration. A resolution to approve this report will be proposed at the Annual General Meeting in April 2020.

The Committee

The Remuneration Committee recommends to the Board the framework or broad policy for the remuneration and long term incentive arrangements of the Company's Executive Directors. The Committee also has an advisory role in relation to major changes in employee benefit structures throughout the Company and the Group. The Committee uses external published benchmark data to guide its deliberations. The remuneration of the Non-Executive Directors, including the Chairman, is set by the Executive Directors.

The members of the Remuneration Committee are drawn solely from the independent Non-Executive Directors. The Remuneration Committee currently comprises all of the independent Non-Executive Directors of the Company; Jasi Halai joined the Committee on 18 June 2019. To be quorate at least two members of the Committee must attend.

Sally Martin is the Chairman of the Committee. The Group Chief Executive may be invited to attend and speak at meetings of the Remuneration Committee but does not participate in any matter which impacts upon his own remuneration arrangements. The Committee met three times during the year and was fully attended by all of its members.

INFORMATION REQUIRED TO BE AUDITED

Summary of Executive Directors' remuneration packages

The Executive Directors' remuneration packages consist of: a base salary; a discretionary annual cash bonus earned for the achievement of financial and non-financial objectives; the grant of share options and long term incentives with three year financial performance targets; and the provision of other benefits comprising pension benefits and cash allowance in lieu of pension benefits, a cash allowance in lieu of a company car, medical insurance and wellness benefits, life insurance, and permanent health insurance.

Executive Directors' remuneration

The following table shows the total remuneration of the Executive Directors for the year:

2019	Basic salary and fees £'000	Taxable benefits £'000	Pension £'000	Annual bonus £'000	Long term incentives £'000	Total 2019 £'000
Executive Directors						
B D W Stocks	314	27	69	135	451	996
C P Tyler	220	23	46	95	317	701

2018	Basic salary and fees £'000	Taxable benefits £'000	Pension £'000	Annual bonus £'000	Long term incentives £'000	Total 2018 £'000
Executive Directors						
B D W Stocks	305	33	97	189	454	1,078
C P Tyler	214	22	45	133	318	732

In 2019 the Executive Directors incurred PAYE tax and national insurance contributions amounting to £834,000 (2018: £774,000) including amounts payable on the exercise of Long Term Incentive share options. On 1 December 2019 Ben Stocks and Chris Tyler were awarded an increase to their basic salary of 2.5% (2018: 3.0%). This salary rise was in line with the general salary rise awarded to all other employees.

Benefits

Benefits for the Executive Directors comprised: a cash allowance in lieu of a company car; medical insurance and wellness benefits; life assurance; and permanent health insurance. Life assurance benefits covering a lump sum of eight times salary on death in service were provided for Ben Stocks through the Porvair Pension Plan. Life assurance benefits of eight times salary on death in service were provided for Chris Tyler through an excepted life trust. The Executive Directors are covered by the Group's permanent health insurance scheme.

Pension entitlements

The Porvair plc Pension and Death Benefit Plan ("the Plan") is a contributory defined benefit scheme, which is now closed to new employees. Pension benefits from the Plan were subject to the HMRC earnings cap and the Group has continued to maintain an earnings cap since the HMRC limits were removed in April 2006.

Pension benefits up to the capped limit of £150,600 of salary until 31 March 2019 and £150,600 thereafter were provided in the period for Ben Stocks by the Plan. Ben Stocks is entitled to the same pension benefits from the Plan as all other members. The Plan has a normal retirement age of 65. Only basic salary is pensionable. Ben Stocks was aged 57 on 30 November 2019. In the event that he retires early he may, at the discretion of the Trustees of the Plan, apply to draw a reduced pension. There is no actuarial benefit to the individual to retiring early.

Remuneration report continued

Ben Stocks also received 21% additional salary on the difference between his full salary and the capped limit in lieu of pension benefits. This additional salary is not included in calculations for annual bonus or Long Term Share Plan awards.

Chris Tyler received 21% additional salary in lieu of pension benefits. This additional salary is not included in calculations for annual bonus or Long Term Share Plan awards.

Annual bonus
Bonus payments to Executive Directors are made at the discretion of the Committee for achievement of Group financial performance targets and strategic objectives. In 2018 and 2019, awards were capped at 75% of base salary. Up to 50% related to achievement of financial performance targets and up to 25% related to achievement of strategic objectives. Bonuses are not pensionable but may be paid directly into the Executive Directors' pension schemes if requested.

The table below shows the targets set for 2019:

Target	Target at operating plan level	Target for maximum payout	% salary awarded for operating plan achievement	% salary awarded for maximum achievement	Achieved	% of salary awarded
Adjusted operating cash flow	£16.4m	£18.4m	25%	50%	£16.4m	25%
Strategic: Improved performance for Metal Melt Quality in China; developing the business through acquisition; and progress in gasification.	N/A	N/A	10%	25%	See below	18%

The adjusted operating cash flow can be reconciled to the cash generated from operations. It is a measure that is impacted by Group profitability and control of working capital. The measure used for bonus purposes is based on the management accounts for the year which are translated at constant exchange rates. This ensures that the cash flows in foreign subsidiaries are based on the same exchange rates as the target.

In 2019 the Committee noted that, although still loss making, significant work had been accomplished towards reducing losses and improving the operations of the Metal Melt Quality plant in China; that Royal Dahlman had been acquired and integrated in the year; that progress had been made towards resolving of the outstanding operational issues on the gasification filtration systems and significant spares orders had been shipped in the year. The Committee concluded that 18% of salary should be awarded.

For 2020 awards will be capped at 75% of base salary. Up to 50% may be paid on achievement of financial performance targets, based on adjusted operating cash flow and up to 25% on achievement of strategic objectives. The targets for plan and maximum adjusted operating cash flow are £19.1 million and £21.1 million respectively. Non financial targets will subjectively be based on Group margin performance and organisational developments including acquisitions and succession planning.

The Committee considers these targets to be consistent with driving improved performance from the Group.

Vesting of Long Term Share Plan

2018 vesting
Options granted in 2016 under the 2008 scheme could only be exercised in full if the Committee was satisfied that in the financial year ended 30 November 2018 ('FY2018'), the Group had achieved Basic EPS of at least 21.1 pence. 30% of the award vested if the Group had achieved Basic EPS of 17.5 pence in FY2018. 50% of the award vested if the Group had achieved Basic EPS of 18.2 pence in FY2018. A sliding scale operated if the Basic EPS was between 17.5 pence and 18.2 pence and between 18.2 pence and 21.1 pence. No shares vested if the Basic EPS in FY2018 was below 17.5 pence. 100% of these options vested as a result of the performance in 2018. In the table of Executive Directors' remuneration these options were valued at 471 pence per share.

2019 vesting
Options granted in 2017 under the 2008 scheme could only be exercised in full if the Committee was satisfied that in the financial year ended 30 November 2019 ('FY2019') the Group had achieved Basic EPS of at least 23.2 pence. 30% of the award vested if the Group had achieved EPS of 18.0 pence in FY2019. 50% of the award vested if the Group had achieved Basic EPS of 19.2 pence in FY2019. A sliding scale operated if the Basic EPS was between 18.0 pence and 19.2 pence and between 19.2 pence and 23.2 pence. No shares vested if the Basic EPS in FY2019 was below 18.0 pence. 100% of these options vested as a result of the performance in 2019. In the table of Executive Directors' remuneration these options were valued at 594 pence per share.

Share options and long term incentive plan shares
Awards of share options and long term incentive plan shares are at the discretion of the Committee.

The Company operates a discretionary share option plan, which was updated in 2018. The LTSP 2008 scheme may not grant any awards after 8 April 2018. A resolution put to the AGM on 17 April 2018 introduced a new LTSP ('LTSP 2018') on substantially the same terms as the old scheme. The schemes provide nominally priced options or share awards with a ten year life subject to vesting conditions after three years based on performance conditions set by the Committee. The principal differences between the LTSP 2008 and the LTSP 2018 are:

- Malus provisions are embedded in the LTSP 2018 scheme documentation.
- Clawback provisions are available at the discretion of the Committee.
- A cap of 250% of base salary on the discretion available to the Committee to make awards in exceptional circumstances. LTSP 2008 had an uncapped discretion.
- The Committee may make normal awards up to 150% of salary per annum to an Executive.
- LTSP 2018 makes provision for the Committee to introduce a holding period of up to two years after the end of the vesting period.

The Company also periodically offers invitations to all UK permanent employees to join Save As You Earn ('SAYE') schemes. Currently there are three year and five year schemes running following invitations in October 2014, October 2016, October 2017 and October 2019.

The maximum number of shares that may be issued under the Company's option schemes may not exceed 10% of the Company's issued share capital in any 10 year period.

The market price of the Company's ordinary shares at 30 November 2019 was 604 pence per share (2018: 425 pence per share).

The range of market prices during the year was 403 pence to 630 pence.

Directors' holdings in shares and share options
In awarding long term incentive shares to the Executive Directors, the Remuneration Committee encourages the Executive Directors to build up a holding of shares in the Company. The Committee prefers Executive Directors to hold the equivalent of at least the value of one year's base salary in Porvair shares. The Executive Directors have exceeded this guideline since April 2013.

The beneficial interests at 30 November 2019 and 30 November 2018 of the Directors and their connected persons in the ordinary shares of the Company are shown below. There have been no changes in those interests up to the date of this report.

	2019		2018	
	Ordinary shares (number)	Share options (number)	Ordinary shares (number)	Share options (number)
Executive Directors				
B D W Stocks	**764,840**	**214,637**	739,420	244,737
C P Tyler	**494,311**	**155,580**	479,311	176,680
Non-Executive Directors				
P Dean	**5,000**	–	5,000	–
J H Halai	–	–	N/A	N/A
S J Martin	–	–	–	–
J E Nicholas	**7,500**	–	7,500	–

Remuneration report continued

Details of the share options held by the Executive Directors at the end of the year, which have been granted under Porvair Share Option Schemes, are as follows:

	At 30 November 2018 (number)	Granted in the year (number)	Lapsed in the year (number)	Exercised in the year (number)	At 30 November 2019 (number)	Exercise price	Grant date	Exercisable from	Expiry date
B D W Stocks									
Vested									
2008	96,700	–	–	(96,700)	–	2p	27/01/2016	27/01/2019	27/01/2026
2008	76,200	–	–	–	76,200	2p	31/01/2017	31/01/2020	31/01/2027
Unvested									
SAYE	7,537	–	–	–	7,537	398p	01/10/2017	01/10/2022	01/04/2023
2008	64,300	–	–	–	64,300	2p	01/02/2018	01/02/2021	01/02/2028
2018	–	66,600	–	–	66,600	2p	31/01/2019	31/01/2022	31/01/2029
	244,737	66,600	–	(96,700)	214,637				
C P Tyler									
Vested									
2008	67,900	–	–	(67,900)	–	2p	27/01/2016	27/01/2019	27/01/2026
2008	53,500	–	–	–	53,500	2p	31/01/2017	31/01/2020	31/01/2027
SAYE	6,312	–	–	–	6,312	240p	01/10/2014	01/10/2019	01/04/2020
Unvested									
SAYE	3,768	–	–	–	3,768	398p	01/10/2017	01/10/2022	01/04/2023
2008	45,200	–	–	–	45,200	2p	01/02/2018	01/02/2021	01/02/2028
2018	–	46,800	–	–	46,800	2p	31/01/2019	31/01/2022	31/01/2029
	176,680	46,800	–	(67,900)	155,580				

Scheme interests awarded during the financial year
The table below sets out the options granted during 2018 and 2019:

	Date of grant	Scheme	Number	Exercise price	Share price used to value grant	Face value of grant £'000
B D W Stocks	1 February 2018	2008	64,300	2p	476p	306
	31 January 2019	2018	66,600	2p	471p	314
C P Tyler	1 February 2018	2008	45,200	2p	476p	215
	31 January 2019	2018	46,800	2p	471p	220

For performance over the three year period to 30 November 2022 the Committee has decided that Ben Stocks will be awarded 54,000 2 pence options and Chris Tyler will be awarded 38,000 2 pence options under LTSP 2018 immediately after the announcement of the Group's results. The share price used to value the grant was 594 pence per share.

The Long Term Share Plan shares granted were calculated to equal a year's salary for each Executive Director based on the average share price over the final quarter of the preceding financial year. Future awards will be calculated on the same basis. The Long Term Share Plan shares are options issued at the nominal value of the Company's ordinary shares of 2 pence.

Performance conditions of the unvested share options
Options granted in 2018 under the 2008 scheme can only be exercised in full if the Committee is satisfied that in the financial year ending 30 November 2020 ('FY2020') the Group has achieved Basic EPS of at least 26.7 pence. 30% of the award will vest if the Group has achieved Basic EPS of 22.6 pence in FY2020. A sliding scale will operate if the Basic EPS are between 22.6 pence and 26.7 pence. No shares vest if the Basic EPS in FY2020 are below 22.6 pence.

Options granted in 2019 under the 2018 scheme can only be exercised in full if the Committee is satisfied that in the financial year ending 30 November 2021 ('FY2021') the Group has achieved Adjusted EPS of at least 30.9 pence. 30% of the award will vest if the Group has achieved Adjusted EPS of 26.5 pence in FY2021. A sliding scale will operate if Adjusted EPS are between 26.5 pence and 30.9 pence. No shares vest if the Adjusted EPS in FY2021 are below 26.5 pence. These shares are subject to an additional two year holding period after the end of the vesting period. After the vesting period, before the end of the two year holding period, the option holder may exercise the option but may only sell sufficient shares to settle the option price and the income tax payable.

The Committee intends to grant options in 2020, after publication of these results, under LTSP 2018, which can only be exercised in full if the Committee is satisfied that in the financial year ending 30 November 2022 ('FY2022') the Group has achieved Adjusted EPS of at least 33.7 pence. 30% of the award will vest if the Group has achieved Adjusted EPS of 29.2 pence in FY2022. A sliding scale will operate if Adjusted EPS are between 29.2 pence and 33.7 pence. No shares vest if the Adjusted EPS in FY2022 are below 29.2 pence.

These shares are subject to an additional two year holding period after the end of the vesting period. After the vesting period, before the end of the two year holding period, the option holder may exercise the option but may only sell sufficient shares to settle the option price and the income tax payable.

The options granted under the SAYE scheme in 2014, 2016 and 2017 were issued at a 20% discount to the market price at the date of grant. These options have no performance conditions.

The Company funds the Employee Benefit Trust, approved at the 2015 AGM, to settle incentive share awards granted in 2016 and the future. At 30 November 2019 the Trust held 145,400 shares (2018: 196,000).

The table below sets out the options exercised during 2019:

	Date of exercise	Scheme	Number	Exercise price	Share price on date of exercise
B D W Stocks	27 June 2019	2008	96,700	2p	582p
C P Tyler	27 June 2019	2008	67,900	2p	582p

The table below sets out the options exercised during 2018:

	Date of exercise	Scheme	Number	Exercise price	Share price on date of exercise
B D W Stocks	20 September 2018	2008	89,250	2p	500p
C P Tyler	20 September 2018	2008	62,125	2p	500p

The Executive Directors' total gain on the exercise of options in 2019 was £954,680 before deduction of income tax and national insurance. On exercise, the Executive Directors sold some shares to fund the option acquisition costs and the related PAYE and national insurance costs and certain other personal financial commitments. The remaining shares were retained. As a result of these option exercises Ben Stocks and Chris Tyler's holdings in shares in the Company increased by 20,000 shares and 15,000 shares, respectively.

The Executive Directors' total gain on the exercise of options in 2018 was £754,000 before deduction of income tax and national insurance. On exercise, the Executive Directors sold some shares in part to fund the option acquisition costs and the related PAYE and national insurance costs. As a result of these option exercises Ben Stocks and Chris Tyler's holdings in shares in the Company increased by 39,250 shares and 27,125 shares, respectively.

Non-Executive Directors

The table below gives the salary and fees of the Non-Executive Directors:

2019	**Basic salary and fees £'000**
P Dean	**38**
J H Halai (appointed on 18 June 2019)	**18**
S J Martin	**38**
J E Nicholas	**91**
	185

2018	Basic salary and fees £'000
P Dean	37
C L Matthews (resigned 17 April 2018)	31
S J Martin	37
J E Nicholas	69
	174

Remuneration report continued

Payments to Directors leaving the Group

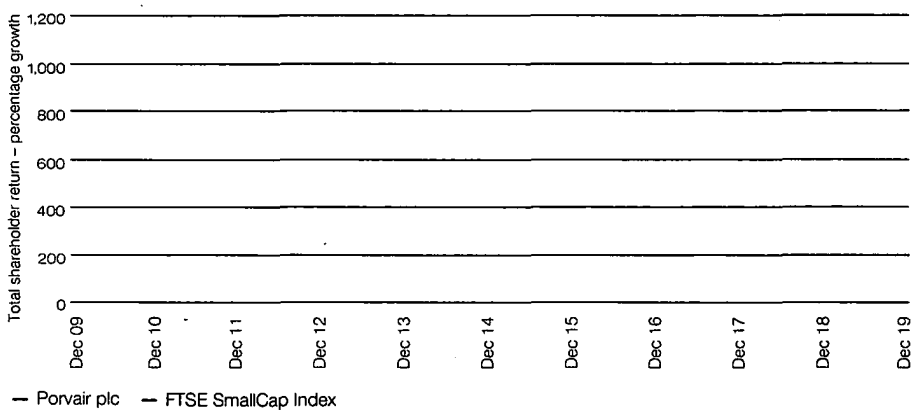
No payments (2018: £nil) were made during the year ended 30 November 2019 to any former director of the Company or any other Group company.

INFORMATION NOT REQUIRED TO BE AUDITED

Performance graph and table

The following graph charts total shareholder return against the FTSE SmallCap Index for the last ten years. Given the size and nature of the Group, the FTSE SmallCap Index is the logical comparator index.

10 year total shareholder return



The table below shows the total remuneration for the Chief Executive Officer and the percentages of the maximum awards of performance related pay received over the past ten years:

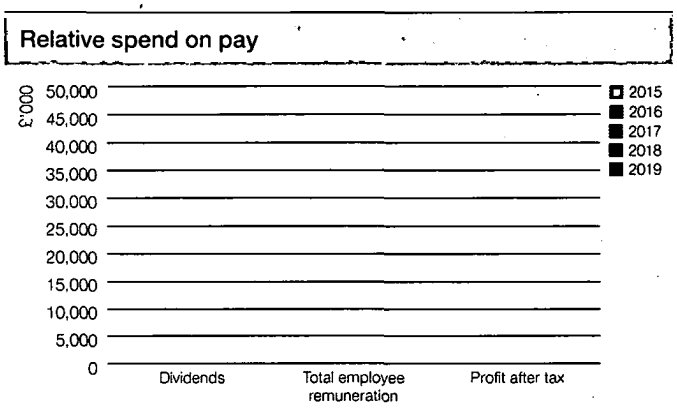
Year	CEO	Single figure total remuneration £'000	Annual variable element % of max	Long term incentives % of max
2019	Ben Stocks	996	57%	100%
2018	Ben Stocks	1,078	83%	100%
2017	Ben Stocks	1,029	87%	87.5%
2016	Ben Stocks	991	90%	95%
2015	Ben Stocks	1,151	97%	100%
2014	Ben Stocks	1,298	100%	100%
2013	Ben Stocks	1,169	97%	100%
2012	Ben Stocks	927	93%	92%
2011	Ben Stocks	518	100%	100%
2010	Ben Stocks	432	95%	0%

The table below shows the percentage change in remuneration of the Chief Executive Officer and the Group's UK employees as a whole between 2018 and 2019:

	Percentage increase/(decrease) in remuneration in 2019 compared with 2018	
	Chief Executive Officer	UK employees
Salary and fees	3%	3%
Taxable benefits	1%	(8)%
Annual bonuses	(29)%	(11)%
Total	(9)%	2%

The UK employees are considered a suitable comparator group because the Chief Executive Officer is UK based and subject to the same macro-economic conditions as other UK employees.

Relative importance of spend on pay
As required by the Remuneration Regulations, the table below compares total staff remuneration with the amounts paid in dividends to shareholders and the profit after tax of the Group:



Statement of voting at the Annual General Meeting
A resolution to approve the Report of the Remuneration Committee included in the 2018 Report and Accounts was passed by the shareholders at the AGM on 11 April 2019. 96.0% of votes were cast in favour of the resolution. 4.0% of votes were cast against the resolution and 10,002 votes were withheld.

A resolution to approve the Report of the Remuneration Committee included in the 2017 Report and Accounts was passed by the shareholders at the AGM on 17 April 2018. 95.7% of votes were cast in favour of the resolution. 4.3% of votes were cast against the resolution and 31,145 votes were withheld.

A resolution to approve the Remuneration Policy included in the 2017 Report and Accounts was passed by the shareholders at the AGM on 17 April 2018. 98.2% of votes were cast in favour of the resolution. 1.8% of votes were cast against the resolution and 41,908 votes were withheld.

Advisers to the Committee
During the year the Committee has reviewed published surveys of the remuneration of directors of similar sized companies. The Committee did not take independent advice on the remuneration of Directors in 2018. In 2019 the Committee took advice from MM&K, remuneration consultants, in formulating its approach to the remuneration requirements included in the 2018 Corporate Governance Code. MM&K were appointed to advise the Committee because the Group had used them in 2017 to formulate its approach to the Group's remuneration policy. The fee was £6,000 based on the time involved.

The Committee received input into its decision-making from reports prepared by the Executive Directors, none of whom were present at any time when their own remuneration was being considered.

Remuneration Policy
The Remuneration Policy, which was approved at the Annual General Meeting held on 17 April 2018 and is expected to remain in force for three years from the date of that meeting, forms part of this report and is set out on pages 70 to 77.

On behalf of the Board

Sally Martin
Chairman of the Remuneration Committee
31 January 2020

Remuneration report continued

REMUNERATION POLICY AS APPROVED AT THE GROUP'S 2018 AGM

Introduction

The Group's policy is to provide remuneration packages for its senior executives that reflect their contribution to the business, the performance of the Group, and the need to attract and retain executives of the highest quality.

The Remuneration Committee ("the Committee") seeks to provide straightforward and easily understood remuneration packages, which align the interest of the Directors with those of shareholders. The general principles that the Committee adopt are to provide remuneration arrangements that incentivise the Executives to deliver on the Group's long term strategy and short term goals with an appropriate mix of fixed and variable pay. The Committee aims to provide remuneration packages that:

- are competitive, but not excessive;
- are designed to attract, retain and motivate managers of high quality to deliver growth for the business;
- are aligned with shareholders' interests;
- include an element of the potential reward linked to personal performance; and
- encourage the Executive Directors to accumulate shares in the Company.

The policy set out below was approved by shareholders at the April 2018 Annual General Meeting and will remain in force until the Annual General Meeting in 2021.

Changes from the previous policy

The Committee believes that the two previous remuneration policies have served the Group and its shareholders well and consequently the changes adopted in this policy are mainly of disclosure and improving the alignment of the policy with the underlying remuneration schemes operated by the Group.

Specifically this policy includes:

- the introduction of a holding period of two years post vesting for the LTSP for options granted under the LTSP 2018;
- greater detail of the operation of each component of remuneration and the maximums applied;
- disclosure of the discretions available to the Committee; and
- greater detail of the termination arrangements for Executive and Non-Executive Directors.

The new LTSP includes:

- malus provisions embedded in the scheme documentation.
- the ability to include clawbacks at the discretion of the Committee.
- a limit of 250% of base salary on the discretion available to the Committee to make awards in exceptional circumstances. This was previously an uncapped discretion.
- provisions in the scheme to include holding requirements after vesting at the discretion of the Committee.

These terms are reflected in additional disclosure in the new policy.

The policy

In this forward looking section the Group's remuneration policies and potential future outcomes for each Executive Director and the Group's policy for rewarding Non-Executive Directors are described.

These policies and the individual elements of the reward package are reviewed each year to ensure that they remain in line with good practice and support the delivery of the Group's strategy.

The table below summarises the main components of the existing remuneration package for Executive Directors:

Fixed remuneration components

Remuneration component	How the component operates	Maximum payouts
Base salary Purpose: • To attract and retain executives of high quality.	Initial salaries on joining or appointment to the role are set by reference to: • The level of skill and experience of the individual. • The scope of responsibilities required in the role. • Market comparators for similar roles in similar sized quoted businesses. Salaries are reviewed annually and fixed for a year. The rate of increase is influenced by: • The annual increase given to other UK employees. • The current rate of UK CPI inflation. • Market comparators for similar roles in similar sized quoted businesses.	The current salary levels are disclosed in the Remuneration report. Salary increases will normally be in line with salary increases applied in the UK operations of the Group. Increases above this level may be made in specific situations, such as progression and development in the role, material changes to the business, remit or responsibilities and internal promotion. An increase in salary to a current Executive Director will not result in the salary exceeding the competitive market rate.
Pensions Purpose: • To provide a competitive package for Executive Directors.	• The Executive Directors are provided with a cash contribution in lieu of pension benefits. • Ben Stocks is a member of the closed Porvair Pension Plan and his benefits up to a capped limit of salary are provided by the Plan. Above the limit he receives a cash contribution in lieu of pension benefits.	The current level of contribution provided to the Executive Directors is disclosed in the Remuneration Report. The maximum Company contribution will not exceed 25% of base salary. The Committee may change the Directors' pension arrangements in response to new legislation or regulations provided that any changes do not materially increase the cost to the Company.
Benefits Purpose: • To provide a competitive package for Executive Directors.	Benefits comprise: • A company car or allowance, including car insurance. • Medical insurance and health benefits. • Life insurance/spouse's pension. • Permanent health insurance. • Certain professional and membership fees.	The Committee reserves the power to deliver benefits which, in aggregate, have a cost of up to 25% of base salary. The Committee may exceed this limit in exceptional circumstances, including (but not limited to) where there are changes in the underlying benefits provided, changes to benefit providers and changes in individual circumstances (such as health status or location).

Performance conditions

No performance measures apply to the fixed elements of remuneration; however the performance of the Group and the individual are taken into account in determining annual pay and benefit awards.

Remuneration report continued

Variable remuneration components

Remuneration component	How the component operates	Maximum payouts
Annual bonus Purpose: • To encourage and reward actions consistent with the near term (annual) priorities of the Group. • To motivate and incentivise Executive Directors to deliver performance in the current financial year.	Executive Directors' contracts make them eligible to participate in the annual bonus scheme but it is an entirely discretionary scheme and the amounts are not covered by contract obligations. The Committee administers the scheme, which is governed by terms set out in the minutes of the Committee's meetings. The performance targets for the year are generally agreed following the Group's annual strategy review and their delivery is assessed after the Group's financial year end. The final determination of payouts is based on the Group's audited financial statements. The principal elements of the scheme are: • The Committee determines the maximum potential annual payout at the start of each financial year. • An element of the annual bonus is based on the financial performance of the Group in the year and an element based on the delivery of strategic objectives, which may be financial or non-financial. • The annual bonus is not pensionable. • The bonus is paid after the announcement of the Group's annual results. • The bonus is normally paid in cash. However, the Committee may direct that an agreed proportion of the post-tax annual bonus be paid in shares, where an Executive Director's shareholding is less than the Committee's designated target shareholding in the Group.	The Committee determines, at the start of each year, the maximum amount that the Executives may earn under the annual bonus scheme. The maximum that the Executives can earn in annual bonuses in each year is disclosed in the Remuneration report. The Committee may not offer an annual bonus scheme with the potential to earn more than 100% of base salary. The minimum payout is £nil.

Performance conditions

At the start of each financial year, the Committee sets performance targets based on Group financial operating performance targets and strategic objectives designed to reward the Executives for delivering near term priorities of the Group. At the same time, the Committee determines the ratio of awards between each element of the bonus.

Performance targets, set with reference to the Group's annual operating plan and strategic priorities for the year, are disclosed in the Remuneration report. The Group's annual operating performance targets, which typically relate to adjusted annual operating profit, annual operating cash flow or similar annual operating measure, are measured on a sliding scale with the maximum payout reserved for significant outperformance compared to plan. The strategic targets are typically based on achievement of specific identified objectives critical to the delivery of the Group's annual or three-year operating plans; their achievement is based on the judgement of the Committee.

Variable remuneration components (continued)

Remuneration component	How the component operates	Maximum payouts
Long term share plan and share options Purpose: • To motivate and incentivise Executive Directors to deliver sustained performance over the longer term in line with shareholder interests.	Awards of LTSP are generally made in the form of 2 pence options but may also be made as direct awards of shares. Awards have been made to the Executive Directors under the Porvair Long Term Share Plan 2008. No further awards may be made under the scheme after the Annual General Meeting 2018. Awards made after the Annual General Meeting 2018 will, conditional on shareholder approval, be made under the Porvair Long Term Share Plan 2018. The schemes are operated by the Committee under the specific scheme rules. Each year the Committee determines: • The period of time over which performance will be judged, which may not be shorter than three years under the scheme rules. • For options issued under the LTSP 2018, the Remuneration Committee will require a holding period of up to two years following the end of the performance period, such that the period from the date of grant to the first time that awards may be realised will be five years. • The number of shares to be awarded as options and to whom. • The performance criteria. Vested awards may be settled by the issue of new shares or, for issues made after the 2015 Annual General Meeting, from shares held by an Employee Benefit Trust ("EBT"). Shares awarded under the LTSP 2018 are subject to malus and clawback provisions as described below. For options issued under the LTSP 2018 after the vesting period but before the end of the holding period, the Executive may exercise the options and sell only sufficient shares to settle the option price and tax liability arising on the exercise. The remaining shares must be held until the end of the holding period. For shares awarded under the LTSP 2018, the Executive may sell sufficient shares on vesting to settle any tax liability arising but must hold the remainder until the end of the holding period. Shares or options that vest are eligible for dividend equivalent payments for the period from award to the end of the holding period at the discretion of the Committee.	The Committee determines, at the start of each year, the amount of option or award shares that the Executives will be granted in the year. This amount is disclosed in the Remuneration report each year. The Committee may offer awards up to 150% of base salary in any one year and retains a discretion in exceptional circumstances (for example on recruitment) to offer awards up to 250% of annual salary.

Performance conditions

The scheme rules require the Remuneration Committee to set performance criteria for vesting each LTSP award. The Committee aims to set stretching vesting criteria based on achievement of financial goals set out in the Group's three year strategic plan. It seeks to set criteria that are simple to manage and understand and which are, if applied consistently, aligned over the longer term with the delivery of value to shareholders. The Committee discloses in the Remuneration report the performance criteria for each unvested award including those awards to be made in the coming year.

There is generally a minimum metric below which there is no vesting and a maximum metric which earns 100% of the award. A sliding scale of vesting operates between the maximum and minimum.

The Remuneration Committee has adopted stretching EPS growth as the performance criteria for the LTSP as it believes that this provides a reliably measurable target in line with the Group's medium and long term objectives. As part of its annual awards process, the Committee considers each year whether this basis remains appropriate. Each year the Remuneration report discloses the prospective awards and performance conditions that will apply. The Committee has discretion to adopt alternative performance metrics should they conclude that alternative targets better align the Executive performance with the long term delivery of value to shareholders.

Remuneration report continued

Variable remuneration components (continued)

Remuneration component	How the component operates	Maximum payouts
Save as you earn scheme Purpose: • To encourage and incentivise regular saving for all UK employees. • To allow UK employees to benefit from tax efficient HMRC approved gains from any growth in the Group's share price. • To encourage ownership of the Group's shares.	UK employees are entitled to subscribe for options under the Group's three and five year Save As You Earn schemes. The scheme is governed by the rules set out in the Porvair plc SAYE share Options Plan 2014. The Group offers new SAYE schemes to coincide with the maturity of previous SAYE schemes. This means that schemes generally commence on 1 October in years when a scheme matures. The scheme rules allow the options to be issued at up to a 20% discount to the prevailing market price, which is determined at the time the offer is made to employees, generally approximately two months before the start of the scheme. At the end of the savings period, provided the employee has maintained the monthly savings plan, the option shares vest and the employee has the choice of a return of the cash saved in the building society account or to use the savings to acquire the option shares. The options must be exercised within six months of the date of vesting. Vested awards may be settled by the issue of new shares or, for issues made after the 2015 Annual General Meeting, from shares held by an Employee Benefit Trust ("EBT"). Non-Executive Directors may not join the scheme.	SAYE schemes allow a maximum of £500 per month to be saved. The Group offers three and five year saving schemes. The number of shares under option is determined by the amount saved in an authorised building society account plus interest over the vesting period divided by the option price determined at the date of subscription to the scheme.

Performance conditions
The scheme has no performance conditions.

Shareholding requirement
The Committee has set a target for Executive Directors to hold the equivalent of at least the value of one year's base salary in Porvair shares within five years of joining the Board.

External appointments
Executive Directors are able to undertake one Non-Executive Directorship outside the Company with the consent of the Board. Any fees received may be retained by the Director.

Discretions
The Committee retains certain discretions over the management and operation of the variable elements of the Executive Directors' remuneration. The annual bonus scheme is discretionary and therefore the Committee retains full authority to vary its terms and its payouts in each financial year. Its powers are limited by the maximums set out in this policy and by the limits it sets for the Executives within the Committee minutes. The limits and targets for each annual bonus are published in advance in the Remuneration report.

The long term share plans are governed by the scheme rules approved by shareholders. The rules of the scheme allow for the fair operation of the scheme through discretions delegated to the Committee. Under these discretions the Committee may:

- waive the requirement for the employee to pay the employer's National Insurance.
- grant options with a shorter life than 10 years.
- award the option holder with additional shares equivalent to the dividends that the option holder would have earned if the shares had been held throughout the option period.
- increase the number of shares that can be exercised by a good leaver or the personal representatives of an employee dying in service, which would normally be based on the proportion of the performance period that has elapsed prior to their cessation of employment, having due regard for the likelihood that the performance conditions will be met.
- allow an employee leaving for reasons other than as a good leaver to be able to exercise their options after the date that they have given notice to leave employment.
- amend the performance conditions if an event has occurred such that the performance of the Company should be measured by a fairer measure affording a more effective incentive to the employee.

- in determining whether a performance condition has been met, make such adjustments as they consider necessary to take account of underlying performance.
- determine whether performance conditions have been met in the event of a corporate event such as change of control or demerger.
- in the event of a change of control, in exceptional circumstances, permit more award shares or options to become vested than would be calculated by the proportion of the performance period that has elapsed.
- in the event of a rights issue or capitalisation issue, make such adjustments as it considers appropriate to the number of shares under option.
- make minor amendments to the Plan to improve its administration, reflect changes in legislation, or to maintain favourable tax treatment for the participants or the Company.

Long Term Share Plan – Performance adjustment (malus)
The Committee may, at its absolute discretion, require an Executive Director to forfeit all or a proportion of his unvested award shares and/or all or a proportion of the vested award shares in respect of which the option award has not otherwise been settled, in the exceptional circumstances of misconduct or misstatement by the Executive Director (or for which the Executive Director is determined, in the Committee's absolute discretion, to be solely or jointly accountable). The terms of any forfeiture shall be determined by the Committee.

Long Term Share Plan – Forfeiture of vested awards (clawback)
At the award date, the Committee determines whether an award should be granted subject to clawback. If it is decided that the award should be subject to clawback then in the exceptional circumstances of misconduct or misstatement by the Executive Director (or for which the Executive Director is determined, in the Committee's absolute discretion, to be solely or jointly accountable); which had it been known at the time of vesting would have caused the Committee to take a different decision regarding the vesting of the award shares; the Committee may, in its absolute discretion, take any or all of the following steps in respect of the vested award shares:

- reduce the number of unvested award shares to which the Executive Director is entitled under any other award and/or proportion of the vested award shares in respect of which the Executive Director has not exercised an option award (or in respect of which the option award has not otherwise been settled);
- require the Executive Director to transfer any vested award shares back to the Company, or to such other person or persons as the Company shall nominate, for nil consideration;
- reduce the amount of any further awards to be granted to the Executive Director;
- reduce the amount of any cash bonus or shares payable to the Executive Director under any other plan operated by the Company; and/or
- require the Executive Director to pay to the Company or any Group company an amount equal to the amount of any or all of the proceeds the Executive Director realised on the disposal of any of the shares acquired pursuant to the award.

When enforcing the clawback terms, the Committee shall take into account:

- the amount (if any) paid by the Executive Director to acquire any shares in relation to the award;
- the amount of tax and national insurance contributions actually paid or still to be paid by the Executive Director in relation to the award or the sale of any of the shares acquired in relation to the award (after taking account of any relief available); and
- the number of shares subject to the award that would have vested (if any) had the misconduct or misstatement been known by the Remuneration Committee at the time.

If the Committee wishes to exercise its right to enforce clawback in respect of any award (or part of an award) in accordance with its powers, it shall communicate the clawback terms to the Executive Director in writing on or around the time that the misconduct or misstatement is discovered.

Clawback ceases to apply to any award (or part of an award) after three years from the date on which the award shares became vested award shares.

Annual Bonus – Malus and Clawback
The annual bonus is discretionary and therefore the Committee retains full authority to vary its terms each year within the framework set out in this policy. In the exceptional circumstances of misconduct or misstatement by the Executive Director, the Committee may take any, or all, of the following steps:

- Cancel or reduce the bonus earned by the Executive Director in the year in which the misconduct or misstatement comes to light.
- Reduce the amount of awards in future years.
- Require the Executive Director to repay bonuses relating to the financial years affected by the misconduct or misstatement.

When enforcing any clawback of bonus the Committee will take into account amounts of tax and national insurance paid or still to be paid in relation to previously awarded bonuses, which cannot be recovered.

Remuneration report continued

Estimate of the total future potential remuneration
The charts below set out estimates of the potential remuneration for each of the Executive Directors based on their current remuneration packages. The assumptions included in each scenario are described below:

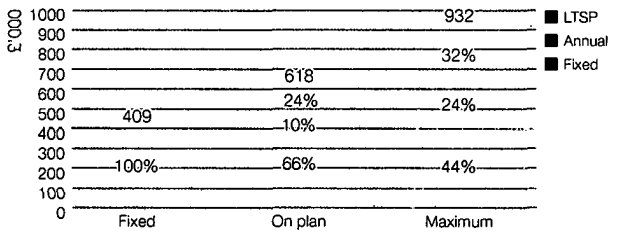
- The Porvair share price is assumed to remain constant at the average of the last quarter's share price.

Fixed
- Consists of base salary, pension and benefits.
- Base salary is the current salary.
- Benefits are assumed to be in line with those received in 2017.
- Pensions are assumed to be in line with current practice.

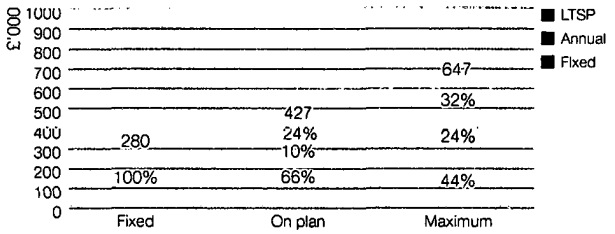
For performance in line with both the annual and three year operating plan
- Annual bonus of 20% of salary.
- Long term share plan ('LTSP') award of 50% of maximum.

For performance significantly above both the annual and three year operating plan, the maximum award currently is:
- Annual bonus of 75% of salary.
- LTSP award of 100% of salary.

Ben Stocks



Chris Tyler



Policy on Non-Executive Directors
The Non-Executive Directors receive letters of appointment with a maximum notice of three months. They are subject to annual re-election, in common with the Executive Directors, in accordance with the best practice set out in the UK Corporate Governance Code. The Board, excluding the Non-Executive Directors, reviews the Non-Executives' fees annually. They receive a fixed annual fee plus expenses reimbursement, which reflects their time commitment to the business and comparatives from similar sized quoted companies. No additional fees are paid for acting as Senior Non-Executive Director or for chairing committees but the Board reserves the right to introduce these in appropriate circumstances. Non-Executives are not eligible for any bonus or incentive or pension schemes. In the event that a Non-Executive Director fails to be re-elected at the Annual General Meeting they are required to resign with immediate effect.

The current scale of remuneration is:

	£'000
Chairman	82
Other Non-Executive Directors	36

Engagement with shareholders
The Committee considers shareholder feedback received during the AGM and any other shareholder meetings as part of its annual review of its remuneration. The Chairman of the Remuneration Committee is available, on request, to discuss issues of remuneration with shareholders of the Group.

Where the Remuneration Committee proposes to introduce new long term incentive plans, the Committee seeks the views of major shareholders prior to seeking general shareholder approval at a general meeting.

Discussions were held with a number of shareholders prior to the 2018 AGM to explain some of the terms of the remuneration policy. Key shareholders have been made aware of the Company's intention to refresh its Long Term Share Plan at the 2018 AGM and have given their support.

Relationship with employees' pay
All employees receive a salary, pension and benefit package with levels of salary commensurate with their responsibilities. Executives throughout the Group participate in various bonus schemes designed to reward good performance in their operations.

The Committee takes into account proposed or agreed changes to employees' pay and conditions as part of its review of the remuneration of Executive Directors. Except in exceptional circumstances, this results in the annual pay increases awarded to Executive Directors being broadly in line with increases applied to other UK employees.

The Committee maintains an overview of the remuneration policies throughout the Group. It seeks to ensure that employees are paid a market rate for their particular roles and that there is consistency in targets set where performance related pay might be awarded. Employees are not consulted in the process of setting the policy for Executive Directors' remuneration.

Recruitment of Directors
In the event that the Company appoints a new director, in determining appropriate remuneration arrangements, the Committee will take into consideration all relevant factors (including but not limited to quantum, the type of remuneration being offered and the candidate's background) to ensure that arrangements are in the best interests of both the Company and its shareholders without paying more than is necessary to recruit a director of the required calibre. The Committee will align the remuneration package offered with the remuneration policy outlined in the policy table on pages 71 to 74.

Depending on an individual's prior experience, the Committee may set salary below market norms, with the intention that it is realigned over time, typically two to three years, subject to performance in the role. In this situation, the Committee is permitted to exceed the "normal" rate of annual salary increase set out in the policy table on pages 71 to 74.

In the year of appointment, the Committee may offer additional remuneration arrangements that it considers appropriate and necessary to recruit and retain the individual. The Committee may authorise:

- awards to 'buy-out' remuneration arrangements forfeited on leaving a previous employer. In such circumstances any arrangement will only compensate for remuneration foregone. The Committee will take account of relevant factors including any performance conditions attached to these awards, the form in which they were granted (e.g. cash or shares) and the time over which they would have vested. Any 'buy-out' of long term incentives on joining or initial incentives would be in Long Term Share Plan shares, and subject to the rules of that scheme. Awards would be limited to a maximum of 250% of basic salary on joining, subject to suitably stretching performance criteria and a minimum vesting period of three years; and
- other payments in relation to relocation expenses and other incidental expenses as appropriate.

For internal promotions, the Committee reserves the right to satisfy pre-existing executive incentive awards and other obligations which may be in place at the time of appointment.

Service contracts and policy in respect of payments for loss of office
The Executive Directors have rolling contracts with the Company which can be terminated on giving twelve months' notice. This is considered to be an appropriate balance between flexibility and commitment by both parties.

Executive Directors' employment contracts provide for the Executive to receive salary; private medical insurance; use of a company car; and participate in the Group's annual bonus, share option plans and pension scheme.

Payments for loss of office are determined by the Committee based on the contractual entitlements of the Director concerned under service contracts and the terms of the Porvair Plc Long Term Share Plan 2015 and 2018 and Porvair Plc SAYE share option plan 2014.

The LTSP and SAYE plans have normal good leaver and bad leaver provisions which determine the extent to which options and awards may be vested and exercised in the event of the Executive leaving the Group. The schemes also include provisions to determine the extent that options may be exercised or award shares received in the event of a change in control of the Group. Annual bonus payments are normally only payable to Executives that are in employment and not in a notice period at the date when the bonuses are approved by the Committee.

The Committee retains discretions to vary the prescribed terms of the leaver provisions in the LTSP and SAYE scheme rules and to vary the annual bonus scheme entitlements. As such the particular circumstances of the Executive Director's loss of office will be taken into account by the Committee to determine the extent to which mitigation of payments should apply; options can be vested and exercised; and the extent to which payments under the discretionary annual bonus plan would be paid.

Independent auditor's report to the members of Porvair plc

Report on the audit of the financial statements

1. Opinion

In our opinion:

- the financial statements of Porvair plc (the 'parent company') and its subsidiaries (together the 'group') give a true and fair view of the state of the group's and of the parent company's affairs as at 30 November 2019 and of the group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including Financial Reporting Standard 101 "Reduced Disclosure Framework"; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the group financial statements, Article 4 of the IAS Regulation.

We have audited the financial statements which comprise:

- the consolidated income statement;
- the consolidated statement of comprehensive income;
- the consolidated and parent company balance sheets;
- the consolidated and parent company statements of changes in equity;
- the consolidated cash flow statement; and
- the related notes 1 to 29.

The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and IFRSs as adopted by the European Union. The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards, including FRS 101 "Reduced Disclosure Framework" (United Kingdom Generally Accepted Accounting Practice).

2. Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the group and the parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's (the 'FRC's') Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We confirm that the non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

3. Summary of our audit approach

Key audit matters	The key audit matter that we identified in the current year was: • Revenue recognition – first-time adoption of IFRS 15 Revenue from contracts with customers ("IFRS 15") and the impact this has on accounting for the long-term contracts and related warranty claim provisions. Within this report, key audit matters are identified as follows: Newly identified.
Materiality	The materiality that we used for the group financial statements was £1.032 million, which was determined on the basis of profit before tax (PBT).
Scoping	The scope of our audit was driven by our risk assessment and understanding of the business. This consisted of seven components subjected to full scope audits, four components subjected to specific audit procedures and six components subjected to analytical procedures at Group level.
Significant changes in our approach	In the current year, we removed provisions for uncertain tax positions as a key audit matter. In the prior year, we performed audit testing commensurate with a key audit matter category. Given our deeper understanding and improved documentation of the uncertain tax positions and whilst it remains an area of judgement, we do not consider the risk of material misstatement to be significant. In the current year, the entity adopted IFRS 15 for the first time. This led us to include an additional element in the key audit matter around revenue recognition. This is discussed in more detail in section 5 of this report: Key audit matters. We have also removed the key audit matter communicated in the prior year relating to long-term contract accounting under IAS 11 as this accounting standard was replaced by IFRS 15.

4. Conclusions relating to going concern, principal risks and viability statement

4.1. Going concern

We have reviewed the directors' statement in note 1 to 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.

We considered as part of our risk assessment the nature of the group, its business model and related risks including where relevant the impact of Brexit, the requirements of the applicable financial reporting framework and the system of internal control. We evaluated the directors' assessment of the group's ability to continue as a going concern, including challenging the underlying data and key

Going concern is the basis of preparation of the financial statements that assumes an entity will remain in operation for a period of at least 12 months from the date of approval of the financial statements.

We confirm that we have nothing material to report, add or draw attention to in respect of these matters.

4.1. Going concern (continued)
assumptions used to make the assessment, and evaluated the directors' plans for future actions in relation to their going concern assessment.

We are required to state whether we have anything material to add or draw attention to in relation to that statement required by Listing Rule 9.8.6R(3) and report if the statement is materially inconsistent with our knowledge obtained in the audit.

4.2. Principal risks and viability statement
Based solely on reading the directors' statements and considering whether they were consistent with the knowledge we obtained in the course of the audit, including the knowledge obtained in the evaluation of the directors' assessment of the group's and the company's ability to continue as a going concern, we are required to state whether we have anything material to add or draw attention to in relation to:

- the disclosures on pages 35 – 40 that describe the principal risks, procedures to identify emerging risks, and an explanation of how these are being managed or mitigated;
- the directors' confirmation on page 35 that they have carried out a robust assessment of the principal and emerging risks facing the group, including those that would threaten its business model, future performance, solvency or liquidity; or
- the directors' explanation on page 41 as to how they have assessed the prospects of the group, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

We are also required to report whether the directors' statement relating to the prospects of the group required by Listing Rule 9.8.6R(3) is materially inconsistent with our knowledge obtained in the audit.

Viability means the ability of the group to continue over the time horizon considered appropriate by the directors.

We confirm that we have nothing material to report, add or draw attention to in respect of these matters.

5. Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our 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) that we identified. These matters included 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 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.

5.1. Revenue recognition: First time adoption of IFRS 15 (!)

Key audit matter description

Revenue within all the entities in the group is recognised on a ship and bill method which is compliant with IFRS 15.

The company is also party to significant gasification contracts that are of a long-term nature and involve warranties. The accounting for these contracts was revised on adoption of IFRS 15 and the contracts were reassessed for their performance obligations and potential provisions to be raised for future warranty cost claims. Management have recognised specific provisions in relation to claims received during the year and expected to be received for the goods already supplied under these contracts.

The specific provisions are included in the £9.5 million warranty provisions recognised as at 30 November 2019. The provisions balance is material and significant judgement was applied in determining the assumptions used to calculate it. As such, this has been considered as part of the key audit matter related to revenue.

The revenue recognition accounting policy is disclosed in note 1 to the financial statements and in note 2 to the financial statements, details of the critical accounting judgements are disclosed. Also, refer to note 26 where management have disclosed a contingent liability outlining maximum unrecognised exposure under these contracts, limited to £11.5 million.

Note 1 of the financial statements for the company's assessment of the impact of the first time adoption of IFRS 15.

How the scope of our audit responded to the key audit matter

In responding to the risk associated with the first time adoption of IFRS 15 the following procedures were undertaken to challenge management's position and outcome:

- we obtained, reviewed and challenged management's assessment of the impact of the adoption of IFRS 15 by assessing against the accounting standard principles and requirements;
- we have reviewed management's IFRS 15 accounting policy disclosure;
- we obtained, reviewed and challenged management's IAS 37 Provision, Contingent Liabilities and Contingent Assets paper that was prepared to outline warranty costs being provided for;
- we considered the history of these contracts and contracts of this nature, subsequent interactions with the customers and requirements of IAS 37 to challenge management judgement;
- held discussions with operational personnel to obtain further understanding of the issues claimed by the customers, including review of technical information relating to the contracts;
- agreeing the costs included in the provision calculation to the order as agreed with the customer;
- inspected correspondence and the claims letters between management and the customers; and
- held discussions with the legal advisers to understand the extent and likely liability to the customers.

Key observations

Based on the audit procedures performed, we concur with management's assessment of the impact of adopting IFRS 15 as well as the company's revised revenue recognition accounting policy. For each of the gasification projects, we concurred with management's judgement on the warranty provisions recognised.

These were appropriately disclosed in note 20 of the financial statements.

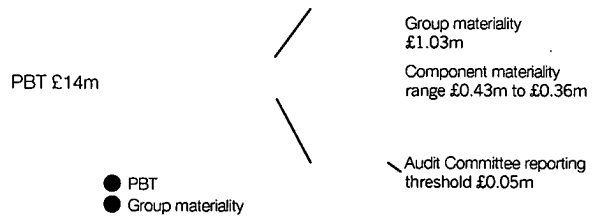
Independent auditor's report to the members of Porvair plc continued

6. Our application of materiality

6.1. Materiality
We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

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

	Group financial statements	Parent company financial statements
Materiality	£1.032m (2018: £0.87m)	£0.361m (2018: £0.61m)
Basis for determining materiality	7.3% (2018: 7.3%) of profit before tax.	Parent company materiality equates to 0.001% of net assets, which is capped at 50% of group performance materiality. (2018: 0.001% of net assets, capped at 70% of group materiality).
Rationale for the benchmark applied	Profit before tax is considered the most appropriate materiality benchmark as it is a key performance metric for users of the group financial statements.	Net assets is considered the most appropriate benchmark as it is the key performance indicator for users of the Porvair plc company only financial statements.



6.2. Performance materiality
We set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality for the financial statements as a whole. Group performance materiality was set at 70% of group materiality for the 2019 audit (2018: 70%). In determining performance materiality, we considered the following factors:

a. the overall level of engagement risk identified;
b. the quality of the control environment;
c. effectiveness of management oversight; and
d. prior period adjustments.

6.3. Error reporting threshold
We agreed with the Audit Committee that we would report to the Committee all audit differences in excess of £0.05 million (2018: £0.03 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also report to the Audit Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

7. An overview of the scope of our audit

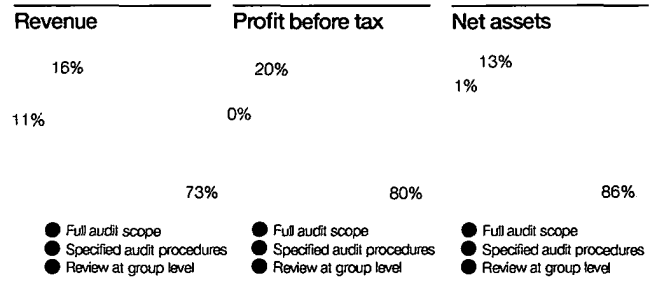
7.1. Identification and scoping of components
Porvair plc is a multi-national group operating across the UK, central Europe, the US, and Asia. Its key operations are located in the UK and the US, with its headquarters based in the UK.

Our group audit was scoped by obtaining an understanding of the group and its environment, including group-wide controls, and assessing the risks of material misstatement at the group level.

The Group's accounting process is structured around local finance functions. Each local finance function reports into the central Group finance function based at the Group's head office. Based on our assessment of the Group, we focused our group audit scope primarily on group businesses within the UK and the significant operations in the US. These components were subject to a full scope audit performed by the group auditors.

In addition, four (2018: five) other components were subject to specific audit procedures on material account balances, where the extent of our testing was based on our assessment of the risks of material misstatement and of the materiality of the Group's operations at those businesses. The Group audit team performed the specific audit procedures. The newly acquired subsidiary was included in this scoping category.

The eleven (2018: twelve) components subject either to a full audit or specified audit procedures account for 84% of the Group's revenue, 80% of the Group's profit before tax and 87% of the Group's net assets.



The remaining six (2018: four) components were subject to analytical review by the Group team.

Our audit work for each component was executed at levels of materiality applicable to each individual component, which were lower than Group materiality. The component materiality ranges were between £0.36 million to £0.43 million (2018:£0.35 million to £0.61 million).

At the group level we also tested the consolidation process.

8. Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion 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 such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in 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.

In this context, matters that we are specifically required to report to you as uncorrected material misstatements of the other information include where we conclude that:

- *Fair, balanced and understandable* – the statement given by the directors that they consider 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's position and performance, business model and strategy, is materially inconsistent with our knowledge obtained in the audit; or
- Audit committee reporting – the section describing the work of the audit committee does not appropriately address matters communicated by us to the audit committee; or
- Directors' statement of compliance with the UK Corporate Governance Code – the parts of the directors' statement required under the Listing Rules relating to the company's compliance with the UK Corporate Governance Code containing provisions specified for review by the auditor in accordance with Listing Rule 9.8.10R(2) do not properly disclose a departure from a relevant provision of the UK Corporate Governance Code.

We have nothing to report in respect of these matters.

9. Responsibilities of directors

As explained more fully in the directors' responsibilities statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors 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 parent 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 parent company or to cease operations, or have no realistic alternative but to do so.

10. Auditor's 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 auditor's 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.

Details of the extent to which the audit was considered capable of detecting irregularities, including fraud and non-compliance with laws and regulations are set out below.

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 auditor's report.

11. Extent to which the audit was considered capable of detecting irregularities, including fraud

We identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and then design and perform audit procedures responsive to those risks, including obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion.

11.1. Identifying and assessing potential risks related to irregularities
In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the group's remuneration policies, key drivers for directors' remuneration, bonus levels and performance targets;
- results of our enquiries of management and the Audit Committee about their own identification and assessment of the risks of irregularities;
- any matters we identified having obtained and reviewed the group's documentation of their policies and procedures relating to:
- identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
- detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud;
- the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations;
- the matters discussed among the audit engagement team including the relevant internal specialists, consisting of tax, valuations, pensions and IT specialists, regarding how and where fraud might occur in the financial statements and any potential indicators of fraud.

Independent auditor's report to the members of Porvair plc continued

As a result of these procedures, we considered the opportunities and incentives that may exist within the organisation for fraud and identified the greatest potential for fraud in the following areas: revenue recognition. In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override.

We also obtained an understanding of the legal and regulatory frameworks that the group operates in, focusing on provisions of those laws and regulations that had a direct effect on the determination of material amounts and disclosures in the financial statements. The key laws and regulations we considered in this context included the UK Companies Act, Listing Rules, pensions legislation, and tax legislation.

11.2. Audit response to risks identified
As a result of performing the above, we identified revenue recognition as a key audit matter related to the potential risk of fraud. The key audit matters section of our report explains the matter in more detail and also describes the specific procedures we performed in response to that key audit matter.

In addition to the above, our procedures to respond to risks identified included the following:

- reviewing the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;
- enquiring of management, the Audit Committee and on specific matters the external legal counsel concerning actual and potential litigation and claims;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with relevant tax authorities; and
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

12. Opinions on other matters prescribed by the Companies Act 2006

In our opinion the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the group and the parent company and their environment obtained in the course of the audit, we have not identified any material misstatements in the strategic report or the directors' report.

13. Matters on which we are required to report by exception

13.1. Adequacy of explanations received and accounting records
Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements are not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

13.2. Directors' remuneration
Under the Companies Act 2006 we are also required to report if in our opinion certain disclosures of directors' remuneration have not been made or the part of the directors' remuneration report to be audited is not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

14. Other matters

14.1. Auditor tenure
Following the recommendation of the Audit Committee, we were appointed by the members of the company at the Annual General Meeting on 11 April 2017 to audit the financial statements for the year ending 30 November 2017 and subsequent financial periods. The period of total uninterrupted engagement including previous renewals and reappointments of the firm is three years, covering the years ending 30 November 2017 to 30 November 2019.

14.2. Consistency of the audit report with the additional report to the audit committee
Our audit opinion is consistent with the additional report to the Audit Committee we are required to provide in accordance with ISAs (UK).

15. Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Paul Schofield FCA (Senior statutory auditor)

For and on behalf of Deloitte LLP
Statutory Auditor
Cambridge, United Kingdom

31 January 2020

Consolidated income statement

For the year ended 30 November	Note	2019 £'000	2018 £'000
Continuing operations			
Revenue	3	144,932	128,823
Cost of sales		(97,505)	(84,444)
Gross profit		47,427	44,379
Distribution costs		(2,259)	(2,172)
Administrative expenses		(30,381)	(29,339)
Adjusted operating profit		15,592	14,343
Adjustments			
Equalisation of guaranteed minimum pension	2	–	(773)
Amortisation of acquisition intangibles	2	(588)	(564)
Other acquisition related adjustments	2	(217)	(138)
Operating profit	3	14,787	12,868
Finance income	6	7	6
Finance costs	6	(809)	(836)
Profit before income tax	3,4	13,985	12,038
Adjusted income tax expense		(3,220)	(3,113)
Adjustments			
Tax effect of operating profit adjustments	2	–	325
Exceptional reduction of US deferred tax liability	2	–	778
Income tax expense	7	(3,220)	(2,010)
Profit for the year		10,765	10,028
Profit attributable to:			
– Owners of the parent		10,768	10,045
– Non-controlling interests		(3)	(17)
Profit for the year		10,765	10,028
Earnings per share (basic)	8	23.6p	22.1p
Adjusted earnings per share (basic)	8	25.3p	22.9p
Earnings per share (diluted)	8	23.5p	22.0p
Adjusted earnings per share (diluted)	8	25.3p	22.8p

Consolidated statement of comprehensive income

For the year ended 30 November	2019 £'000	2018 £'000
Profit for the year	10,765	10,028
Other comprehensive (expense)/income:		
Items that will not be reclassified to profit or loss		
Actuarial (loss)/gain in defined benefit pension plan net of tax	(2,278)	2,948
Items that may be subsequently reclassified to profit or loss		
Exchange (losses)/gains on translation of foreign subsidiaries	(1,212)	3,606
Tax relating to components of other comprehensive income	149	(149)
Changes in fair value of foreign exchange contracts held as a cash flow hedge	35	–
	(1,028)	3,457
Other comprehensive (expense)/income for the year	(3,306)	6,405
Total comprehensive income for the year attributable to the owners of Porvair plc	7,459	16,433
Comprehensive income attributable to:		
– Owners of the parent	7,462	16,450
– Non-controlling interests	(3)	(17)
Total comprehensive income for the year	7,459	16,433

Consolidated balance sheet

Company registered number 01661935

As at 30 November	Note	2019 £'000	2018 £'000
Non-current assets			
Property, plant and equipment	10	22,779	21,827
Goodwill and other intangible assets	11	71,512	67,001
Deferred tax asset	18	2,360	2,304
Other receivable	14	1,048	–
		97,699	91,132
Current assets			
Inventories	13	23,197	19,856
Trade and other receivables	14	24,153	22,336
Derivative financial instruments	12	48	–
Cash and cash equivalents	15	12,889	11,492
		60,287	53,684
Current liabilities			
Trade and other payables	16	(25,989)	(32,826)
Current tax liabilities		(564)	(1,530)
Provisions for other liabilities and charges	20	(9,526)	(506)
		(36,079)	(34,862)
Net current assets		24,208	18,822
Non-current liabilities			
Borrowings	17	(8,875)	(4,867)
Deferred tax liability	18	(2,588)	(2,032)
Retirement benefit obligations	19	(14,450)	(12,356)
Other payables	24	(417)	(1,008)
Provisions for other liabilities and charges	20	(242)	(219)
		(26,572)	(20,482)
Net assets		95,335	89,472
Capital and reserves			
Share capital	21	921	917
Share premium account	21	36,504	35,958
Cumulative translation reserve		9,358	10,570
Retained earnings		48,552	42,024
Equity attributable to owners of the parent		95,335	89,469
Non-controlling interests		–	3
Total equity		95,335	89,472

The financial statements on pages 84 to 121 were approved by the Board of Directors on 31 January 2020 and were signed on its behalf by:

B D W Stocks

C P Tyler

Consolidated cash flow statement

For the year ended 30 November	Note	2019 £'000	2018 £'000
Cash flows from operating activities			
Cash generated from operations	23	**16,758**	15,335
Interest paid		**(343)**	(345)
Tax paid		**(3,256)**	(2,419)
Net cash generated from operating activities		**13,159**	12,571
Cash flows from investing activities			
Interest received		**7**	6
Acquisition of subsidiaries (net of cash acquired)	24,25	**(9,761)**	(9,007)
Purchase of property, plant and equipment	10	**(3,943)**	(3,796)
Purchase of intangible assets	11	**(363)**	(656)
Share capital from non-controlling interests		**–**	–
Net cash used in investing activities		**(14,060)**	(13,453)
Cash flows from financing activities			
Proceeds from issue of ordinary share capital	21	**550**	131
Purchase of EBT shares		**(623)**	(416)
Increase in borrowings		**4,648**	1,913
Dividends paid to shareholders	9	**(2,146)**	(1,957)
Net cash from/(used in) financing activities		**2,429**	(329)
Net increase/(decrease) in cash and cash equivalents		**1,528**	(1,211)
Exchange (losses)/gains on cash and cash equivalents		**(131)**	206
		1,397	(1,005)
Cash and cash equivalents at 1 December		**11,492**	12,497
Cash and cash equivalents at 30 November	15	**12,889**	11,492

Reconciliation of net cash flow to movement in net cash

	2019 £'000	2018 £'000
Net increase/(decrease) in cash and cash equivalents	**1,528**	(1,211)
Effects of exchange rate changes	**509**	(37)
Increase in borrowings	**(4,648)**	(1,913)
Net cash at 1 December	**6,625**	9,786
Net cash at 30 November	**4,014**	6,625

Consolidated statement of changes in equity

	Note	Share capital £'000	Share premium account £'000	Cumulative translation reserve £'000	Retained earnings £'000	Equity attributable to owners of the parent £'000	Non-controlling interest £'000	Total equity £'000
Balance at 1 December 2017		913	35,831	6,964	31,161	74,869	20	74,889
Profit for the year		–	–	–	10,045	10,045	–	10,045
Other comprehensive income		–	–	3,606	2,799	6,405	–	6,405
Total comprehensive income for the year		–	–	3,606	12,844	16,450	–	16,450
Consideration paid for purchase of own shares (held in trust)		–	–	–	(416)	(416)	–	(416)
Employee share option schemes: – value of employee services net of tax		–	–	–	392	392	–	392
Proceeds from shares issued	21	4	127	–	–	131	–	131
Dividends paid	9	–	–	–	(1,957)	(1,957)	–	(1,957)
Total transactions with owners recognised directly in equity		4	127	–	(1,981)	(1,850)	–	(1,850)
Adjustment arising from change in non-controlling interest		–	–	–	–	–	(17)	(17)
Balance at 30 November 2018		917	35,958	10,570	42,024	89,469	3	89,472
IFRS 15 adjustment		–	–	–	(57)	(57)	–	(57)
Balance at 1 December 2018		**917**	**35,958**	**10,570**	**41,967**	**89,412**	**3**	**89,415**
Profit for the year		–	–	–	10,768	10,768	–	10,768
Other comprehensive expense:		–	–	(1,212)	(2,094)	(3,306)	–	(3,306)
Total comprehensive income for the year		–	–	(1,212)	8,674	7,462	–	7,462
Consideration paid for purchase of own shares (held in trust)		–	–	–	(623)	(623)	–	(623)
Employee share option schemes: – value of employee services net of tax		–	–	–	680	680	–	680
Proceeds from shares issued	21	4	546	–	–	550	–	550
Dividends paid	9	–	–	–	(2,146)	(2,146)	–	(2,146)
Total transactions with owners recognised directly in equity		4	546	–	(2,089)	(1,539)	–	(1,539)
Adjustment arising from change in non-controlling interest		–	–	–	–	–	(3)	(3)
Balance at 30 November 2019		**921**	**36,504**	**9,358**	**48,552**	**95,335**	**–**	**95,335**

Notes to the consolidated financial statements

1 Summary of significant accounting policies

Porvair plc is a public company limited by shares incorporated in the UK under the Companies Act and listed on the London Stock Exchange. The Company is registered in England and Wales and its registered office is 7 Regis Place, Bergen Way, King's Lynn, PE30 2JN.

The principal activities of the Group and the nature of the Group's operations are set out in the Strategic Report.

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

Basis of preparation

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRSs) and the IFRS interpretations committee, as endorsed by the European Union, and those parts of the Companies Act 2006 applicable to companies reporting under IFRS. The Company has elected to prepare its entity accounts in accordance with United Kingdom Generally Accepted Accounting Practice ("UK GAAP"), including Financial Reporting Standard 101 Reduced Disclosure Framework (FRS101), and these are presented on pages 122 to 130.

The financial statements have been prepared on a going concern basis and under the historical cost convention as modified by the recognition of certain financial assets and financial liabilities (including derivative financial instruments) at fair value through profit or loss.

Basis of consolidation

The Group applies the acquisition method to account for business combinations. The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company (its subsidiaries) made up to 30 November each year. Control is achieved where the Company has the power to govern the financial and operating policies of an investee entity so as to obtain benefits from its activities.

On acquisition, the assets and liabilities and contingent liabilities of a subsidiary are measured at their fair values at the date of acquisition. Any excess of the cost of acquisition over the fair values of the identifiable net assets acquired is recognised as goodwill. Acquisition related costs are expensed as incurred.

The results of subsidiaries acquired or disposed of during the year are included in the consolidated income statement from the effective date of acquisition or up to the effective date of disposal, as appropriate. Where necessary, adjustments are made to the financial statements of subsidiaries to bring the accounting policies used into line with those used by the Group.

Any contingent consideration to be transferred by the Group is recognised at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration that is deemed to be an asset or liability is recognised in accordance with IAS 39 either in profit or loss. Contingent consideration that is classified as equity is not re-measured, and its subsequent settlement is accounted for within equity.

All intra-group transactions, balances, income and expenditures are eliminated on consolidation.

Going concern

The Directors have, at the time of approving the financial statements, a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future. They continue to adopt the going concern basis of accounting in preparing the financial statements. Further detail is contained in the viability statement included in the Strategic Report on page 41.

Critical accounting judgements and key sources of estimation uncertainty

In the application of the Group's accounting policies the Directors are required to make judgements, estimates and assumptions about the carrying value of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

(a) Critical judgements in applying the Group's accounting policies

In the course of preparing the financial statements, no judgements have been made in the process of applying the Group's accounting policies, other than those involving estimations, that have had a significant effect on the amounts recognised in the financial statements.

(b) Key sources of estimation uncertainty

Material estimates and assumptions are made in particular with regard to: establishing uniform depreciation and amortisation periods for the Group, goodwill and intangible assets valuation (cash flows and discount rate), impairment testing, assumptions used in the calculation of share based payments, parameters for measuring pension and other provisions and the likelihood that tax assets can be realised. The key assumptions concerning the future, and other key sources of estimation uncertainty at the reporting period that may have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are discussed below:

- Pension obligation

The Group operates a defined benefit pension scheme, The Porvair plc Pension and Death Benefit Plan ('the Plan'), covering a number of employees in the UK. The pension scheme is financed through a separate trust fund and is closed to new entrants. The present value of the obligations of this scheme is subject to financial assumptions and management contracts external actuarial guidance on this. Sensitivities in the principal assumptions on valuing the Plan's defined benefit obligation at 30 November 2019 have been calculated and are given in note 19.

1 Summary of significant accounting policies continued

- Provisions for gasification project filtration systems

The Group has two large gasification projects ongoing in their commissioning phase, a process which is taking several years. Note 20 outlines management's best estimate of the amount of any potential loss arising from rectification and claims arising on these contracts. Note 26 details the maximum potential exposure under these contracts.

Goodwill
Goodwill arising on consolidation represents the excess of the cost of acquisition over the Group's interest in the fair value of the identifiable assets and liabilities of a subsidiary at the date of acquisition. The cost of acquisition includes the fair value of deferred and contingent consideration.

Goodwill is recognised as an asset at cost less accumulated impairment losses and reviewed for impairment annually, and more frequently if events or changes in circumstances indicate potential impairment. Any impairment is recognised immediately in the income statement and is not subsequently reversed.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the cash generating units that is expected to benefit from the synergies of the combination.

On disposal of a subsidiary, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

Revenue recognition
Revenue is measured as the fair value of the consideration received or receivable for goods and services supplied to customers, after deducting sales discounts and value-added taxes; revenue receivable for services supplied to customers, as opposed to goods, is close to 1% of Group revenue. Under IFRS 15, each customer contract is assessed to identify the performance obligation. An assessment of the timing of revenue recognition is made for each performance obligation. Revenue is recognised at a point in time for all standard revenue transactions when control of the goods provided is transferred to the customer according to the International Commercial Terms of each contract. Revenue is also recognised at a point in time for contracts that contain multiple elements ("service contracts") when the agreed output is produced by the customer, unless there are specific performance obligations to deliver other services over time. The revenue on such service contracts is not material. The transaction price is allocated to each performance obligation based on the relative stand-alone selling prices of the goods or services provided. If a stand-alone selling price is not available, the Group will estimate the selling price with reference to the price that would be charged for the goods or services if they were sold separately. There are no contracts with variable consideration. Provision is made for returns and in the few instances where rebates are provided.

Interest income
Interest income is accrued on a straight line basis, by reference to the principal outstanding and the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

Leasing
Rentals payable under operating leases are charged to the income statement on a straight line basis over the term of the relevant lease.

Foreign currencies
The consolidated financial statements are presented in Pounds Sterling, which is the Company's functional and presentation currency. The Group determines the functional currency of each entity based on the primary economic environment in which the entity operates and items included in the financial statements of each entity are measured using that functional currency.

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. At each balance sheet date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at the rates prevailing on the balance sheet date. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when deferred in other comprehensive income as qualifying cash flow hedges.

On consolidation, the assets and liabilities of the Group's overseas operations, borrowings and other currency instruments are translated at exchange rates prevailing on the balance sheet date. Income and expense items are translated at the average exchange rates for the period unless exchange rates fluctuate significantly. Exchange differences arising, if any, are classified as other comprehensive income and transferred to the Group's translation reserve.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate.

Borrowing costs
All borrowing costs are typically recognised in the income statement in the period in which they are incurred, with the exception of borrowing costs incurred on the arrangement of new facilities which are capitalised and subsequently recognised in the income statement over the period of the borrowings.

Government grants
Government grants for the development of new products are recognised over the periods necessary to match them with the related costs and are deducted in reporting the related expense.

Retirement benefit costs
Payments to defined contribution retirement benefit schemes are charged as an expense as they fall due.

Notes to the consolidated financial statements continued

1 Summary of significant accounting policies continued

For defined benefit retirement schemes, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at each balance sheet date. Actuarial gains and losses are recognised in full in the period in which they occur. They are recognised in the consolidated statement of comprehensive income.

The retirement benefit obligation in the balance sheet represents the present value of the defined benefit obligation as adjusted for unrecognised past service cost and as reduced by the fair value of scheme assets.

Taxation

The tax expense represents the sum of the current tax and deferred tax.

Current tax is based on taxable profit for the period. Taxable profit differs from net profit as reported in the income statement because it excludes items of income or expense that are taxable or deductible in other periods and it further excludes items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that are relevant to the period. Tax provisions are based on management's interpretation of country specific tax law and the likelihood of any tax risks. Management uses professional firms, in-house knowledge and previous experience when calculating tax and assessing these risks.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from goodwill or from the initial recognition (other than a business combination) of other assets and liabilities in a transaction that affects neither the tax profit nor the accounting profit.

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries and associates, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all, or part, of the asset to be recovered.

Deferred tax is calculated at the tax rates which have been enacted or substantively enacted by the balance sheet date and are expected to apply in the period when the liability is settled or the asset is realised. Deferred tax is recognised in the income statement, except when it relates to items recognised directly to other comprehensive income or directly to equity. In this case, the deferred tax is also recognised in other comprehensive income or directly in equity, respectively.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and liabilities on a net basis.

Property, plant and equipment

Property, plant and equipment for use in the production or supply of goods or services, or for administrative purposes, are stated in the balance sheet at their cost less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Property, plant and equipment in the course of construction for production or administrative purposes are carried at cost, less any recognised impairment loss. Cost includes professional fees and, for qualifying assets, borrowing costs capitalised in accordance with the Group's accounting policy. Depreciation for these assets, on the same basis as other assets, commences when the assets are ready for their intended use.

Depreciation is charged so as to write assets down to their residual value, other than assets under construction, over their estimated useful lives, using the straight line method, on the following bases:

Buildings	2.5 – 3%
Plant, machinery and equipment	10 – 33%

Freehold land is not depreciated.

The gain or loss arising on the disposal or retirement of an asset is determined as the difference between the sales proceeds and the carrying amount of the assets and is recognised in the income statement.

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

1 Summary of significant accounting policies continued

Internally generated intangible assets – research and development expenditure
Expenditure on research activities is recognised as an expense in the period in which it is incurred.

An internally generated intangible asset arising from the Group's product development expenditure is recognised only if all of the following criteria are demonstrable:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale;
- The intention to complete the intangible asset and use or sell it;
- The ability to use the intangible asset or to sell it;
- The way in which the intangible asset will generate probable future economic benefits;
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- The ability to measure reliably the expenditure attributable to the intangible asset during its development.

Internally generated intangible assets are stated at cost and held at cost less accumulated amortisation and impairment losses, and are recognised as an expense on a straight line basis over their estimated useful lives. Useful life is determined with reference to estimated product life in the industry in which the expenditure has been incurred. Useful life of the Group's development expenditure is currently between 3 and 10 years. Amortisation of development expenditure commences when development has been completed to management satisfaction and the related project is ready for its intended use. Where no internally generated intangible asset can be recognised, development expenditure is recognised as an expense in the period in which it is incurred.

Patents, trademarks and know-how
Patents, trademarks and know-how purchased as part of an acquisition, where there are expected future economic benefits, are initially measured at fair value and amortised over their estimated useful lives of 3-10 years.

Software
Software costs are classified as intangible fixed assets and measured initially at purchase cost. Amortisation is charged on a straight line basis over their estimated useful lives of 3-5 years.

Impairment of property, plant and equipment and intangible assets
The Group reviews annually the carrying amounts of its property, plant and equipment and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units).

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted. If the recoverable amount of an asset or cash generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash generating unit is reduced to its recoverable amount. An impairment loss is recognised as an expense immediately.

When an impairment loss subsequently reverses, the carrying amount of the asset or cash generating unit (other than goodwill) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset or cash generating unit in prior years. A reversal of an impairment loss is recognised in the income statement immediately.

Inventories
Inventories are stated at the lower of cost and net realisable value. Cost comprises direct materials and, where applicable, direct labour costs and those overheads that have been incurred in bringing the inventories to their present location and condition. Cost is calculated using the weighted average method. Net realisable value represents the estimated selling price less all estimated costs of completion and costs to be incurred in marketing, selling and distribution. Where necessary, provision is made for obsolete, slow moving and defective inventories.

Loans and receivables
Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are included in current assets, except for those with maturities greater than 12 months after the balance sheet date. These are classified as non-current assets. Loans are classified as "other receivables" in the balance sheet.

Trade receivables
Trade receivables (excluding derivative financial assets) are recognised at cost less allowances for estimated irrecoverable amounts to align their cost to fair value. The provision is based on the Group's expected credit loss. When a trade receivable is uncollectible, it is written off to the provision for impairment. Subsequent recoveries of amounts previously written off are credited against administrative expenses in the income statement.

Notes to the consolidated financial statements continued

1 Summary of significant accounting policies continued

Cash and cash equivalents
In the consolidated cash flow statement, cash and cash equivalents includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less and bank overdrafts. In the consolidated balance sheet, bank overdrafts are shown within borrowings in current liabilities.

Bank borrowings
Interest bearing bank loans and overdrafts are recorded at the proceeds received, net of direct issue costs. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are accounted for on an accruals basis in the income statement using the effective interest method and are added to the carrying amount of the instrument, to the extent that they are not settled in the period in which they arise.

Trade payables
Trade payables are not interest bearing and are initially recognised at fair value and subsequently held at amortised cost.

Equity instruments
Ordinary shares are classified as equity. Equity instruments issued by the Company are recorded at the proceeds received, net of direct issue costs.

Where any Group company purchases the Company's equity share capital ("treasury shares"), the consideration paid, including any directly attributable incremental costs (net of income taxes), is deducted from equity attributable to the Company's equity holders until the shares are cancelled or reissued. Where such ordinary shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the Company's equity holders.

Derivative financial instruments and hedge accounting
The Group holds derivative financial instruments in the form of forward foreign exchange contracts to hedge its foreign currency exposure. These derivatives are designated as cash flow hedges. The Group has elected to continue to apply the hedge accounting requirements of IAS 39, as allowed under IFRS 9.

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and subsequent changes in the fair value of foreign currency derivatives which are designated and effective as hedges of future cash flows are recognised in equity in the hedging reserve and in Other Comprehensive Income and are reclassified to profit or loss on maturity of the derivative. Changes in the fair value of foreign currency derivatives which are ineffective or do not meet the criteria for hedge accounting in accordance with IAS 39 are recognised immediately in the Consolidated Income Statement.

The Group documents, at the inception of the transaction, the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in cash flows of hedged items.

Provisions
Provisions have been made for future dilapidation costs on leased property and for warranties on shipped goods sales, and warranty costs on relevant sale contracts. These provisions are the Directors' best estimates as the actual costs and timing of future cash flows are dependent on future events. Any difference between expectations and the actual future liability will be accounted for in the period when such determination is made.

Where the impact of discounting is material, the Group discounts at its weighted average cost of capital, unless some other rate is more appropriate in the circumstances.

Share based payments
The Group issues equity settled, share based payments to certain employees. Equity settled, share based payments are measured at fair value at the date of grant. The fair value determined at the grant date of the equity settled, share based payments is expensed on a straight line basis over the vesting period, based on the Group's estimate of shares that will eventually vest. The charge is then credited back to reserves.

Non-market performance and service conditions are included in assumptions about the number of options that are expected to vest.

At each balance sheet date, the Group revises its estimates of the number of options that are expected to vest. It recognises the impact of the revision to original estimates, if any, in the income statement, with a corresponding adjustment to equity.

Fair value is measured by use of a Black-Scholes model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

1 Summary of significant accounting policies continued

Adjusting items
When items of income or expense are material and they are relevant to an understanding of the entity's financial performance, they are disclosed separately within the financial statements. Such adjusting items include material costs or reversals arising from acquisitions or disposals of businesses, including acquisition costs, creation or reversals of provisions related to changes in estimates for contingent consideration on acquisition, amortisation of acquired intangible assets, and other one-off items that may arise.

Segment reporting
An operating segment is a component of an entity that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same entity). An operating segment's operating results are regularly reviewed by the entity's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available. Operating segments are aggregated into reporting segments where they share similar economic characteristics as a result of the nature of the products sold or the services provided, the production processes used to manufacture the products, the type of customer for the products and services, and the methods used to distribute the products or provide the services.

Dividend distribution
Final dividend distribution to the Company's shareholders is recognised as a liability in the Group's financial statements in the period in which the dividends are approved by the Company's shareholders.

Cumulative translation reserve
The cumulative translation reserve comprises all foreign exchange differences arising from the translation of the financial statements of foreign operations that are not integral to the operations of the Company itself, as well as from the translation of liabilities that hedge the Company's net investment in a foreign subsidiary.

Related party transactions
There are no related party transactions outside of the Group.

New standards, amendments and interpretations
(a) Standards, amendments and interpretations effective for the first time in the year ended 30 November 2019:

No new standards, amendments or interpretations, effective for the first time for the financial year beginning on or after 1 December 2019 have had a material impact on the Group. The impacts of IFRS 15 and IFRS 9 adoption are given below:

IFRS 15 'Revenue from Contracts with Customers'
For the Group, transition to IFRS 15 was effective from 1 December 2018. IFRS 15 replaces the previous revenue guidance, including IAS 18 'Revenue' and IAS 11 'Construction contracts'.

IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. The majority of the Group's transactions are unaffected by IFRS 15, however when the standard is applied to specific customer contracts previously recognised under construction contract accounting (IAS 11) this leads to a difference in the timing of recognising revenue. Warranties previously forming part of costs-to-complete under IAS 11 have been recognised on the balance sheet provisions under IAS 37. The impact of the timing difference varies from contract to contract. In addition, certain companies provide installation services for goods shipped to customers as part of their sale of goods contracts. Having reviewed these contracts, there is a change in accounting required under IFRS 15 to defer the installation related revenue.

As permitted by the standard, the Group has adopted the modified retrospective approach. Under this approach the comparatives for the year ended 30 November 2018 have not been restated. Instead, an adjustment in respect of the contracts open as at 1 December 2018 have been recognised in the opening retained earnings.

The following adjustment has been made to brought forward retained earnings and recognised in the Consolidated Statement of Changes in Equity:

Impact of adopting IFRS 15 on the opening reserves as at 1 December 2018

Retained earnings	£'000
Loss before tax	(88)
Tax	31
Impact at 1 December 2018	(57)

The impact of adoption in the year ended 30 November 2019 can be seen below and arises primarily from timing differences due to measuring the progress of Aerospace & Industrial division contracts using an output method of measuring progress towards complete satisfaction of performance obligations, based on milestones reached under IFRS 15 rather than the cost to cost ("percentage completion") method used under IAS 18 and IAS 11.

Notes to the consolidated financial statements continued

1 Summary of significant accounting policies continued

Impact on the consolidated balance sheet as at 30 November 2019

	As reported £'000	Adjustments £'000	Amounts without adoption of IFRS 15 £'000
Non-current assets	97,699	–	97,699
Current assets	60,287	–	60,287
Current liabilities			
Trade and other payables	(25,989)	(3,262)	(29,251)
Current tax liabilities	(564)	62	(502)
Provisions for other liabilities and charges	(9,526)	2,917	(6,609)
	(36,079)	(283)	(36,362)
Net assets	24,208	(283)	23,925
Non-current liabilities	(26,572)	–	(26,572)
Total liabilities	(62,651)	(283)	(62,934)
Net assets	95,335	(283)	95,052

Impact on the consolidated income statement and other comprehensive income for the year ended 30 November 2019

	As reported £'000	Adjustments £'000	Amounts without adoption of IFRS 15 £'000
Revenue	144,932	3,965	148,897
Operating profit	14,787	(434)	14,353
Total comprehensive income	7,459	(151)	7,308

IFRS 9 'Financial Instruments'
For the Group, transition to IFRS 9 is effective from 1 December 2018. IFRS 9 provides a new expected losses impairment model for financial assets, including trade receivables, and includes amendments to classification and measurement of financial instruments. The standard replaces IAS 39 'Financial Instruments: Recognition and Measurement'. The adoption of IFRS 9 'Financial Instruments' from 1 December 2018 resulted in changes in accounting policies.

Using the simplified approach allowed by the standard, an appropriate impairment model was applied to receivables by our companies and provisions were calculated at 30 November 2019 using this methodology. The revised methodology results in a similar level of provision to that held under the previous IAS 39 'Financial Instruments: Recognition and Measurement' accounting standard, and the overall impact of adoption of IFRS 9 is immaterial. In accordance with the transitional provisions in IFRS 9, comparative figures have not been restated.

(b) Standards, amendments and interpretations that are not yet effective and have not been early adopted:
At the date of authorisation of these financial statements, the Group has not applied the following new and revised IFRSs that have been issued but are not yet effective and in some cases had not yet been adopted by the EU:

• IFRS 2 (amendments)	Classification and Measurement of Share-based Payment Transactions
• IFRS 16	Leases
• IFRS 10 and IAS 28 (amendments)	Sales or Contribution of Assets between an Investor and its Associate or Joint Venture

The Directors do not expect that the adoption of the Standards listed above will have a material impact on the financial statements of the Group in future periods, except as noted below:

IFRS 16 'Leases'
For the Group, transition to IFRS 16 will take effect from 1 December 2019. The half year results for the period ending 31 May 2020 will be IFRS 16 compliant with the first Annual Report published in accordance with IFRS 16 being for the year ending 30 November 2020.

1 Summary of significant accounting policies continued

IFRS 16 replaces existing lease guidance, including:

- IAS 17 'Leases'
- IFRIC 4 'Determining whether an arrangement contains a lease'
- SIC 15 'Operating leases – Incentives'
- SIC 27 'Evaluating the substance of transactions involving the legal form of a lease'

IFRS 16 provides a single on-balance sheet accounting model for lessees which recognises a right-of-use asset, representing its right to use the underlying asset, and a lease liability, representing its obligations to make payment in respect of the use of the underlying asset. The distinction between finance and operating leases for lessees is removed.

The Group will apply the exemptions available in respect of leases which are less than 12 months long and those which have been classified as leases of low-value items. In addition, the Group will apply the practical expedient allowing for IFRS 16 to be applied to all contracts previously assessed as containing a lease under IAS 17 and IFRIC 4 without reassessing whether such contracts meet the definition of a lease under IFRS 16.

The Group has assessed the financial impact of the new standard. The most significant impact identified will be that the Group's leases for property, plant and equipment will be brought on to the balance sheet as 'right-of-use assets'. This will result in £14.3 million additional fixed assets. The Group's discounted future lease commitments for land and buildings at the balance sheet date, which provides an indicator of the value to be brought on to the balance sheet, will be material (£14.8 million). An immaterial balance of rental prepayments, incentives and onerous lease provisions held in current assets under IAS 17 will be reclassified to right-of-use assets.

In addition, the profile of expenses related to leasing arrangements will change. Straight line operating lease expenses will be replaced by the recognition of straight line depreciation of the right-of-use asset and interest charges on lease liabilities, which follow a reducing-balance profile. Because of this, there will be earlier recognition of cost under IFRS 16 compared to the current treatment under IAS 17; however, over the lifetime of each lease there will no change in the overall income statement impact or the cash paid out on it under the IFRS 16 or IAS 17 accounting treatment. If no more leases are signed in FY20, then the overall impact on the Group's income statement for FY20 of adoption of IFRS 16 will be to reduce profit before tax by no more than £0.3 million.

The Group has no leases currently classified as finance leases in the Group financial statements.

2 Alternative performance measures

Alternative performance measures are used by the Directors and management to monitor business performance internally and exclude certain cash and non-cash items which they believe are not reflective of the normal course of business of the Group. The Directors believe that disclosing such non-IFRS measures enables a reader to isolate and evaluate the impact of such items on results and allows for a fuller understanding of performance from year to year. Alternative performance measures may not be directly comparable with other similarly titled measures used by other companies.

Alternative revenue measures	2019 £'000	2018 £'000	Growth %
Aerospace & Industrial			
Underlying revenue	**57,536**	47,916	20
Acquisitions	**4,952**	1,671	
Revenue at constant currency	**62,488**	49,587	26
Exchange	**2,155**	949	
Revenue as reported	**64,643**	50,536	28
Laboratory			
Revenue at constant currency	**38,853**	37,261	4
Exchange	**2,427**	1,398	
Revenue as reported	**41,280**	38,659	7
Metal Melt Quality			
Revenue at constant currency	**35,377**	37,678	(6)
Exchange	**3,632**	1,950	
Revenue as reported	**39,009**	39,628	(2)
Group			
Underlying revenue	**131,766**	122,855	7
Acquisitions	**4,952**	1,671	
Revenue at constant currency	**136,718**	124,526	10
Exchange	**8,214**	4,297	
Revenue as reported	**144,932**	128,823	13

Revenue at constant currency is derived from translating overseas subsidiaries at budgeted fixed exchange rates in both years of US$1.4:£1, €1.2:£1 and RMB10:£1.

Underlying revenue is revenue at constant currency adjusted for the impact of acquisitions made in the current and prior year.

Notes to the consolidated financial statements continued

2 Alternative performance measures continued

Alternative profit measures

A reconciliation of the Group's adjusted performance measures to the reported IFRS measures is presented below:

	2019 Adjusted £'000	2019 Adjustment £'000	2019 Reported £'000	2018 Adjusted £'000	2018 Adjustment £'000	2018 Reported £'000
Operating profit	15,592	(805)	14,787	14,343	(1,475)	12,868
Finance income	7	–	7	6	–	6
Finance costs	(809)	–	(809)	(836)	–	(836)
Profit before income tax	14,790	(805)	13,985	13,513	(1,475)	12,038
Income tax expense	(3,220)	–	(3,220)	(3,113)	1,103	(2,010)
Profit for the year	11,570	(805)	10,765	10,400	(372)	10,028

An analysis of adjusting items is given below:	2019 £'000	2018 £'000
Affecting operating profit		
– Equalisation of guaranteed minimum pension	–	(773)
– Amortisation of intangible assets acquired through acquisitions	(588)	(564)
– Release of contingent consideration	36	–
– Acquisition costs	(253)	(138)
	(805)	(1,475)
Affecting tax		
– Tax effect of adjusting items	–	325
– Deferred tax credit resulting from the US Tax Cuts and Jobs Act	–	778
	–	1,103
Total adjusting items	(805)	(372)

Adjusted operating profit and adjusted profit before tax exclude:

- the impact of acquiring businesses:
  - the amortisation of acquired intangible assets of £0.6 million (2018: £0.6 million) acquisition expenses; and
  - other adjustments to profit and loss related to acquiring businesses of £0.2 million (2018: £0.1 million).
- other items that are considered significant and where treatment as an adjusted item provides a more consistent assessment of the Group's trading:
  - an exceptional charge of £nil (2018: £773,000). In the prior year, this followed the legal precedent to enhance the benefits provided by the Group's defined benefit pension plan to equalise its guaranteed minimum pensions for men and women on benefits earned between 17 May 1990 and 6 April 1997.

Adjusted profit for the year excludes the adjustments to profit before tax together with their tax effect and an exceptional one off tax credit of £nil (2018: £778,000). In the prior year, this reflected a reduction in the Group's deferred tax liability from the change in US tax rates from December 2017 enacted in the US Tax Cuts and Jobs Act.

Return on capital employed

The Group uses two return measures to assess the return it makes on its investments:

- return on capital employed of 14% (2018: 15%) is the tax adjusted operating profit as a percentage of the average capital employed. Capital employed is the average of the opening and closing Group net assets less the average of the opening and closing net cash position; and
- return on operating capital employed of 36% (2018: 43%) is calculated on the same basis except that the capital employed is adjusted to remove the average of the opening and closing goodwill and the opening and closing pension deficit to give a measure of the operating capital.

3 Segment information

The chief operating decision maker has been identified as the Board of Directors. The Board of Directors has instructed the Group's internal reporting to be based around differences in products and services, in order to assess performance and allocate resources. Management have determined the operating segments based on this reporting.

At 30 November 2019, the Group is organised on a worldwide basis into three operating segments:

(1) Aerospace & Industrial – principally serving the aviation, and energy and industrial markets;

(2) Laboratory – principally serving the bioscience and environmental laboratory instrument and consumables market; and

(3) Metal Melt Quality – principally serving the global aluminium, North American Free Trade Agreement (NAFTA) iron foundry and superalloys markets.

Other Group operations' costs, assets and liabilities are included in "Central costs". These costs mainly comprise Group corporate costs, including new business development costs, some research and development costs and general financial costs, and assets and liabilities mainly comprise Group retirement benefit obligations, tax assets and liabilities, cash and borrowings.

The segment results for the year ended 30 November 2019 are as follows:

30 November 2019	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Total segment revenue		64,696	43,654	39,011	–	147,361
Inter-segment revenue		(53)	(2,374)	(2)	–	(2,429)
Revenue		64,643	41,280	39,009	–	144,932
Adjusted operating profit/(loss)		8,527	6,597	2,845	(2,377)	15,592
– *Amortisation of acquisition intangible assets*	2	(337)	(251)	–	–	(588)
– *Other adjustments*	2	–	36	–	(253)	(217)
Operating profit/(loss)		8,190	6,382	2,845	(2,630)	14,787
Net finance costs	6	–	–	–	(802)	(802)
Profit/(loss) before income tax		8,190	6,382	2,845	(3,432)	13,985
Income tax expense		–	–	–	(3,220)	(3,220)
Profit/(loss) for the year		8,190	6,382	2,845	(6,652)	10,765

The segment results for the year ended 30 November 2018 are as follows:

30 November 2018	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Total segment revenue		50,546	41,181	39,628	–	131,355
Inter-segment revenue		(10)	(2,522)	–	–	(2,532)
Revenue		50,536	38,659	39,628	–	128,823
Adjusted operating profit/(loss)		8,043	6,494	2,373	(2,567)	14,343
– *Equalisation of GMP*	2	–	–	–	(773)	(773)
– *Amortisation of acquisition intangible assets*	2	(302)	(255)	(7)	–	(564)
– *Other adjustments*	2	–	–	–	(138)	(138)
Operating profit/(loss)		7,741	6,239	2,366	(3,478)	12,868
Net finance costs	6	–	–	–	(830)	(830)
Profit/(loss) before income tax		7,741	6,239	2,366	(4,308)	12,038
Income tax expense		–	–	–	(2,010)	(2,010)
Profit/(loss) for the year		7,741	6,239	2,366	(6,318)	10,028

Notes to the consolidated financial statements continued

3 Segment information continued

Other segment items included in the income statement are as follows:

30 November 2019	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Depreciation, impairment and amortisation (property, plant and equipment and intangible assets)	10,11	1,815	867	1,061	–	3,743

30 November 2018	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Depreciation, impairment and amortisation (property, plant and equipment and intangible assets)	10,11	1,630	832	1,145	–	3,607

The segment assets and liabilities at 30 November 2019 are as follows:

30 November 2019	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Segmental assets		73,000	38,289	31,310	2,498	145,097
Cash and cash equivalents	15	–	–	–	12,889	12,889
Total assets		73,000	38,289	31,310	15,387	157,986
Segmental liabilities		(23,721)	(9,653)	(4,243)	(1,709)	(39,326)
Retirement benefit obligations	19	–	–	–	(14,450)	(14,450)
Borrowings	17	–	–	–	(8,875)	(8,875)
Total liabilities		(23,721)	(9,653)	(4,243)	(25,034)	(62,651)

The segment assets and liabilities at 30 November 2018 are as follows:

30 November 2018	Note	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Central £'000	Group £'000
Segmental assets		59,655	37,608	33,869	2,192	133,324
Cash and cash equivalents	15	–	–	–	11,492	11,492
Total assets		59,655	37,608	33,869	13,684	144,816
Segmental liabilities		(18,610)	(11,365)	(3,999)	(4,147)	(38,121)
Retirement benefit obligations	19	–	–	–	(12,356)	(12,356)
Borrowings	17	–	–	–	(4,867)	(4,867)
Total liabilities		(18,610)	(11,365)	(3,999)	(21,370)	(55,344)

Geographical analysis

	2019		2018	
Revenue	By destination £'000	By origin £'000	By destination £'000	By origin £'000
United Kingdom	16,394	50,058	16,494	38,984
Continental Europe	21,844	13,543	19,322	10,949
United States of America	67,214	75,336	56,159	73,979
Other NAFTA	2,310	–	8,304	–
South America	2,038	–	2,206	–
Asia	33,847	5,995	24,914	4,911
Africa	1,285	–	1,424	–
	144,932	144,932	128,823	128,823

Total revenue comprises sales of goods transferred at a point in time of £143,511,000 (2018: £127,504,000), sales of services transferred over time of £1,314,000 (2018: £1,213,000) and royalties of £107,000 (2018: £106,000).

3 Segment information continued

Non-current assets	2019 £'000	2018 £'000
United Kingdom	21,494	20,905
Continental Europe	7,173	6,762
Americas	63,973	59,184
Asia	2,699	1,977
Unallocated deferred tax asset	2,360	2,304
	97,699	91,132

Capital expenditure (including intangibles)	2019 £'000	2018 £'000
United Kingdom	1,728	1,487
Continental Europe	180	43
Americas	2,305	2,659
Asia	93	263
	4,306	4,452

4 Profit before income tax

The following items have been included in arriving at profit before income tax:

	2019 £'000	2018 £'000
Staff costs (note 5)	47,338	43,051
Inventories – cost of inventories recognised as an expense (included in cost of sales)	48,195	41,721
Net realised foreign exchange losses/(gains)	161	(160)
Depreciation on property, plant and equipment – owned	2,930	2,840
Amortisation of intangible assets	813	767
Other operating lease rentals payable:		
– Plant and machinery	175	140
– Property	1,713	1,311
Repairs and maintenance on property, plant and equipment	2,097	2,178
Trade receivables impairment	87	224
Research and development expenditure	4,166	4,011

The total remuneration of the Group's auditor, Deloitte LLP, and its affiliates for services provided to the Group is analysed below:

	2019 £'000	2018 £'000
Fees payable to Company's auditor and its associates for audit of parent company and consolidated financial statements	90	90
Fees payable to Company's auditor and its associates for other services:		
– The audit of Company's subsidiaries	132	125
– Audit-related assurance services	23	23
	245	238

Notes to the consolidated financial statements continued

5 Employee benefit expense

The average monthly number of staff, including Executive Directors, employed during the year is detailed below:

	2019 Average number	2018 Average number
Number		
Aerospace & Industrial	484	361
Laboratory	297	268
Metal Melt Quality	207	209
Central	7	7
	995	845
North American employees included above	452	393

	2019 £'000	2018 £'000
Staff costs		
Wages and salaries	37,760	34,543
Social security costs	6,445	5,745
Other pension costs	2,548	2,153
Share based payments	585	610
	47,338	43,051

Detailed disclosures of Directors' emoluments and interests in share options are shown in the Remuneration Report on pages 62 to 77.

The key management comprise the Directors of Porvair plc and their remuneration is disclosed in note 28.

6 Finance income and costs

	2019 £'000	2018 £'000
Finance income		
Bank interest receivable	7	6
	7	6

	Note	2019 £'000	2018 £'000
Finance costs			
Interest payable on bank loans and overdrafts		344	327
Unwinding of discount on provisions and contingent consideration		112	136
Pension scheme finance expense	19	353	373
		809	836
Net finance costs		802	830

7 Income tax expense

	Note	2019 £'000	2018 £'000
Current tax			
UK Corporation tax		838	860
Adjustment in respect of prior periods – UK		(29)	55
Overseas tax		1,902	1,971
Adjustment in respect of prior periods – US		(103)	(157)
		2,608	2,729
Deferred tax			
Origination and reversal of temporary differences – UK		255	(28)
Origination and reversal of temporary differences – Overseas		224	82
Adjustment in respect of prior periods – UK		133	(202)
Adjustment in respect of prior periods – US		–	207
Effect of change in deferred tax rates – US		–	(778)
	18	612	(719)
		3,220	2,010

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the UK tax rate applicable to profits of the consolidated companies as follows:

	2019 £'000	2018 £'000
Profit before tax	13,985	12,038
Tax at the UK corporation tax rate of 19% (2018: 19%)	2,657	2,287
Current tax adjustments in respect of prior periods	(132)	55
Deferred tax adjustments in respect of prior periods	133	5
Deferred tax on share based payments within the income statement	10	–
Tax effect of expenses not deductible in determining taxable profit	151	300
Effect of change in deferred tax rates	–	(778)
Effect of different tax rates of subsidiaries operating in other jurisdictions	401	298
Tax charge	3,220	2,167

In addition to the amount charged to the income statement, the following tax was charged/(credited) direct to equity/comprehensive income:

	2019 £'000	2018 £'000
Deferred tax on share based payments (direct to equity)	22	245
Deferred tax on actuarial losses on the pension fund (direct to comprehensive income)	(466)	614
Current tax on share based payments (direct to equity)	187	70
Current tax on exchange reserve movement (direct to comprehensive income)	149	(149)
	(108)	780

The standard rate of corporation tax in the UK was 19% during the year to 30 November 2019. Accordingly, the theoretical effective tax rate applied to the Group's profits for this accounting year is 19%.

Changes to the UK corporation tax rates were introduced by Finance (No.2) Act 2015, being the reduction of the main rate to 19% from 1 April 2017 and to 18% from 1 April 2020. The latter was superseded by Finance Act 2016, which was substantively enacted in September 2016 and reduced the rate to apply from 1 April 2020 to 17%. Deferred taxes at the balance sheet date have been measured using these enacted tax rates and reflected in these financial statements.

The current tax provision includes £1,167,000 (2018: £973,000) for uncertainties relating to the interpretation of tax legislation in the Group's operating territories.

Notes to the consolidated financial statements continued

8 Earnings per share

	2019			2018		
	£'000	Weighted average number of shares	Per share amount (pence)	£'000	Weighted average number of shares	Per share amount (pence)
Profit for the year – attributable to ordinary shareholders	**10,768**			10,045		
Number of ordinary shares in issue		**45,871,417**			45,705,419	
Number of ordinary shares owned by the Employee Benefit Trust		**(183,308)**			(156,552)	
Basic EPS	**10,768**	**45,688,109**	**23.6**	10,045	45,548,867	22.1
Dilutive impact of share options oustanding	**–**	**47,240**	**(0.1)**	–	102,380	(0.1)
Diluted EPS	**10,768**	**45,735,349**	**23.5**	10,045	45,651,247	22.0

In addition to the above, the Group also calculates an earnings per share based on underlying profit as the Board believes this to be a better measure to judge the progress of the Group. Underlying profit is defined as profit before impairments, rationalisation costs, one-off retirement benefit effects, exceptional bad debts, business closure costs, acquisition fees and amortisation of intangibles recognised on acquisition, net of attributable taxes.

The following table reconciles the Group's profit to underlying profit used in the numerator in calculating underlying earnings per share:

	2019			2018		
	£'000	Weighted average number of shares	Per share amount (pence)	£'000	Weighted average number of shares	Per share amount (pence)
Profit for the year – attributable to ordinary shareholders	**10,768**			10,045		
Adjusting items – see note 2	**805**			372		
Underlying profit – attributable to equity holders of the parent	**11,573**			10,417		
Basic EPS	**11,573**	**45,688,109**	**25.3**	10,417	45,548,867	22.9
Diluted EPS	**11,573**	**45,735,349**	**25.3**	10,417	45,651,247	22.8

9 Dividends per share

	2019		2018	
	Per share (pence)	£'000	Per share (pence)	£'000
Final dividend paid – in respect of prior year	**3.00**	**1,368**	2.70	1,229
Interim dividend paid – in respect of current year	**1.70**	**778**	1.60	728
	4.70	**2,146**	4.30	1,957

The Directors recommend a final dividend of 3.2 pence for the financial year ended 30 November 2019 to be paid on 7 June 2020.

10 Property, plant and equipment

	Land and buildings £'000	Assets in course of construction £'000	Plant, machinery and equipment £'000	Total £'000
Cost				
At 1 December 2017	9,939	1,280	35,539	46,758
Reclassification	173	(975)	802	–
Additions	704	1,827	1,265	3,796
Acquisitions	–	–	192	192
Disposals	(4)	–	(156)	(160)
Exchange differences	394	46	1,165	1,605
At 30 November 2018	11,206	2,178	38,807	52,191
Accumulated depreciation				
At 1 December 2017	(2,964)	–	(23,797)	(26,761)
Charge for year	(318)	–	(2,522)	(2,840)
Disposals	4	–	156	160
Exchange differences	(127)	–	(796)	(923)
At 30 November 2018	(3,405)	–	(26,959)	(30,364)
Net book value at 30 November 2018	7,801	2,178	11,848	21,827

	Land and buildings £'000	Assets in course of construction £'000	Plant, machinery and equipment £'000	Total £'000
Cost				
At 1 December 2018	11,206	2,178	38,807	52,191
Reclassification	378	(865)	487	–
Additions	500	83	3,360	3,943
Acquisitions	50	–	237	287
Disposals	(77)	–	(674)	(751)
Exchange differences	(120)	(8)	(408)	(536)
At 30 November 2019	**11,937**	**1,388**	**41,809**	**55,134**
Accumulated depreciation				
At 1 December 2018	(3,405)	–	(26,959)	(30,364)
Charge for year	(348)	–	(2,582)	(2,930)
Disposals	20	–	609	629
Exchange differences	39	–	271	310
At 30 November 2019	**(3,694)**	**–**	**(28,661)**	**(32,355)**
Net book value at 30 November 2019	**8,243**	**1,388**	**13,148**	**22,779**

Notes to the consolidated financial statements continued

11 Goodwill and other intangible assets

	Goodwill £'000	Development expenditure capitalised £'000	Software capitalised £'000	Trademarks, know-how and other intangibles £'000	Total £'000
At 1 December 2017					
Cost	74,936	774	1,325	1,854	78,889
Accumulated amortisation and impairment	(18,627)	(616)	(1,093)	(1,326)	(21,662)
Net book amount	56,309	158	232	528	57,227
Year ended 30 November 2018					
Opening net book amount	56,309	158	232	528	57,227
Additions	–	115	541	–	656
Acquisitions	4,036	–	2	3,218	7,256
Amortisation charges	–	(76)	(54)	(637)	(767)
Exchange differences	2,416	11	18	184	2,629
Closing net book amount	62,761	208	739	3,293	67,001
At 30 November 2018					
Cost	81,429	890	1,882	5,324	89,525
Accumulated amortisation and impairment	(18,668)	(682)	(1,143)	(2,031)	(22,524)
Net book amount	62,761	208	739	3,293	67,001
Year ended 30 November 2019					
Opening net book amount	62,761	208	739	3,293	67,001
Additions	–	16	163	184	363
Acquisitions	3,888	–	39	2,194	6,121
Disposals	–	–	(4)	–	(4)
Disposals amortisation	–	–	4	–	4
Amortisation charges	–	(69)	(110)	(634)	(813)
Exchange differences	(981)	(1)	(26)	(152)	(1,160)
Closing net book amount	**65,668**	**154**	**805**	**4,885**	**71,512**
At 30 November 2019					
Cost	84,326	903	2,047	7,516	94,792
Accumulated amortisation and impairment	(18,658)	(749)	(1,242)	(2,631)	(23,280)
Net book amount	**65,668**	**154**	**805**	**4,885**	**71,512**

Internally generated intangible assets arising from the Group's product development are recognised only if all conditions are met as described in the Summary of significant accounting policies.

Amortisation of £813,000 (2018: £767,000) is included in 'cost of sales' in the income statement.

Intangible assets are comprised of development expenditure, software and trademarks, know-how and other intangibles. Within these balances individually material balances relate to:

- Customer list of Keystone - £1,774,000 (2018: £2,016,000) - with a remaining amortisation period of 8 years.
- Customer list of the Royal Dahlman Group - £1,066,000 (2018: £nil) - with a remaining amortisation period of 14 years.

11 Goodwill and other intangible assets continued

Impairment tests for goodwill

Goodwill is allocated to the Group's cash generating units (CGUs) identified according to its operating segment.

A segment level summary of the goodwill allocation is presented below:

2019				2018			
Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Total £'000	Aerospace & Industrial £'000	Laboratory £'000	Metal Melt Quality £'000	Total £'000
25,667	**22,360**	**17,641**	**65,668**	25,667	19,453	17,641	62,761

The recoverable amount of the goodwill is based on value-in-use calculations. The calculations use cash flow projections based on financial budgets approved by management covering a three-year period. Pre-tax cash flows beyond the three-year period are extrapolated using the estimated growth rates stated below:

Key assumptions used for value-in-use calculations:	Aerospace & Industrial			Laboratory			Metal Melt Quality
	US	UK	Continental Europe	US	UK	Continental Europe	US
Budgeted gross margin	30%	30%	30%	32%	30%	35%	23%
Growth rate used to extrapolate cash flows beyond the budget period	2%	2%	2%	2%	2%	2%	2%
Weighted average cost of capital (pre-tax)	9.4%	9.8%	10.6%	9.4%	9.8%	11.5%	9.4%

These assumptions have been used for the analysis of each operation within the operating segment. Management determined budgeted gross margins based on past performance and its expectations for the development in its markets. The average growth rates used are consistent with past experience and market expectations, and are the same as prior year. The discount rates used are pre-tax and reflect specific risks relating to the relevant segments.

The key assumptions for the value in use calculations are those regarding the discount rates, growth rates and expected changes to selling prices and direct costs during the year.

The Group has conducted a sensitivity analysis on the impairment test of each CGU and the group of units carrying value. The Directors believe that any reasonably possible change in the key assumptions on which the recoverable amount of goodwill is based would not cause the aggregate carrying amount to exceed the aggregate recoverable amount of the cash generating unit.

Based on the results of the current year impairment review, no impairment charges have been recognised by the Group in the year ended 30 November 2019. Having assessed the anticipated future cash flows, the Directors do not currently foresee any reasonable changes in assumptions that would have led to such an impairment charge in the year ended 30 November 2019.

12 Derivative financial instruments

	2019		2018	
	Assets £'000	Liabilities £'000	Assets £'000	Liabilities £'000
Forward foreign exchange contracts – non-hedge – current	**13**	–	–	–
Forward foreign exchange contracts – cash flow hedge – current	**35**	–	–	–
	48	–	–	–

The gain recognised in the income statement in the year for non-hedged derivatives amounted to £13,000 (2018: loss of £40,000).

Under IFRS the fair value of all forward foreign exchange contracts and currency options are recognised on the balance sheet with the corresponding entry included within other comprehensive income where designated as a cash flow hedge and administrative expenses where hedge accounting has not been applied. The Group recognises all forward foreign exchange contracts and currency options on the balance sheet at fair value using external market data.

Derivatives relating to trading activities are classified as a current asset or liability. The full fair value of a hedging derivative is classified as a non-current asset or liability if the remaining maturity of the hedged item is more than 12 months, and as a current asset or liability if the maturity of the hedged item is less than 12 months from the balance sheet date.

The notional principal amount of the outstanding US dollar forward foreign exchange contracts at 30 November 2019 is US$9.9 million (2018: US$nil).

Notes to the consolidated financial statements continued

13 Inventories

	2019 £'000	2018 £'000
Raw materials	**6,894**	6,527
Work in progress	**9,435**	7,074
Finished goods	**6,868**	6,255
	23,197	19,856

The Group has recognised a charge in the income statement of £492,000 (2018: £438,000) for the write-down of its inventories during the year ended 30 November 2019. The Group has utilised provisions of £56,000 (2018: £207,000) during the year ended 30 November 2019.

14 Trade and other receivables

	2019 £'000	2018 £'000
Non-current		
Trade receivables	**1,048**	–
	1,048	–

The balance relates to an outstanding balance due from a customer which is contracted to be paid in full in the period up to 2024.

	2019 £'000	2018 £'000
Current		
Trade receivables	**22,145**	20,986
Less: provision for impairment	**(245)**	(227)
Trade receivables – net	**21,900**	20,759
Other debtors	**1,612**	460
Prepayments	**641**	1,117
	24,153	22,336

There is no difference between the fair value of trade and other receivables and their carrying value.

Credit risk in relation to trade receivables

The Group has a diverse customer base both geographically and in the number of industries in which it operates. There is credit risk associated with a decline in a particular industry or geographic region. To offset this risk, the Group has implemented policies that require appropriate credit checks to be performed on significant potential customers before sales are made. Customer orders are checked against pre-set criteria before acceptance and credit control procedures are applied. Letters of credit and payments in advance are obtained from customers as appropriate.

Trade and other receivables are non-interest bearing and generally on terms between 30 to 90 days. Trade receivables are provided for based on estimated irrecoverable amounts determined either by specific circumstances or by reference to historical default experience as described in note 1.

The Group does not hold any collateral or other credit enhancements over its trade receivables, nor does it have a legal right to offset against any amounts owed to the counterparty, so was exposed to credit risk in respect of the net trade receivables balance of £21,900,000 (2018: £20,759,000).

The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables.

14 Trade and other receivables continued

To measure the expected credit losses, trade receivables have been grouped based on their industry, territory and the days past due. On that basis, the loss allowance as at 30 November 2019 was determined as follows for trade receivables:

	2019			2018		
Trade receivables:	Not yet due £'000	Past due not impaired £'000	Impaired £'000	Not yet due £'000	Past due not impaired £'000	Impaired £'000
Not yet due	17,282	–	–	16,060	–	–
0-3 months overdue	–	4,138	42	–	4,138	138
3-6 months overdue	–	480	183	–	390	68
>6 months overdue	–	–	20	–	171	21
Total	17,282	4,618	245	16,060	4,699	227

The Directors consider that the carrying amount of trade and other receivables approximates to their fair value.

Movements on the Group provision for impairment of trade receivables are as follows:

	2019 £'000	2018 £'000
At 1 December	227	220
Provision for receivables impairment	87	224
Receivables written off during the year as uncollectable	(67)	(228)
Exchange differences	(2)	11
At 30 November	245	227

Foreign exchange risk in relation to trade receivables is disclosed in note 25.

15 Cash and cash equivalents

	2019 £'000	2018 £'000
Cash at bank and in hand	12,889	11,492
Cash and cash equivalents	12,889	11,492

The credit risk associated with cash and cash equivalents is mitigated by holding funds with banks with high credit ratings from AA- to A (2018: AA- to A) as assigned by international credit rating agencies.

The Group's cash balances are denominated in the following currencies:

	2019 £'000	2018 £'000
Pound Sterling	3,166	2,352
US dollar	6,073	4,673
Euro	3,191	3,886
Other	459	581
	12,889	11,492

16 Trade and other payables

	2019 £'000	2018 £'000
Amounts falling due within one year:		
Trade payables	14,728	12,046
Taxation and social security	1,016	628
Other payables	897	2,884
Accruals and contract liabilities	9,348	17,268
	25,989	32,826

Included within the balance of 'Accruals and contract liabilities' are contract liabilities of £1,542,000 (2018: £11,544,000).

Notes to the consolidated financial statements continued

17 Borrowings

	2019 £'000	2018 £'000
Secured multi-currency revolving credit facility of €23 million (2018: €23 million) maturing in May 2022 with interest at 1.5% (2018: 1.5%) above LIBOR	**8,875**	4,867
	8,875	4,867

	2019 £'000	2018 £'000
Bank loans of the Group are repayable as follows:		
Two to five years	**8,875**	4,867
	8,875	4,867

The Group has a five year banking facilities agreement (started on 24 May 2017), sufficient for its foreseeable needs, which comprises of a €23 million revolving credit facility and a £2.5 million multi-currency overdraft facility. The multi-currency revolving credit facility expires in May 2022.

The loans are shown net of issue costs of £167,000 (2018: £220,000) which are being amortised over the life of the loan arrangements.

At 30 November 2019, the Group had €13.3 million/£11.4 million (2018: €17.3 million/£15.3 million) of unused credit facility and an unutilised £2.5 million (2018: £2.5 million) overdraft facility.

The multi-currency facility is secured by fixed and floating charges against certain of the Group's assets in Europe.

18 Deferred tax

The movement of deferred tax assets and (liabilities) during the year is as follows:

	Accelerated capital allowances £'000	Other short term timing differences £'000	Intangibles £'000	Share based payments £'000	Retirement obligations £'000	Total £'000
At 1 December 2017	(3,058)	474	106	489	2,756	767
Acquisitions	–	–	(229)	–	–	(229)
Credited to income statement	558	82	38	–	41	719
Charged to equity in respect of share options	–	–	–	(245)	–	(245)
Charged to comprehensive income in respect of pension liabilities	–	–	–	–	(614)	(614)
Exchange differences	(163)	31	6	–	–	(126)
At 30 November 2018	(2,663)	587	(79)	244	2,183	272
Acquisitions	–	215	(531)	–	–	(316)
Credited to income statement	(431)	(85)	23	(10)	(109)	(612)
Charged to equity in respect of share options	–	–	–	(22)	–	(22)
Credited to comprehensive income in respect of pension liabilities	–	–	–	–	466	466
Exchange differences	(28)	(17)	29	–	–	(16)
At 30 November 2019	**(3,122)**	**700**	**(558)**	**212**	**2,540**	**(228)**

Included within the net deferred tax liability balance of £228,000 (2018: net asset of £272,000) are deferred tax liabilities of £2,102,000 (2018: £1,826,000), which relate to Group entities based in the USA, and of £486,000 (2018: £206,000), which relate to entities based in Continental Europe.

At the balance sheet date, the Group has unused tax losses of £6,120,000 (2018: £4,321,000) available for offset against future profits. A tax asset has been recognised in respect of £1,056,000 (2018: £429,000) of such losses. No tax asset has been recognised in respect of the remaining losses of £5,064,000 (2018: £3,892,000), as it is not considered probable that there will be taxable profits available to offset in the reasonably foreseeable future.

19 Retirement benefit obligations

	2019 £'000	2018 £'000
Defined benefit scheme deficit	**14,344**	12,242
Additional pension commitments	**106**	114
	14,450	12,356

The additional pension commitments arise out of contractual commitments to certain employees outside the scope of the defined benefit plan. These liabilities will crystallise between one and ten years.

a) Defined contribution schemes
For its US employees, the Group operates a defined contribution pension plan ("the Pension Plan") covering all eligible full-time employees. The Group contributes 3% of each participant's base salary each year to the Pension Plan. In 2019, this amounted to £556,000 (2018: £438,000). In 2019, the Group also made payments of £587,000 (2018: £494,000) to designated US 401k schemes on behalf of its employees. In the UK, after the closure of the defined benefit plan to new members, the Group introduced a stakeholder plan to be offered to all new employees. Total employer contributions in the UK paid to defined contribution schemes were £935,000 (2018: £719,000).

b) Defined benefit plan
The Group operates a defined benefit pension scheme, The Porvair plc Pension and Death Benefit Plan ('the Plan'), covering a number of employees in the UK. The pension scheme is a final salary scheme and is financed through a separate trust fund administered by Trustees with an independent Chairman. The Plan was closed to new entrants in October 2001. The defined benefit scheme exposes the Group to actuarial risks, such as longevity risk, inflation risk, interest rate risk and market (investment) risk. The Group is not exposed to any unusual, entity specific or scheme specific risks.

Formal valuations of the Plan by a professionally qualified actuary are carried out at least every three years using the projected unit method. Under this method the current service cost will increase in relation to the salaries of the members in future years as those members approach retirement. The latest available full actuarial valuation was at 31 March 2018.

The principal actuarial assumptions adopted in the 2018 valuation were:	2018 valuation assumptions %
Past service investment return:	
Pre-retirement discount rate	3.55
Post-retirement discount rate	1.80
Salary increases	3.00

A full triennial actuarial valuation of the assets and liabilities of the defined benefit scheme was completed in 2019, based on data at 31 March 2018. The actuarial value of the assets on the funding basis was sufficient to cover 64% of the benefits that had accrued to members after allowing for expected increases in pensionable remuneration, and the current funding deficiency amounted to £16.6 million. As a result of the review, the Group and the Trustees agreed to alter the employer's contributions from 18.9% of salary to 20.9% of salary. A £215,000 annual cash contribution towards the running costs of the scheme started in April 2016, increasing by 3.5% per annum; this changed to £238,000 from March 2019, increasing by 3.5%. The Group also committed to make an increased annual contribution to cover the past service deficit of £1,600,000 per annum commencing in December 2019. The funding shortfall is expected to be eliminated by December 2028. The next full actuarial valuation of the scheme will be based on the pension scheme's position at 31 March 2021 and is expected to be completed before June 2022.

The pension charge for the year was £642,000 (2018: £1,491,000) and the funding via employer contributions was £1,637,000 (2018: £1,617,000). The Group expects to make contributions of £2,010,000 to the Plan in the next financial year.

The valuation of the deficit in the balance sheet is based on the most recent actuarial valuation of the Plan as updated by a qualified actuary to take account of the market value of the assets and the present value of the liabilities of the Plan at 30 November 2019.

Balance sheet
The financial assumptions used to calculate Plan liabilities under IAS 19:

	2019	2018
Valuation method	Projected Unit	Projected Unit
Discount rate	**2.0%**	3.1%
RPI inflation rate	**3.0%**	3.4%
CPI inflation rate	**2.0%**	2.4%
General salary increases	**3.0%**	3.0%
Rate of increase of pension payments	**2.0%**	2.4%
Rate of increase for deferred pensioners	**1.7%**	1.9%

Notes to the consolidated financial statements continued

19 Retirement benefit obligations continued

Assumptions regarding future mortality are set based on actuarial advice in accordance with published statistics and experience in the industry. The SAPS base mortality tables have been used, with a 122% multiplier allowing for future improvements of 1.25% per annum (2018: 1.25% per annum). These assumptions translate into an average life expectancy in years for a pensioner retiring at age 65:

	2019 Years	2018 Years
Retiring at the end of the reporting period:		
– Male	**20.0**	20.4
– Female	**21.9**	22.4
Retiring 15 years after the end of the reporting period:		
– Male	**20.9**	21.4
– Female	**23.0**	23.5

The Plan's membership numbers as at the year end are:

	2019 Number of members	2018 Number of members
Active	**39**	41
Deferred	**237**	248
Pensioner	**248**	248
	524	537

Sensitivities have been calculated by valuing the Plan's defined benefit obligation at 30 November 2019 using the same methodology, with relevant changes to the assumptions. The sensitivity of the defined benefit obligation to changes in the weighted principal assumptions is:

		Impact on defined benefit obligation	
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.1%	Decrease of 1.7%	Increase of 1.8%
Inflation rate	0.1%	Increase of 1.0%	Decrease of 1.0%
Life expectancy	1 year	Increase of 3.6%	Decrease of 3.3%

The assets in the Plan, all of which are quoted, are:

	Value at 30 November 2019 £'000	Value at 30 November 2018 £'000
Equities	**16,380**	14,616
Bonds	**2,241**	1,905
Gilts	**8,846**	7,763
Liability driven investment	**3,248**	2,560
Other	**92**	109
Fair value of Plan assets	**30,807**	26,953
Present value of unfunded obligations	**(45,151)**	(39,195)
Deficit in the Plan (excluding deferred tax)	**(14,344)**	(12,242)

The analysis of movement in the deficit in the Plan for the year is as follows:

	2019 £'000	2018 £'000
Deficit at 1 December	**(12,242)**	(15,549)
Contributions paid	**1,637**	1,617
Current service cost	**(318)**	(404)
Administration expense	**(324)**	(314)
Past service cost	**–**	(773)
Other finance expense	**(353)**	(373)
Actuarial (loss)/gain	**(2,744)**	3,554
Deficit at 30 November	**(14,344)**	(12,242)

19 Retirement benefit obligations continued

The change in the present value of the Plan assets during the year is as follows:

	2019 £'000	2018 £'000
Plan assets at the start of the year	26,953	28,275
Benefit payments	(1,569)	(1,993)
Company contributions	1,637	1,617
Administration expense	(324)	(314)
Member contributions	95	96
Interest income on plan assets	820	699
Return on Plan assets (excluding interest income)	3,195	(1,427)
Plan assets at 30 November	30,807	26,953

The actual return on Plan assets was £4,015,000 (2018: minus £728,000).

The change in the present value of the Plan liabilities during the year is as follows:

	2019 £'000	2018 £'000
Plan liabilities at the start of the year	(39,195)	(43,824)
Current service cost	(318)	(404)
Interest cost	(1,173)	(1,072)
Member contributions	(95)	(96)
Past service cost	–	(773)
Benefits paid	1,569	1,993
(Loss)/gain on change in financial and demographic assumptions	(4,980)	4,981
Experience losses on the defined benefit obligation	(959)	–
Plan liabilities at 30 November	(45,151)	(39,195)

The Plan liabilities by participant member status are as follows:

	2019 £'000	2018 £'000
Active	(10,464)	(8,219)
Deferred	(18,700)	(16,016)
Pensioner	(15,987)	(14,960)
Plan liabilities at 30 November	(45,151)	(39,195)

The weighted average duration of the Plan scheme liabilities at the end of the reporting period is 20 years (2018: 20 years).

The movements in the Plan during the year are as follows:

Income statement	2019 £'000	2018 £'000
Analysis of amounts chargeable to operating profit:		
Current service cost	(318)	(404)
Administration expense	(324)	(314)
Past service cost	–	(773)
Amount chargeable to operating profit	(642)	(1,491)
Analysis of amounts (charged)/credited to other finance income and costs:		
Interest on Plan liabilities	(1,173)	(1,072)
Expected return on assets in the Plan	820	699
Net amount charged to other finance income and costs	(353)	(373)
Total chargeable to the income statement before deduction of tax	(995)	(1,864)
Other items		
Analysis of amounts recognised in the consolidated statement of comprehensive income:		
Actual return on assets in excess of expected return	3,195	(1,427)
(Loss)/gain on change in financial and demographic assumptions	(4,980)	4,981
Experience gains on the defined benefit obligation	(959)	–
Total actuarial (loss)/gain recognised in the consolidated statement of comprehensive income	(2,744)	3,554
Cumulative actuarial loss recognised in the consolidated statement of comprehensive income	(8,816)	(6,072)

Notes to the consolidated financial statements continued

20 Provisions for other liabilities and charges

	Dilapidations £'000	Warranty £'000	Total £'000
At 30 November 2018	219	506	725
Recognised on adoption of IFRS 15	–	8,187	8,187
At 1 December 2018	219	8,693	8,912
Acquired	–	136	136
Charged to the consolidated income statement:			
– Unwinding of discount	23	–	23
– Warranty	–	801	801
Utilised:			
– Warranty	–	(96)	(96)
Exchange reserve	–	(8)	(8)
At 30 November 2019	**242**	**9,526**	**9,768**

Provisions arise from potential claims arising from major contracts, discounted dilapidations provision for leased property, which is expected to be required in 2023, and sale warranties which expire by 2020. The amount charged in the year of £801,000 arose on additional sales made in the year. Also see note 26.

Analysis of total provisions	2019 £'000	2018 £'000
Current	**9,526**	506
Non-current	**242**	219
	9,768	725

21 Share capital and share premium account

	Number of shares	Share capital £'000	Share premium account £'000	Total £'000
At 1 December 2017	45,641,175	913	35,831	36,744
Issue of shares on exercise of share options	202,424	4	127	131
At 30 November 2018	45,843,599	917	35,958	36,875
At 1 December 2018	45,843,599	917	35,958	36,875
Issue of shares on exercise of share options	197,600	4	546	550
At 30 November 2019	**46,041,199**	**921**	**36,504**	**37,425**

The Company has one class of ordinary shares which carries no right to fixed income. All of the Company's shares in issue are fully paid and each share carries the right to vote at general meetings.

In February, March, April, June, July and September 2018, 51,049 ordinary shares of 2 pence each were issued on the exercise of Save As You Earn share options for cash consideration of £128,000. In September 2018, 151,375 ordinary shares of 2 pence each were issued on the exercise of Long Term Share Plan share options for cash consideration of £3,000.

In October and November 2019, 197,600 ordinary shares of 2 pence each were issued on the exercise of Save As You Earn share options for cash consideration of £550,000.

The Group uses an Employee Benefit Trust (EBT) to purchase shares in the Company to satisfy entitlements, granted since the Company's AGM in 2015, under the Group's Long Term Incentive Plan. The EBT has waived its rights to dividends. During the year the Group purchased 114,000 ordinary shares of 2 pence each (2018: 84,000) for a total consideration of £623,000 (2018: £416,000). During the year the EBT issued 164,600 ordinary shares of 2 pence each (2018: nil) to satisfy the exercise of Long Term Share Plan share options. The cost of the shares held by the EBT is deducted from retained earnings. The EBT is financed by a repayable-on-demand loan from the Group of £1,592,000 (2018: £968,000). As at 30 November 2019 the EBT held a total of 145,400 ordinary shares of 2 pence each (2018: 196,000) at a cost of £773,000 (2018: £968,000) and a market value of £878,000 (2018: £833,000).

22 Share options and share based payments

Share options are granted to Executive Directors and to selected employees. Details of the share options awarded to the Executive Directors, including exercise price and performance conditions, are disclosed in the Remuneration report on pages 62 to 77.

These equity settled, share based payments are measured at fair value at the date of grant. The fair value determined at the grant date of the equity settled, share based payments is expensed to the income statement on a straight line basis over the vesting period, based on the Group's estimate of shares that will eventually vest. The charge is then credited back to reserves.

Fair value is measured by use of a Black-Scholes model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

Details of the share options are:

Scheme	Year of grant	Exercise period	Subscription price pence	2019 Number of shares	2018 Number of shares
2014 5yr Save As You Earn Scheme	2014	2019 - 2020	240.00	**16,412**	89,505
2008 Long Term Share Plan	2016	2019 - 2026	2.00	**–**	164,600
2016 3yr Save As You Earn Scheme	2016	2019 - 2020	300.00	**1,800**	128,100
2016 5yr Save As You Earn Scheme	2016	2021 - 2022	300.00	**41,000**	43,000
2008 Long Term Share Plan	2017	2020 - 2027	2.00	**129,700**	129,700
2017 3yr Save As You Earn Scheme	2017	2020 - 2021	398.00	**96,487**	105,032
2017 5yr Save As You Earn Scheme	2017	2022 - 2023	398.00	**58,182**	58,182
2008 Long Term Share Plan	2018	2021 - 2028	2.00	**109,500**	109,500
2018 Long Term Share Plan	2019	2022 - 2029	2.00	**113,400**	–
2019 3yr Save As You Earn Scheme	2019	2022 - 2023	470.00	**135,480**	–
2019 5yr Save As You Earn Scheme	2019	2024 - 2025	470.00	**26,804**	–
At 30 November				**728,765**	827,619

Movements in share options during the year were:

	2019 Weighted average exercise price pence	2018 Weighted average exercise price pence	2019 Number of shares	2018 Number of shares
At 1 December	**167.44**	173.92	**827,619**	970,321
Options granted	**279.34**	2.00	**278,362**	109,500
Options forfeited	**376.25**	347.21	**(15,016)**	(49,778)
Options exercised	**152.87**	64.78	**(362,200)**	(202,424)
At 30 November	**213.12**	167.44	**728,765**	827,619
Options exercisable at 30 November	**245.93**	–	**18,212**	–
Options not exercisable at 30 November	**212.28**	167.44	**710,553**	827,619
Total	**213.12**	167.44	**728,765**	827,619

Notes to the consolidated financial statements continued

22 Share options and share based payments continued

	Year of grant	Scheme	Exercise price pence	2019 Number of shares	2018 Number of shares
Options granted during the year were:					
	2018	2008	2.00	–	109,500
	2019	2018	2.00	**113,400**	–
	2019	2019	470.00	**138,158**	–
	2019	2019	470.00	**26,804**	–
Total				**278,362**	109,500

	Year of grant	Scheme	Exercise price pence	2019 Number of shares	2018 Number of shares
Options forfeited during the year were:					
	2016	3yr SAYE	300.00	**3,300**	18,597
	2016	5yr SAYE	300.00	**2,000**	7,200
	2017	3yr SAYE	398.00	**7,038**	14,936
	2017	5yr SAYE	398.00	–	9,045
	2019	3yr SAYE	470.00	**2,678**	–
Total				**15,016**	49,778

	Year of grant	Scheme	Exercise price pence	2019 Number of shares	2018 Number of shares
Options exercised during the year were:					
	2014	3yr SAYE	240.00	–	42,600
	2014	5yr SAYE	240.00	**73,093**	–
	2015	2008	2.00	–	151,375
	2016	2008	2.00	**164,600**	–
	2016	3yr SAYE	300.00	**123,000**	4,923
	2016	5yr SAYE	300.00	–	3,000
	2017	3yr SAYE	398.00	**1,507**	526
Total				**362,200**	202,424

For options exercised in the year, the weighted average share price at the date of exercise was 594 pence (2018: 496 pence).

A summary of the outstanding share option fair value assumptions is given below:

Grant date Scheme	01/10/16 SAYE 2016 5 year	31/01/17 Porvair LTSP	01/10/17 SAYE 2017 3 year	01/10/17 SAYE 2017 5 year	01/02/18 Porvair LTSP	31/01/19 Porvair LTSP	01/10/19 SAYE 2019 3 year	01/10/19 SAYE 2019 5 year
Share price at grant date	373.00p	453.00p	498.75p	498.75p	530.00p	460.00p	586.00p	586.00p
Exercise price	300.00p	2.00p	398.00p	398.00p	2.00p	2.00p	470.00p	470.00p
Shares under option	53,700	129,700	120,494	67,227	109,500	113,400	138,158	26,804
Vesting period (years)	5	3	3	5	3	3	3	5
Expected volatility	30%	30%	30%	30%	30%	30%	30%	30%
Expected life (years)	5	3	3	5	3	3	3	5
Risk free rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Dividend yield	0.97%	0.84%	0.78%	0.78%	0.79%	1.00%	0.80%	0.78%
Fair value per option (£)	1.19660	4.39772	1.44287	1.64167	5.15637	4.44493	1.96535	2.28535

The expected volatility is based on historic share price movements. The Directors anticipate it is possible the performance criteria in relation to certain share options may not be met.

Share based payments	2019 £'000	2018 £'000
Charge for the year	**585**	610

23 Notes to the cashflow

Cash generated from operations	2019 £'000	2018 £'000
Operating profit	14,787	12,868
Adjustments for:		
– Post-employment benefits	(1,003)	(136)
– Fair value movement of derivatives through profit and loss	(52)	40
– IFRS 15 adjustment	(88)	–
– Share based payments	585	610
– Depreciation, amortisation and impairment	3,743	3,607
– Loss on disposal of property, plant and equipment and intangibles	122	–
Operating cash flows before movement in working capital	18,094	16,989
Changes in working capital (excluding the effects of exchange differences on consolidation):		
– Increase in inventories	(2,351)	(2,494)
– Increase in trade and other receivables	(707)	(1,570)
– (Decrease)/increase in trade and other payables	(7,209)	3,216
– Increase/(decrease) in provisions	8,931	(806)
Increase in working capital	(1,336)	(1,654)
Cash generated from operations	**16,758**	15,335

	Liabilities		Equity		
	Loans £'000	Share capital/ premium £'000	Cumulative translation reserve £'000	Retained earnings £'000	Total £'000
At 30 November 2018	4,867	36,875	10,570	42,024	94,336
Adjustment on initial application of IFRS 15 (net of tax)	–	–	–	(57)	(57)
At 1 December 2019	**4,867**	**36,875**	**10,570**	**41,967**	**94,279**
Changes from financing cash flows:					
– Proceeds from issue of share capital	–	550	–	–	550
– Purchase of EBT shares	–	–	–	(623)	(623)
– Dividends paid to shareholders	–	–	–	(2,146)	(2,146)
Total changes from financing cash flows	**–**	**550**	**–**	**(2,769)**	**(2,219)**
The effect of changes in foreign exchange rates	**(640)**	**–**	**–**	**–**	**(640)**
Changes in fair value	**–**	**–**	**–**	**–**	**–**
Liability related changes:					
– Loan drawn down	4,648	–	–	–	4,648
Total liability-related changes	**4,648**	**–**	**–**	**–**	**4,648**
Total equity-related other changes	**–**	**–**	**(1,212)**	**9,354**	**8,142**
At 30 November 2019	**8,875**	**37,425**	**9,358**	**48,552**	**104,210**

Notes to the consolidated financial statements continued

24 Acquisitions

Acquisition of Dahlman Industrial Group B.V.

On 4 September 2019 the Group, through its subsidiary Porvair Holdings B.V., purchased 100% of the share capital of Dahlman Industrial Group B.V. ("Royal Dahlman") to increase the Aerospace & Industrial division's expertise in petroleum filtration engineering. The company is based in the Netherlands. Its trade is the design and build of industrial filtration packages for oil and gas applications, and distribution of filters for industrial applications in the Benelux region. The total consideration was €7,750,000 (£7,010,000), which was paid in cash on the acquisition date, together with €151,000 (£137,000) to settle an outstanding loan. There are no further payments due in respect of this acquisition. In the period since acquisition, the business has contributed €2,942,000 (£2,587,000) sales and €6,000 (£5,000) operating profit to the Group results. The direct costs of acquisition of £337,000 were charged to the income statement in the current and prior year. If Royal Dahlman had been consolidated from 1 December 2018, the consolidated income statement would show pro-forma revenue of £157.7 million and underlying operating profit of £15.2 million.

	£'000
Purchase consideration:	
Cash paid	7,010
Loan repaid	137
Total purchase consideration	7,147
Fair value of net assets acquired (see below)	(3,259)
Goodwill	**3,888**

The goodwill is attributable to the non-contractual relationships and the synergies between the business acquired and the existing operations of the Group, and the potential to develop the technologies acquired. The goodwill recognised is attributable to the Aerospace & Industrial division and is not expected to be deductible for income tax purposes. The purchase is accounted for as an acquisition. The recognised amounts of identifiable assets acquired and liabilities assumed are:

	Fair value £'000
Property, plant and equipment	287
Software	39
Tradename	451
Customer lists	1,743
Inventory	1,322
Trade receivables	2,343
Trade payables	(1,610)
Accruals and other creditors	(1,518)
Deferred tax liability	(332)
Cash	341
Other working capital (net)	193
Net assets acquired	**3,259**
Purchase consideration settled in cash	7,010
Loan settled on acquisition	137
Cash acquired	(341)
Cash outflow on acquisition	**6,806**

Summary of deferred and contingent consideration on acquisitions

	JG Finneran Associates, Inc. £'000	Rohasys B.V. £'000	Total £'000
At 1 December 2018	2,351	1,541	3,892
Cash paid in year	(2,364)	(591)	(2,955)
Release of contingent consideration	–	(36)	(36)
Release of discount	–	89	89
Exchange movement	13	(55)	(42)
At 30 November 2019	**–**	**948**	**948**

24 Acquisitions continued

The remaining contingent consideration has been booked at management's best estimate of the probable future liability, and has been discounted by the relevant territory's weighted average cost of capital.

	2019 Total £'000	2018 Total £'000
Included within other payables:		
– Contingent consideration – current	**531**	2,884
– Contingent consideration – non-current	**417**	1,008
At 30 November	**948**	3,892

25 Financial risk management

The Group's activities expose it to a variety of financial risks: market risk (including foreign exchange risk and interest rate cash flow risk), credit risk and liquidity risk. The Group's overall risk management programme is disclosed on pages 35 to 40 of the Strategic report and page 54 of the Directors' report. The Group uses derivative financial instruments to hedge certain risk exposures.

Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily in respect of the US dollar and the Euro. Foreign exchange risk arises from future commercial transactions, recognised assets and liabilities and net investments in foreign operations.

(i) US dollar

The Group has investments in its US based subsidiaries denominated in US dollars. Currency exposure arising from the net assets of the Group's US operations is managed through borrowings denominated in US dollars.

The UK operations generate significant US dollar revenue and forward contracts are used to reduce the impact of movements in the US dollar exchange rate.

The Group has the following outstanding US dollar forward contracts:

	2019 $'000	2018 $'000
Outstanding forward contracts	**9,900**	–

The Group has the following current assets and liabilities denominated in US dollars:

	2019 $'000	2018 $'000
Trade receivables	**16,231**	18,230
Cash balances	**7,855**	5,962
Other current assets	**12,299**	11,557
Trade payables	**(6,907)**	(7,011)
Other current liabilities	**(15,319)**	(22,700)
	14,159	6,038

For illustrative purposes, if the US dollar exchange rate were to move by 10% (management's estimate of average annual market currency fluctuation) against Sterling, the Group would make the following gains/(losses):

	2019 £'000	2018 £'000
US dollar strengthens	**1,216**	526
US dollar weakens	**(994)**	(431)

Notes to the consolidated financial statements continued

25 Financial risk management continued

(ii) Euro

The Group has investments in its European based subsidiaries denominated in Euros. Currency exposure arising from the net assets of the Group's European operations is managed through net purchases from suppliers as a partial natural hedge.

The Group has the following current assets and liabilities denominated in Euros:

	2019 €'000	2018 €'000
Trade receivables	**5,035**	2,475
Cash balances	**3,743**	4,379
Other current assets	**5,871**	4,664
Trade payables	**(4,371)**	(3,062)
Other current liabilities	**(3,431)**	(2,535)
	6,847	5,921

For illustrative purposes, if the Euro exchange rate were to move by 10% (management's estimate of average annual market currency fluctuation) against Sterling, the Group would make the following gains/(losses):

	2019 £'000	2018 £'000
Euro strengthens	**648**	585
Euro weakens	**(530)**	(476)

Cash flow interest rate risk

The Group is exposed to cash flow risk. For illustrative purposes, if interest rates had been 0.5% higher/lower on borrowings throughout the year with all other variables held constant, the post tax profit for the year would have been £41,000 (2018: £38,000) lower/higher, respectively.

Credit risk

Credit risk is disclosed in notes 14 and 15.

Liquidity risk

Banking facilities, including a maturity profile, are disclosed in note 17. Interest is payable based on the length of the revolving facilities, typically between 1 and 3 months and on a quarterly basis for the term loan. The Group is required to meet banking covenants on a quarterly basis. Whilst the Group has sufficient cash reserves and expects future trading to enable it to meet its cash flow obligations, should trading performance prevent it from doing so then the lender has recourse over the Group's assets. Cash and cash equivalents held in the UK is subject to a Composite Account System, which is a banking offset arrangement that allows the set-off of overdraft balances with retained cash.

The table below analyses the Group's non-derivative financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. Derivative financial liabilities are included in the analysis to the extent that their contractual maturities are essential for an understanding of the timing of cash flows. The amounts disclosed are the contractual undiscounted cash flows.

	Less than 1 year £'000	Between 1 and 2 years £'000	Between 2 and 5 years £'000
Borrowings	182	182	9,133
Trade and other payables	24,447	417	–
At 30 November 2019	**24,629**	**599**	**9,133**

	Less than 1 year £'000	Between 1 and 2 years £'000	Between 2 and 5 years £'000
Borrowings	215	215	5,340
Trade and other payables	21,725	1,008	–
At 30 November 2018	21,940	1,223	5,340

25 Financial risk management continued

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined below:

- Quoted prices in active markets for identical assets or liabilities (level 1).
- Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices) (level 2).
- Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) (level 3).

	Level 1 £'000	Level 2 £'000	Level 3 £'000	Total £'000
Financial assets/(liabilities) at fair value through profit or loss:				
– Trading derivatives	–	13	–	13
Contingent consideration	–	–	(948)	(948)
Foreign exchange contracts used for hedging	–	35	–	35
At 30 November 2019	**–**	**48**	**(948)**	**(900)**

	Level 1 £'000	Level 2 £'000	Level 3 £'000	Total £'000
Financial assets/(liabilities) at fair value through profit or loss:				
– Trading derivatives	–	–	–	–
Contingent consideration	–	–	(3,892)	(3,892)
At 30 November 2018	–	–	(3,892)	(3,892)

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximise the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2. There have been no movements between levels in the year. See note 24 for movement in level 3 liabilities.

The tables below analyse financial instruments by category:

	2019				2018			
	Other financial assets at amortised cost £'000	Financial assets at fair value through profit and loss £'000	Financial assets at fair value through comprehensive income £'000	Total £'000	Other financial assets at amortised cost £'000	Financial assets at fair value through profit and loss £'000	Financial assets at fair value through comprehensive income £'000	Total £'000
Assets as per the balance sheet								
Foreign exchange contracts	–	13	35	48	–	–	–	–
Trade and other receivables excluding prepayments	23,512	–	–	23,512	21,219	–	–	21,219
Cash and cash equivalents	12,889	–	–	12,889	11,492	–	–	11,492
At 30 November	**36,401**	**13**	**35**	**36,449**	32,711	–	–	32,711

	2019				2018			
	Other financial liabilities at amortised cost £'000	Financial liabilities at fair value through profit and loss £'000	Financial liabilities at fair value through comprehensive income £'000	Total £'000	Other financial liabilities at amortised cost £'000	Financial liabilities at fair value through profit and loss £'000	Financial liabilities at fair value through comprehensive income £'000	Total £'000
Liabilities as per the balance sheet								
Borrowings	(8,875)	–	–	(8,875)	(4,867)	–	–	(4,867)
Trade and other payables excluding non-financial liabilities	(24,447)	–	–	(24,447)	(21,725)	–	–	(21,725)
At 30 November	**(33,322)**	**–**	**–**	**(33,322)**	(26,592)	–	–	(26,592)

Notes to the consolidated financial statements continued

25 Financial risk management continued

Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximising the return to shareholders through the optimisation of the debt and equity balance. The Group's overall strategy remains unchanged from the prior year.

The Group's objectives when managing capital are to safeguard the Group's ability to operate as a going concern in order to provide returns to shareholders, benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital. In order to adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares, or sell assets to reduce debt.

The Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net cash or net debt divided by total capital. Net cash or net debt is calculated as total borrowings as shown in the consolidated balance sheet less cash and cash equivalents. Total capital is calculated as 'equity' as shown in the consolidated balance sheet. The gearing ratio at 30 November 2019 was not applicable because the Group had a net cash position (2018: not applicable).

The Group's borrowings are subject to certain covenant restrictions imposed by the banks. These covenants have been fully complied with during the year ended 30 November 2019. The multi-currency facility is secured by fixed and floating charges against certain of the Group's assets in Europe.

26 Contingent liabilities

At 30 November 2019, the Group had the following advanced payment bonds (relating to monies received in advance on contracts) and performance bonds:

	$'000	€'000
Advanced payment bonds	–	–
Performance bonds	8,534	638
At 30 November 2019	**8,534**	**638**

	$'000	€'000
Advanced payment bonds	2,360	–
Performance bonds	7,476	–
At 30 November 2018	9,836	–

US$8,478,000 (2018: US$7,476,000) of the performance bonds relate to the contracts for filtration systems provided for gasification projects. In December 2019, a US$930,000 performance bond was called by the customer, paid and cancelled. These projects are being commissioned, a process which is taking several years. The Group has provided its best estimate of the amount of any potential loss arising from rectification and claims arising on these contracts within the £9.5 million warranty provisions disclosed in note 20. The maximum potential unprovided exposure under these contracts is limited to £11.5 million. The uncalled performance bonds are expected to be called or released no later than March 2023.

27 Commitments

Capital and other financial commitments

Contracts placed for future capital expenditure on property, plant and equipment not provided in the financial statements at 30 November 2019 were £811,000 (2018: £489,000).

Operating lease commitments – minimum lease payments

	2019		2018	
	Land and buildings £'000	Other £'000	Land and buildings £'000	Other £'000
Future aggregate minimum lease payments in respect of leases expiring in:				
No later than one year	1,892	174	1,417	162
Later than one year and no later than five years	5,413	284	4,035	137
Later than five years	6,846	–	2,382	–
At 30 November	**14,151**	**458**	7,834	299

28 Key management compensation

The Board of Directors, including the Non-Executive Directors, are classified as key management. Their remuneration is shown in the Remuneration report. Their aggregate emoluments are disclosed in the table below:

	2019 £'000	2018 £'000
Salaries and other short term employee benefits	999	1,070
Post employment benefits	115	142
Share based payments	507	486
	1,621	1,698

29 Subsidiary undertakings

The Group's ultimate parent company is Porvair plc which is incorporated in England.

Details of the Group's subsidiary undertakings at 30 November 2019 are as follows:

Subsidiary name	Subsidiary registered office address	Activity	*Country of* incorporation and operation	*% holding* in ordinary shares
Held directly:				
Porvair Corporation	700 Shepherd Street, Hendersonville, NC 28792, USA	Holding	USA	100%
Porvair Filtration India Private Limited	Thane West 400607, Maharashtra, India	Trading	India	65%
Porvair Filtration Limited	7 Regis Place, Bergen Way, King's Lynn, UK	Holding	England	100%
Porvair Holdings B.V.	Gustav Mahlerplein 3, 1082MS, Amsterdam, Netherlands	Holding	Netherlands	100%
Porvair Selee Filtration Technology (Hubei) Company Limited	Square Industrial Park, Xiaogan 432000, China	Trading	China	100%
Seal Analytical Limited	7 Regis Place, Bergen Way, King's Lynn, UK	Trading	England	100%
Seal Analytical Shanghai Company Limited	128 Xiangyin Road, Shanghai 200433, China	Trading	China	100%
Held indirectly:				
Dahlman Industrial Group B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Holding	Netherlands	100%
Dahlman Filter Services B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Trading	Netherlands	100%
Dahlman Filter Services GmbH	Boxgraben 38, 52064 Aachen, Nord Rhein-Westphalia, Germany	Trading	Germany	100%
Dahlman International B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Dormant	Netherlands	100%
Dahlman Power B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Dormant	Netherlands	100%
J G Finneran Associates, Inc.	3600 Reilly Court, Vineland, NJ 08360, USA	Trading	USA	100%
Microfiltrex Limited	7 Regis Place, Bergen Way, King's Lynn, UK	Dormant	England	100%
Platex, Plaat- en Constructiewerken B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Dormant	Netherlands	100%
Porvair Filtration Group, Inc.	301 Business Lane, Ashland, VA 23005, USA	Trading	USA	100%
Porvair Filtration Group Limited	7 Regis Place, Bergen Way, King's Lynn, UK	Trading	England	100%
Porvair Sciences Limited	7 Regis Place, Bergen Way, King's Lynn, UK	Trading	England	100%
Pulse Instrumentation GmbH	Werkstrasse 5, 22844 Norderstedt, Germany	Trading	Germany	100%
Rohasys B.V.	Provinciënbaan 4, 5121 DL Rijen, Netherlands	Trading	Netherlands	100%
Seal Analytical GmbH	Werkstrasse 5, 22844 Norderstedt, Germany	Trading	Germany	100%
Seal Analytical, Inc.	6501 W. Donges Bay Road, Mequon, WI 53092, USA	Trading	USA	100%
Selee Corporation	700 Shepherd Street, Hendersonville, NC 28792, USA	Trading	USA	100%
Technisch Bureau Dahlman B.V.	PO Box 438, 3140 AK, Maassluis, Netherlands	Trading	Netherlands	100%

Porvair plc Parent Company – Balance Sheet (under FRS 101)

Company registered number 01661935

As at 30 November	Note	2019 £'000	2018 £'000
Non-current assets			
Property, plant and equipment	4	3	4
Investments	5	55,407	50,725
Deferred tax	11	3,360	2,916
		58,770	53,645
Current assets			
Amounts receivable from Group undertakings	6	25,563	26,261
Other receivables	7	87	79
Income tax receivable		290	144
Derivative financial instruments	12	48	–
Cash and cash equivalents	8	36	415
		26,024	26,899
Current liabilities			
Trade and other payables	9	(1,290)	(1,554)
Borrowings	10	(3,575)	(5,394)
		(4,865)	(6,948)
Net current assets		21,159	19,951
Non-current liabilities			
Borrowings	10	(8,875)	(4,867)
Retirement benefit obligations	13	(14,450)	(12,356)
		(23,325)	(17,223)
Net assets		56,604	56,373
Capital and reserves			
Share capital	14	921	917
Share premium account		36,504	35,958
Retained earnings		19,179	19,498
Total equity		56,604	56,373

The financial statements on pages 122 to 130 were approved by the Board of Directors on 31 January 2020 and were signed on its behalf by:

B D W Stocks

C P Tyler

Parent Company – Profit for the financial year

As permitted by Section 408 of the Companies Act 2006, no income statement is presented for the parent company.
The profit for the financial year is £4,107,000 (2018: £5,693,000).

Parent Company – Statement of changes in equity

	Note	Share capital £'000	Share premium account £'000	Retained earnings £'000	Total equity £'000
Balance at 1 December 2017		913	35,831	12,620	49,364
Profit for the year		–	–	5,693	5,693
Other comprehensive income:					
Actuarial gain in defined benefit pension plans net of tax		–	–	2,948	2,948
Total comprehensive income for the year		–	–	8,641	8,641
Transactions with owners:					
Employee share options scheme					
– Value of employee services net of tax		–	–	610	610
Purchase of own shares held in trust		–	–	(416)	(416)
Proceeds from shares issued	14	4	127	–	131
Dividends paid		–	–	(1,957)	(1,957)
Total transactions with owners recognised directly in equity		4	127	(1,763)	(1,632)
Balance at 30 November 2018		917	35,958	19,498	56,373
Profit for the year		–	–	4,107	4,107
Other comprehensive income/(expense):					
Changes in fair value of foreign exchange contracts held as a cash flow hedge	12	–	–	35	35
Actuarial loss in defined benefit pension plans net of tax		–	–	(2,278)	(2,278)
Total comprehensive income for the year		–	–	1,864	1,864
Transactions with owners:					
Employee share options scheme					
– Value of employee services net of tax		–	–	586	586
Purchase of own shares held in trust		–	–	(623)	(623)
Proceeds from shares issued	14	4	546	–	550
Dividends paid		–	–	(2,146)	(2,146)
Total transactions with owners recognised directly in equity		4	546	(2,183)	(1,633)
Balance at 30 November 2019		**921**	**36,504**	**19,179**	**56,604**

Parent Company – Notes to the financial statements

1 Summary of significant accounting policies

Basis of accounting

The Company financial statements are presented as required by the Companies Act 2006. The Company meets the definition of a qualifying entity under Financial Reporting Standard ("FRS") 100 issued by the Financial Reporting Council. Accordingly, the financial statements have been prepared in accordance with FRS 101 "Reduced Disclosure Framework" as issued by the Financial Reporting Council.

The financial statements have been prepared on a going concern basis and under the historical cost convention as modified by the recognition of certain financial assets and financial liabilities (including derivative financial instruments) at fair value through profit or loss.

The following exemptions from the requirements of IFRS have been applied in the preparation of these financial statements, in accordance with FRS 101:

- Paragraphs 45(b) and 46 to 52 of IFRS 2, 'Share-based payment' (details of the number and weighted-average exercise prices of share options, and how the fair value of goods or services received was determined).
- IFRS 7, 'Financial Instruments: Disclosures'.
- Paragraphs 91 to 99 of IFRS 13, 'Fair value measurement' (disclosure of valuation techniques and inputs used for fair value measurement of assets and liabilities).
- Paragraph 38 of IAS 1, 'Presentation of financial statements' comparative information requirements in respect of:
  - (i) paragraph 79(a)(iv) of IAS 1;
  - (ii) paragraph 73(e) of IAS 16 'Property, plant and equipment';
  - (iii) paragraph 118(e) of IAS 38 'Intangible assets' (reconciliations between the carrying amount at the beginning and end of the period).

The following paragraphs of IAS 1, 'Presentation of financial statements':

- 10(d), (statement of cash flows),
- 16 (statement of compliance with all IFRS),
- 38A (requirement for minimum of two primary statements, including cash flow statements),
- 38B-D (additional comparative information),
- 111 (cash flow statement information), and
- 134-136 (capital management disclosures).

- IAS 7, 'Statement of cash flows'.
- Paragraph 30 and 31 of IAS 8 'Accounting policies, changes in accounting estimates and errors' (requirement for the disclosure of information when an entity has not applied a new IFRS that has been issued but is not yet effective).
- Paragraph 17 of IAS 24, 'Related party disclosures' (key management compensation).
- The requirements in IAS 24, 'Related party disclosures' to disclose related party transactions entered into between two or more members of a group.

Critical accounting judgements and key sources of estimation uncertainty

The preparation of financial statements in conformity with FRS 101 requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Company's accounting policies.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

(a) Critical judgements in applying the Company's accounting policies

In the course of preparing the financial statements, no judgements have been made in the process of applying the Company's accounting policies, other than those involving estimations, that have had a significant effect on the amounts recognised in the financial statements.

(b) Key sources of estimation uncertainty

Material estimates and assumptions are made in particular with regard to: establishing uniform depreciation periods for the Company, assumptions used in the calculation of share based payments, parameters for measuring pension and other provisions and the likelihood that tax assets can be realised. The key assumptions concerning the future, and other key sources of estimation uncertainty at the reporting period that may have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are discussed below:

- Pension obligation

The Company operates a defined benefit pension scheme, The Porvair plc Pension and Death Benefit Plan ('the Plan'), covering a number of employees in the UK. The pension scheme is financed through a separate trust fund and is closed to new entrants. The present value of the obligations of this scheme is subject to financial assumptions and management contracts external actuarial guidance on this. Sensitivities in the principal assumptions on valuing the Plan's defined benefit obligation at 30 November 2019 have been calculated and are given in note 19 of the Group financial statements.

1 Summary of significant accounting policies continued

Property, plant and equipment
Plant, machinery and equipment is capitalised at cost and is depreciated by equal annual amounts over the estimated useful lives. Annual depreciation rates are between 10% and 33.33% straight line.

Fixed asset investments
Investments held as fixed assets are stated at cost less provision for impairment in value.

Interest income
Interest income is accrued on a straight line basis, by reference to the principal outstanding and the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

Dividends
Dividends received from subsidiaries are recognised when receipted. Dividends paid to the Company's shareholders are recognised as a liability in the Group's financial statements in the period in which the dividends are approved by the Company's shareholders.

Impairment of assets
Assets are regularly reviewed to confirm their carrying values. Where the expected realisable value is lower than the book value, the excess of book value is charged to the income statement during the year.

Patents and trademarks
All expenditure on the registration, renewal and maintenance of patents and trademarks is expensed as incurred.

Foreign exchange
Monetary assets and liabilities denominated in foreign currencies are translated into Sterling at the rates of exchange ruling at the end of the financial year.

Exchange differences arising on retranslation of non-monetary assets and liabilities are recognised directly to the exchange reserve. All other foreign exchange differences are taken to the income statement in the year in which they arise.

Taxation
Current tax is based on taxable profit for the period. Taxable profit differs from net profit as reported in the income statement because it excludes items of income or expense that are taxable or deductible in other periods and it further excludes items that are never taxable or deductible. The Company's liability for current tax is calculated using tax rates that are relevant to the period.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from goodwill or from the initial recognition (other than a business combination) of other assets and liabilities in a transaction that affects neither the tax profit nor the accounting profit.

Deferred tax is calculated at the tax rates which have been enacted or substantively enacted by the balance sheet date and are expected to apply in the period when the liability is settled or the asset is realised. Deferred tax is recognised in the income statement, except when it relates to items recognised directly to other comprehensive income or directly to equity. In this case, the deferred tax is also recognised in other comprehensive income or directly in equity, respectively.

Pensions
Payments to defined contribution retirement benefit schemes are charged as an expense as they fall due.

For defined benefit retirement schemes, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at each balance sheet date. Actuarial gains and losses are recognised in full in the period in which they occur. They are recognised in the consolidated statement of comprehensive income.

The retirement benefit obligation in the balance sheet represents the present value of the defined benefit obligation as adjusted for unrecognised past service cost and as reduced by the fair value of scheme assets.

Derivative financial instruments and hedge accounting
The Company's activities expose it primarily to the financial risks of changes in foreign currency exchange rates and interest rates. The Company uses foreign exchange forward contracts and interest rate swap agreements to hedge these exposures. The Company does not use derivative financial instruments for speculative purposes.

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Company designates certain derivatives as cash flow hedges.

For cash flow hedges the Company documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in equity. The gain or loss relating to the ineffective portion is recognised immediately in the income statement.

Amounts accumulated in equity are recycled in the income statement in the periods when the hedged item affects profit or loss (for example, when the forecast sale that is hedged takes place).

Parent Company – Notes to the financial statements continued

1 Summary of significant accounting policies continued

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to the income statement.

Changes in the fair value of derivative financial instruments that do not qualify for hedge accounting are recognised in the income statement as they arise.

Share based payments
Where the Company has granted rights over its equity instruments to the employees of subsidiary companies, there is a corresponding increase recognised in the investment in subsidiary undertakings in those years.

The Company issues equity settled, share based payments to certain employees. Equity settled, share based payments are measured at fair value at the date of grant. The fair value determined at the grant date of the equity settled, share based payments is expensed on a straight line basis over the vesting period, based on the Company's estimate of shares that will eventually vest. The charge is then credited back to reserves.

At each balance sheet date, the Company revises its estimates of the number of share options that are expected to vest. It recognises the impact of the revisions to original estimates, if any, in the income statement or, if relating to a subsidiary undertaking in investment in subsidiary undertakings, with a corresponding adjustment to equity.

Fair value is measured by use of a Black-Scholes model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions and behavioural considerations.

Operating leases
Rentals payable under operating leases are charged to the income statement on a straight line basis over the term of the relevant lease.

Borrowing costs
All borrowing costs are typically recognised in the income statement in the year in which they are incurred. Borrowing costs incurred in the arrangement of new facilities are capitalised and subsequently recognised in the income statement over the period of the borrowings.

Equity instruments
Ordinary shares are classified as equity. Equity instruments issued by the Company are recorded at the proceeds received, net of direct issue costs.

Where the Company purchases its equity share capital ("treasury shares"), the consideration paid, including any directly attributable incremental costs (net of income taxes), is deducted from equity attributable to the Company's equity holders until the shares are cancelled or reissued. Where such ordinary shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the Company's equity holders.

Retained earnings
The retained earnings account represents the distributable reserves of the Company.

2 Profit before income tax

During the year the Company obtained the following services from the Company's auditor, Deloitte LLP, at costs as detailed below:

	2019 £'000	2018 £'000
Fees payable to Company's auditor for audit of parent company financial statements	**26**	25
	26	25

3 Employees and Directors

The staff cost, including Executive Directors, for the year is shown below:

	2019 £'000	2018 £'000
Staff costs		
Wages and salaries	**1,498**	1,596
Social security costs	**488**	257
Other pension costs	**109**	111
Share based payments	**514**	494
	2,609	2,458

The average monthly number of staff, including Executive Directors, employed during the year is as below:

	2019 number	2018 number
Administration	**11**	11
	11	11

The number of directors to whom retirement benefits are accruing under a defined contribution pension scheme is 1 (2018: 1).
The number of directors to whom retirement benefits are accruing under a defined benefit pension scheme is 1 (2018: 1).

Detailed disclosures of Directors' individual remuneration and share options are given in the Remuneration report on pages 62 to 77, and in note 28 of the Group financial statements.

4 Property, plant and equipment

	Plant, machinery and equipment £'000
Cost	
At 1 December 2018	166
Additions	1
Disposals	(3)
At 30 November 2019	**164**
Accumulated depreciation	
At 1 December 2018	(162)
Charge for year	(2)
Disposals	3
At 30 November 2019	**(161)**
Net book value	
At 30 November 2019	**3**
At 30 November 2018	4

5 Fixed asset investments

Investments in subsidiary undertakings

	2019 £'000	2018 £'000
Cost		
At 1 December	**50,725**	50,609
Additions in the year	**7,010**	–
Impaired in the year	**(2,400)**	–
Capital contributions arising from share based payments charge	**72**	116
At 30 November	**55,407**	50,725
Net book value		
At 30 November	**55,407**	50,725
At 1 December	**50,725**	50,609

Parent Company – Notes to the financial statements continued

5 Fixed asset investments continued

The capital contributions arising from the share based payment charge represent the Company granting rights over its equity instruments to the employees of subsidiary undertakings. This results in a corresponding increase in investments in subsidiary undertakings.

The Directors believe that the carrying value of the investments is supported by their underlying net assets.

The investment addition of £7.0 million in the year relates to the incorporation of Porvair Holdings B.V..

Following recent losses, the Company's investment in Porvair Selee Filtration Technology (Hubei) Company Limited was impaired by £2.4 million (2018: £nil) in the year. At 30 November 2019, the investment is valued at a fair value of £nil (2018: £2.4 million).

Details of the Company's subsidiary undertakings are given in note 29 of the Group financial statements.

6 Amounts receivable from Group undertakings

	2019 £'000	2018 £'000
Loans to subsidiary undertakings	**25,563**	26,261
	25,563	26,261

Amounts owed by group undertakings are interest free and unsecured with no fixed terms for repayment.

7 Other receivables

	2019 £'000	2018 £'000
Amounts falling due within one year:		
Prepayments	**87**	79
	87	79

8 Cash and cash equivalents

	2019 £'000	2018 £'000
Cash at bank and in hand	**36**	415
	36	415

9 Trade and other payables

	2019 £'000	2018 £'000
Amounts falling due within one year:		
Trade creditors	**136**	352
Taxation and social security	**119**	114
Accruals and deferred income	**1,035**	1,088
	1,290	1,554

10 Borrowings

	2019 £'000	2018 £'000
Bank overdraft offset against cash balances in other Group companies under a Group banking offset arrangement	**3,575**	5,394
Secured multi-currency revolving credit facility of €23 million (2018: €23 million) maturing in May 2022 with interest at 1.5% (2018: 1.5%) above LIBOR	**8,875**	4,867
	12,450	10,261

Bank and other loans of the Company are repayable as follows:

	2019 £'000	2018 £'000
Within one year	**3,575**	5,394
Two to five years	**8,875**	4,867
	12,450	10,261

On 24 May 2017, the Company entered into a five year banking facilities agreement, sufficient for its foreseeable needs, comprising a €23 million revolving credit facility and a £2.5 million multi-currency overdraft facility.

The loans are shown net of issue costs of £167,000 (2018: £220,000) which are being amortised over the life of the loan arrangements. The multi-currency revolving credit facility expires in May 2022.

At 30 November 2019, the Company had €13.3 million/£11.4 million (2018: €17.3 million/£15.3 million) of unused credit facility and an unutilised £2.5 million (2018: £2.5 million) overdraft facility.

The multi-currency facility is secured by fixed and floating charges against the assets of the Company and its subsidiaries.

11 Deferred tax asset

The movement of deferred tax assets and (liabilities) during the year is as follows:

	Accelerated capital allowances £'000	Other short term timing differences £'000	Share based payments £'000	Retirement obligations £'000	Total £'000
At 1 December 2017	8	17	624	2,745	3,394
Credited to the income statement	–	–	–	41	41
Credited to equity in respect of share options	–	–	84	–	84
Charged to comprehensive income in respect of pension liabilities	–	–	–	(603)	(603)
At 30 November 2018	8	17	708	2,183	2,916
Charged to the income statement	–	–	–	(109)	(109)
Credited to equity in respect of share options	–	–	87	–	87
Credited to comprehensive income in respect of pension liabilities	–	–	–	466	466
At 30 November 2019	**8**	**17**	**795**	**2,540**	**3,360**

There were no unrecognised deferred tax amounts at 30 November 2019 (2018: £nil).

12 Derivative financial instruments

Forward foreign exchange contract assets	2019 £'000	2018 £'000
Forward foreign exchange contracts – current	**13**	–
Forward foreign exchange contracts – cash flow hedge – current	**35**	–
	48	–

The gain recognised in the income statement in the year for non-hedged derivatives amounted to £13,000 (2018: loss of £40,000).

Parent Company – Notes to the financial statements continued

13 Retirement benefit obligations

	2019 £'000	2018 £'000
Defined benefit scheme deficit	**14,344**	12,242
Additional pension commitments	**106**	114
	14,450	12,356

The Group operates a defined benefit pension scheme, The Porvair plc Pension and Death Benefit Plan ('the Plan'), covering a number of employees in the UK. The pension scheme is financed through a separate trust fund administered by Trustees with an independent Chairman. The Plan was closed to new entrants in October 2001. Further details of the retirement benefit obligations are disclosed in note 19 of the Group financial statements.

The Group operates a money purchase pension scheme for a certain number of its employees. As at 30 November 2019, £1,000 (2018: £1,000) in relation to this pension scheme was outstanding to be paid.

14 Called up share capital

	2019 £'000	2018 £'000
Allotted and fully paid:		
46,041,199 ordinary shares of 2 pence each (2018: 45,843,599)	**921**	917

Details of shares issued and share options are disclosed in notes 21 and 22 of the Group financial statements, respectively.

15 Share based payments

Details of share options of the Company and the share based payments charge during the year are given in note 22 of the Group financial statements.

16 Dividends

Details of dividends paid in the year and final dividends recommended to be paid after the year end are disclosed in note 9 of the Group financial statements.

17 Contingent liabilities

The Company has no contingent liabilities at 30 November 2019 (2018: none).

18 Financial Commitments

At 30 November 2019 the Company has future aggregate minimum lease payments under non-cancellable operating leases expiring as follows:

	2019		2018	
	Land and buildings £'000	Other £'000	Land and buildings £'000	Other £'000
Within one year	**12**	**1**	12	1
	12	**1**	12	1

Shareholder information

Registrar services
Our shareholder register is managed and administered by Link Asset Services. Link Asset Services should be able to help you with most questions you have in relation to your holding in Porvair plc shares.

Link can be contacted at:

Link Asset Services
The Registry
34 Beckenham Road
Beckenham
Kent BR3 4TU

www.linkassetservices.com

Telephone: 0871 664 0300 (calls cost 12p a minute plus network extras, lines are open 8.30am-5.30pm Mon-Fri) (from outside the UK: +44 (0) 371 664 0300). E-mail: enquiries@linkgroup.co.uk.

In addition, Link offers a range of other services to shareholders including a share dealing service and a share portal to manage your holdings.

Share dealing service
A share dealing service is available to existing shareholders to buy or sell the Company's shares via Link Share Dealing Services. Online and telephone dealing facilities provide an easy to access and simple to use service.

For further information on this service, or to buy or sell shares, please contact:

www.linksharedeal.com – online dealing

0371 664 0445 – telephone dealing (from outside the UK: +44 (0) 371 664 0445).

Email: info@linksharedeal.com

Please note that the Directors of the Company are not seeking to encourage shareholders to either buy or sell their shares. Shareholders in any doubt as to what action to take are recommended to seek financial advice from an independent financial adviser authorised by the Financial Services and Markets Act 2000.

Financial calendar 2020

30 November 2019
Financial year end 2019

3 February 2020
Full year 2019 results

21 April 2020
AGM

30 April 2020
Ex-dividend date

1 May 2020
Record date for dividend

31 May 2020
Half year 2020 period end

5 June 2020
Payment date for dividend

29 June 2020
Half year 2020 results announcement

23 July 2020
Ex-dividend date

24 July 2020
Record date for dividend

28 August 2020
Payment date for dividend

30 November 2020
Financial year end 2020

1 February 2021
Full year 2020 results

Contact details and advisers

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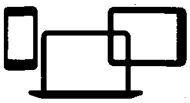

Find out more about Porvair and its latest financial information, results, presentations, reports and shareholder services or view and download a pdf version of the 2019 Annual Report:

www.porvair.com

Forward-looking statement

This Annual Report contains forward-looking statements with respect to the financial condition, operations and performance of the Group. By their nature, these statements involve uncertainty since future events and circumstances can cause results and developments to differ materially from those anticipated. The forward-looking statements reflect knowledge and information available at the date of preparation of this Annual Report and the Company undertakes no obligation to update these forward-looking statements. Nothing in this Annual Report should be construed as a profit forecast.

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