

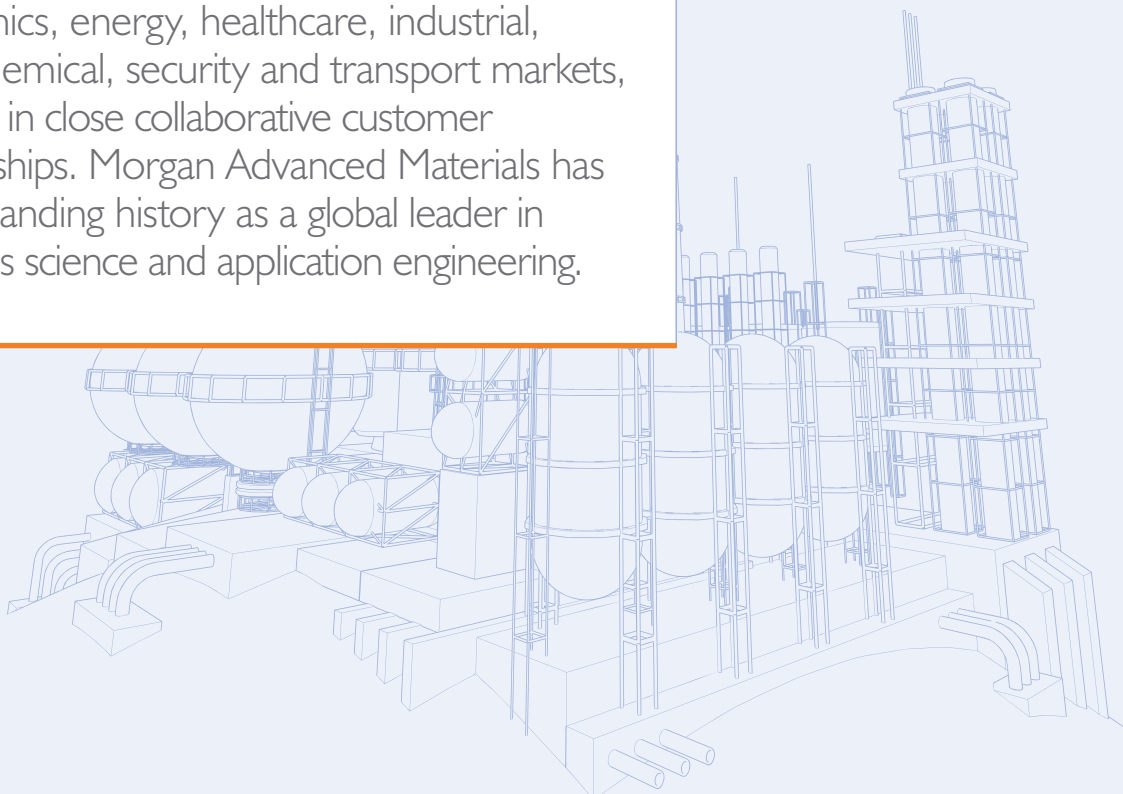


MORGAN ADVANCED MATERIALS



MORGAN ADVANCED MATERIALS IS A GLOBAL ENGINEERING COMPANY. WE APPLY WORLD-CLASS MATERIALS SCIENCE AND MANUFACTURING EXPERTISE TO SOLVE THE TECHNICAL CHALLENGES THAT OUR CUSTOMERS FACE EVERYDAY.

We work in selected segments of the electronics, energy, healthcare, industrial, petrochemical, security and transport markets, typically in close collaborative customer relationships. Morgan Advanced Materials has a longstanding history as a global leader in materials science and application engineering.



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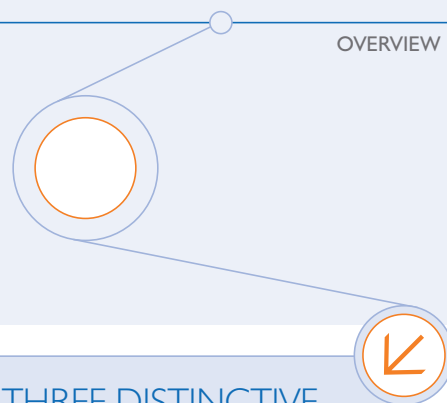
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GROUP STRATEGY



THE GROUP'S LONG-TERM STRATEGY IS TO BUILD THREE DISTINCTIVE CORE CAPABILITIES: MATERIALS SCIENCE, APPLICATION ENGINEERING AND CUSTOMER AND END-MARKET FOCUS, AND TO APPLY THESE TO A PORTFOLIO OF SCALABLE GLOBAL BUSINESSES WHERE TECHNICAL EXPERTISE AND DIFFERENTIATION ARE VALUED TO SOLVE CUSTOMERS' CHALLENGING PROBLEMS.

These capabilities will strengthen the Group to deliver resilient financial performance and faster growth, at all times operating in an ethical and safe manner.

To support its strategy, the Group has set six key execution priorities:

PRIORITIES	IMPLEMENTATION
<p>1 Move to a global business structure</p>	<p>The reorganisation to six global business units is complete. It has led to improved global co-ordination across the Group and strengthened accountability within each global business unit, simplifying the approach to customers and markets and increasing operational focus.</p>
<p>2 Improve technical leadership</p>	<p>Research and development investment has been increased to extend Morgan's technical lead and to accelerate new product development. Additional Centres of Excellence will be established allowing further concentration of development efforts in those areas that can deliver the greatest benefit globally to the Group.</p>
<p>3 Improve operational execution</p>	<p>There are a number of opportunities across the global business units to improve operational execution. Resource and capital will be allocated to target specific improvements to efficiency and effectiveness on a business-by-business basis.</p>
<p>4 Drive sales effectiveness and market focus</p>	<p>The Group is focused on improving a number of aspects of its sales capabilities and process: sales processes and their efficiency, the management of key customer accounts and distribution channels, and deeper understanding of end-markets and faster-growing segments.</p>
<p>5 Increase investment in people management and development</p>	<p>The Group aims to strengthen its leadership capability and deepen functional capabilities across the business, including in sales and engineering. Senior leaders will be benchmarked externally, new talent introduced and future leadership candidates identified from within the business. Performance management will be enhanced for the Group's top management and the structures and targets for incentive schemes will be reviewed. The Group will invest more in executive training and create clear career paths for its technologists and engineers.</p>
<p>6 Simplify the business</p>	<p>The reorganisation of the business enables the Group to run each business unit on a global basis. A Morgan business will have sustainable presence in its end-market and be scalable, operating in attractive growing markets where it has the ability to add value to our customers. It will have synergies with the rest of the portfolio, be organisationally robust and deliver – or be capable of delivering – strong financial performance.</p>

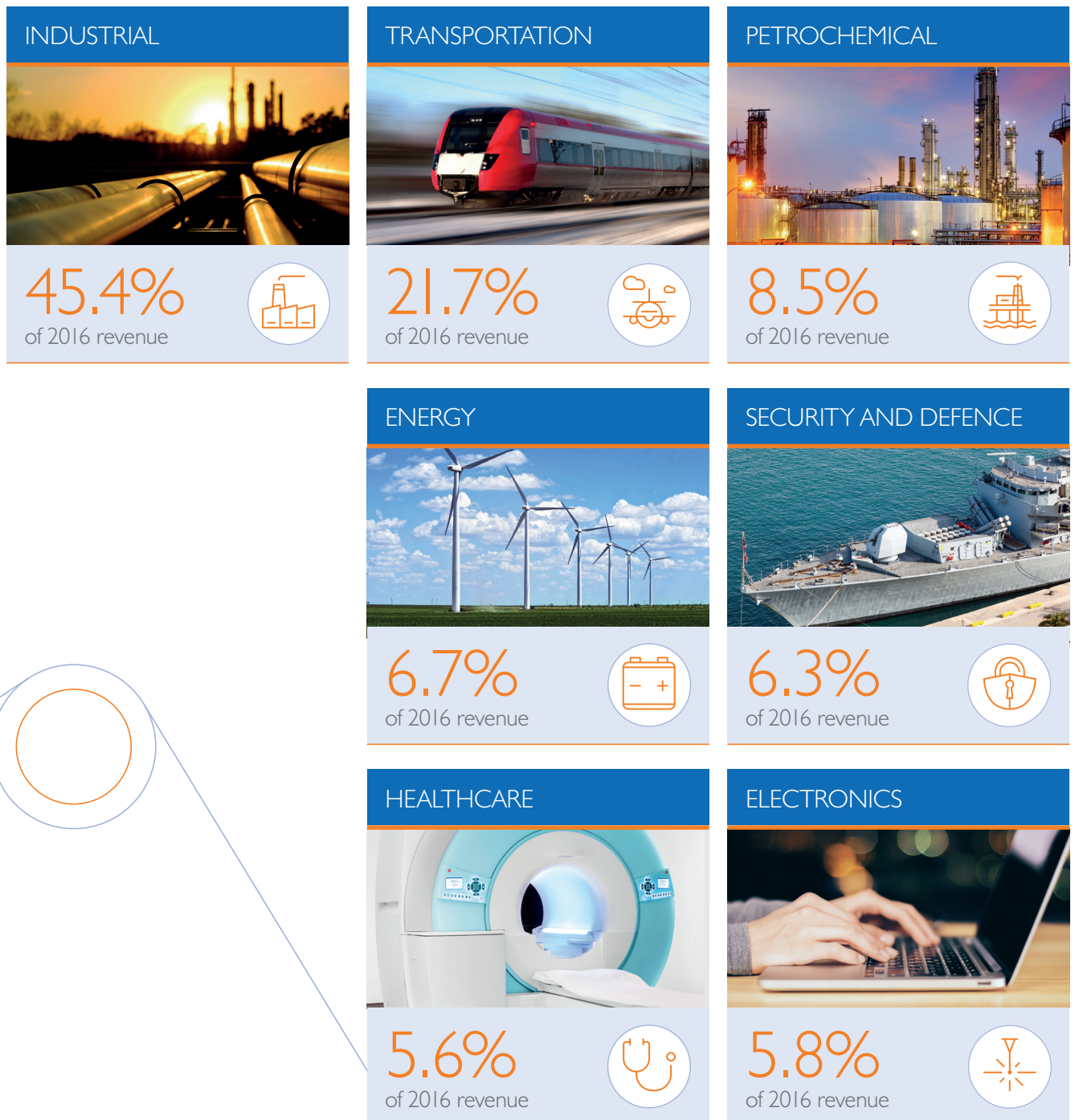
The Group uses the characteristics of a Morgan business as set out above to test new investment opportunities, to screen its existing businesses for fit with the Group and to identify areas requiring strategic attention and action.

AT A GLANCE

OUR STRENGTHS

- Leading technology and materials science capability and process know-how.
- Application engineering.
- Customer focus, reputation and brand.
- Strong market positions.
- People and culture.

OUR MARKETS

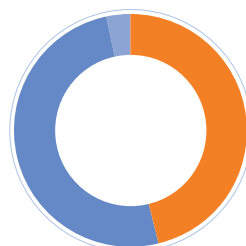


OUR GLOBAL FOOTPRINT

- SELLING INTO **100** COUNTRIES
- MANUFACTURING IN **30** COUNTRIES
- APPROXIMATELY **8,900** EMPLOYEES

£989.2M
TOTAL GLOBAL SALES

SALES BY DIVISION
£m



Thermal Products	456.8
Carbon and Technical Ceramics	502.0
Composites and Defence Systems	30.4

SALES BY REGION
£m

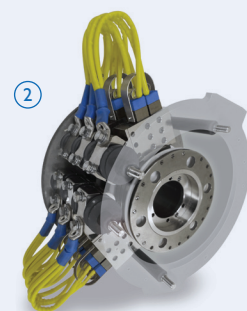


North America	374.1
Europe	314.1
Asia/Rest of World	301.0

PRINCIPAL PRODUCTS

1. INSULATING FIBRE, BRICK AND MONOLITHICS

Extensive range of high-temperature insulation products used to reduce energy consumption in industrial processes.



2. ELECTRICAL CARBON, LINEAR AND ROTARY TRANSFER SYSTEMS

Used to transfer current and data between stationary and rotating or linear moving parts, in motor, generator, current collector and rotary signal applications within mining, power, transportation and industrial markets.

3. SEALS AND BEARINGS

Providing improved performance, reliability and extended life to pumps and similar equipment used in petrochemical, aerospace and water applications.

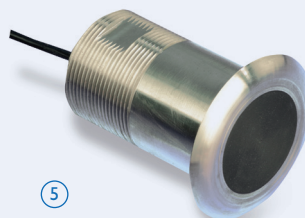


4. CERAMIC CORES FOR INVESTMENT CASTING

Consumable products used to create intricate internal cooling cavities in aero engine and industrial gas turbine blades.

5. PIEZOELECTRIC SENSORS AND TRANSDUCERS

Products for measurement duties including level, flow, vibration and pressure in aerospace, medical, industrial and defence applications.



6. CRUCIBLES FOR METALS PROCESSING

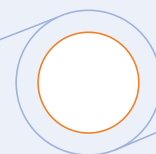
Comprehensive range for optimum performance in non-ferrous metal and alloy melting in foundries, die-casters and metal processing facilities.

7. PERSONNEL BALLISTIC PROTECTION

Lightweight armour systems combining advanced ceramics with high-technology composites to create high-performance products.



CEO'S INTRODUCTION



“DOING BUSINESS THE RIGHT WAY, DELIVERING ON OUR EHS AND ETHICAL COMMITMENTS, IS THE TOP PRIORITY FOR THE GROUP.”



PETE RABY
CHIEF EXECUTIVE OFFICER

Introduction

Leading our business ethically and safely is the top priority for the Group and is at the core of our corporate strategy. We lead on this from the very top of the organisation, monitoring and managing our performance led by the Board and driven down through the organisation. We have two programmes that support the business in this key area. Through the Group's Responsible Business Programme (RBP) we define our standards, provide training against them, and monitor our adherence to those ethical and legal standards. Similarly, through our Environment, Health and Safety (EHS) programme we set the Group standards for EHS, define Group-wide improvement priorities, deliver training and support the monitoring and management of our EHS performance.

Health and Safety

The rollout of Morgan 'thinkSAFE', a Group wide programme to deliver a step change in the safety of our operations, started in 2015 and continued throughout 2016. As described on page 9, this included a series of quarterly topics to engage, inform and support the change in behaviour of our employees. Examples are highlighted in some of the case studies on pages 12 and 21 to 23. We have also further developed our use of leading indicators to help drive improvement and have introduced a new EHS framework to help sites focus on key risks and to manage them consistently.

Through the thinkSAFE programme, and a strengthened focus on safety across the business, we have delivered a significant improvement in safety performance. In 2016 we saw a 42% reduction in the number of Lost Time Accidents from 91 to 53 and a 41% reduction in the Lost Time Accident Frequency rate.

I am very pleased with the engagement of the business leadership and our employees in our safety performance and would like to thank them for their support in this critical area.

Environment

The difficult conditions seen in a number of our end markets in the second half of 2015 continued through 2016, providing a headwind in our efforts to reduce environmental impact per unit of sales. However, whilst 2016 revenues were down 1.5% on a like-for-like basis compared to 2015 and by 2.6% compared to 2014, the baseline year for our environmental targets, we were able to deliver improvements in key areas of our environmental performance, reflecting real efficiency gains.

Highlights over the two-year target period include a 10% reduction in CO₂e intensity, a 12% reduction in energy intensity, a 3% reduction in waste intensity and a 12% increase in the recycling rate. Water intensity was flat over the period.

You will see examples of some of the environmental improvement initiatives that are underway in the case studies on pages 14 to 17. For 2017 we are continuing to seek improvements in this area through a series of site level improvement projects with a particular focus on water usage.

Going forward

As we work to implement the long-term strategy for the Group and to build our capabilities I want to reaffirm the commitment at every level of Morgan to conducting all the Group's activities in a manner consistent with our high ethical, safety and environmental standards.

Beyond our direct environmental impact, many of our products also help to enhance the efficiency of our customers' businesses and products and we see growth opportunities for Morgan supporting higher levels of end product performance and efficiency.

PETE RABY
CHIEF EXECUTIVE OFFICER

April 2017

WHAT MORGAN DOES



MORGAN PROVIDES ADVANCED MATERIALS SOLUTIONS TO A VARIETY OF END-MARKETS, WE WORK COLLABORATIVELY WITH CUSTOMERS WORLDWIDE TO PROVIDE ENGINEERED PRODUCTS THAT SATISFY TECHNICALLY CHALLENGING REQUIREMENTS IN DEMANDING ENVIRONMENTS.

ABOUT US

Morgan Advanced Materials uses its deep knowledge of material science to produce technically differentiated components, assemblies and systems that deliver significantly enhanced performance in a multitude of industries.

Our engineered solutions are developed to exacting specifications and deliver ever greater performance through materials and production process innovation.

The Group's highly experienced scientists and application engineers are constantly engaged with our customers, to find new solutions for complex and technologically demanding environments.

This work is underpinned by a passion to develop the next generation of skilled materials scientists and application engineers, coupled with a commitment to the environment, health and safety, and to operate to highly ethical standards.

Morgan's 2016 revenues of £989.2m were up 8.5% on 2015 at reported rates and down by 1.5% at constant currency. Group underlying operating profit was £116.9m in 2015 up from £106.0 million in 2015.

Additional information on all areas of Morgan Advanced Materials' corporate responsibility-related programmes, activities and performance can be found on pages 38 to 51 of the Group's 2016 Annual Report.

Further information about Morgan Advanced Materials is available on the Group's website at www.morganadvancedmaterials.com

BUSINESS STRUCTURE

Operating from some 85 manufacturing facilities, supported by a network of sales offices, and employing approximately 8,900 people, Morgan Advanced Materials has a significant operational presence in all the world's major regions, serving customers in more than 100 countries.

Following the move to a global business structure in 2016 the Group reports through three global Divisions:

- Thermal Products which includes the Thermal Ceramics and Molten Metal Systems global business units.
- Carbon and Technical Ceramics which includes the Electrical Carbon, Seals and Bearings and the Technical Ceramics global business units.
- Composites and Defence Systems.

PRODUCTS

The principal product ranges are:

- Insulating fibre, brick and monolithics – 42% of Group revenue in 2016 – an extensive range of high-temperature insulation products used to reduce energy consumption in industrial processes and provide fire protection. A Morgan design team will typically work with the customer to ensure an optimum solution.
- Structural ceramics – 17% of Group revenue in 2016 – advanced ceramic components which demonstrate exceptional properties in harsh environments, such as our hydrocyclones for water treatment and Nilcra™ zirconia for chemical processing.

- Electrical carbon, linear and rotary transfer systems – 16% of Group revenue in 2016 – primarily used for transferring electrical energy in motor and generator applications within the mining, transportation and power generation markets.
- Seals and bearings – 10% of Group revenue in 2016 – carbon, graphite and silicon carbide components which deliver improved performance, reliability and extended life to pumps and similar equipment used in petrochemical, automotive, aerospace and water applications.
- Piezoelectric sensors and transducers – 5% of Group revenue in 2016 – products for measurement duties including level, flow, vibration and pressure in aerospace, medical, industrial and defence applications.
- Crucibles for metals processing – 4% of Group revenue in 2016 – comprehensive range of crucibles for optimum performance in non-ferrous metal and alloy melting in foundries, die-casters and metal processing facilities.
- Personal protection – 3% of Group revenue in 2016 – ballistic protection in the form of personal body armour or vehicle armour, utilising the Group's advanced ceramics for lightweight armour systems capability.
- Ceramic cores for investment casting – 3% of Group revenue in 2016 – consumable products used to create intricate internal cooling cavities in aero-engine and industrial gas turbine blades.

In addition to these principal product ranges, Morgan also offers application-specific products for each of its target markets. These products are designed and manufactured to specific customer requirements using a wide range of thermal structural ceramics, electro ceramics and precious metals.

ABOUT THIS REPORT

MORGAN HAS PUBLISHED AN ANNUAL ENVIRONMENT, HEALTH AND SAFETY (EHS) REPORT SINCE 2004. THIS REPORT SUMMARISES THE GROUP'S EHS PERFORMANCE IN THE YEAR ENDED 31 DECEMBER 2016.

Morgan's 2016 EHS Report details the progress made in the past year and focusses on the material EHS issues for Morgan's business and stakeholders. The report covers the available data for the whole business.

Morgan's Environment, Health and Safety Policy and implementation programmes support its strategy and Core Values Statement. EHS performance has a direct and significant effect on operating performance and is therefore a key focus for risk assessment and operational management across the Group.

Morgan Advanced Materials is committed to conducting all its activities in a manner which achieves high standards of health and safety for employees and others affected by its operations.

The Group is also committed to minimising the impact of its business on the environment and to maximising the positive environmental benefits of its products. Examples of Morgan's products which help enhance the environment-related performance and efficiency of the products and operations of the Group's customers are included in pages 25 to 28 of this Report.

The health and safety data in this report covers 100% of Morgan's employees and the environmental data covers 100% of its production sites.

The Group engaged ERM CVS to provide independent external assurance on its 2016 energy, CO₂e¹, waste, recycling and water related environmental data and on its lost time accident frequency. The independent assurance report from ERM CVS is set out on page 24.

As required by The Companies Act 2004 (Strategic Report and Directors' Report) Regulations 2013, the Group reports its greenhouse gas emissions in its Directors' Report. This information is included on page 48 of the Group's 2016 Annual Report and is reproduced in the Appendix on page 31 of this report.

1. CO₂e. Carbon Dioxide Equivalent – the amount of Carbon Dioxide or the amount of non-CO₂ Greenhouse Gas with the equivalent global warming potential.

2016 EHS HIGHLIGHTS

THE GROUP DELIVERED IMPROVED HEALTH AND SAFETY AND ENVIRONMENTAL PERFORMANCE IN THE YEAR AND HAS A SERIES OF PROGRAMMES IN PLACE TO BUILD CAPABILITIES AND TO FURTHER IMPROVE PERFORMANCE.

Management highlights

- The momentum of Morgan 'thinkSAFE', the Group's safety performance improvement programme was sustained with a series of preventative quarterly safety briefings. As described on page 9, topics covered were Slips, Trips & Falls, 'Take 5 for Safety', Gas Safety and 'Bright, clean and thinkSAFE'.
- There were 21 two-day 'thinkSAFE plus' train the trainer sessions for senior managers with a focus on behavioural safety coaching, feedback and team communications. These managers rolled out the training to leaders down to supervisor level.
- The Group's safety-related leading indicators were extended and embedded with the launch of two mobile apps for the reporting of near misses and for monitoring visible safety leadership activities.
- Morgan developed and launched a new EHS Framework. This Framework includes standards and guidance for the consistent implementation of the Group's EHS programme. It covers ten key risk areas against which sites carried out a gap analysis and developed action plans.
- An EHS leadership committee was created to help develop and drive future EHS strategy for the Group.
- A new EHS Compliance Audit Programme was launched with an external global audit provider and an internal EHS audit programme was established with training for internal auditors.
- Morgan participated in the Carbon Disclosure Project 2016 and achieved a score of A- which places the Group joint top of the CDP's FTSE 350 Industrial sector. This ranking testifies to the strength of the Group's climate change and energy related disclosure and performance.

Health and Safety performance highlights

- Health and safety performance improved in the year with a 42% reduction in the number of Lost Time Accidents from 91 to 53 and a 41% reduction in the Lost Time Accident Frequency rate.
- The percentage of working time lost due to accidents and work-related ill health was also reduced by 32% and the number of days lost was down by 33%.

Environmental performance highlights

- Environmental performance improved over the Group's two-year target period 2014-16 with a 10% reduction in CO₂e intensity, a 12% reduction in energy intensity, a 3% reduction in waste intensity and an improvement in the recycling rate of 12 percentage points. Water intensity was flat over the two-year period.
- Thus the Group achieved its targets to reduce CO₂e and energy intensity by 5% and to improve the recycling rate over the two years 2014-16 but was behind its targets to reduce waste and water intensity by 5% over the period.



MORGAN thinkSAFE OVERVIEW

MORGAN thinkSAFE IS A BEHAVIOURAL BASED PROGRAMME. IT HELPS PROVIDE THE KNOWLEDGE AND SKILLS TO ENSURE OPERATIONS ARE CONDUCTED IN A SAFE AND CONTROLLED MANNER.

Morgan thinkSAFE is the Group's global safety performance improvement programme. This top-down programme was launched in 2015 and is led by the Chief Executive Officer and the Group Executive. As highlighted in the chart it has helped to drive improvement in the health and safety performance of the Group since it was introduced in October 2014.

During 2016 the Group focused on embedding the momentum of thinkSAFE with a series of quarterly topics implemented on a global basis:

Bright, clean and thinkSAFE: Take 5 for Safety:

- Employee awareness, training and business improvement programme implemented across all sites world-wide.
- Objectives:
 - Instilling an unrelenting focus on work place safety as part of the drive to zero harm.
 - Implement 5S workplace organisation to improve efficiency and productivity.
 - Make Morgan an even better place to work.
- Includes:
 - Global communications programme supported by training and audits across all site types.
 - Best practice and video safety talent competitions to engage employees and to accelerate progress.
 - 'Safety Week', held simultaneously at all sites in each region to reinforce the focus on 5S and safety in an active way.
 - Encouraging safety behaviours at work and beyond.

- Behavioural change initiative to reduce risk and to leverage lessons from near miss reporting.
- Objectives:
 - Implement a five step 'pre-task' process to ensure potential hazards are identified and controlled before work commences.
 - Provide a last line of defence before an activity is undertaken.
 - Reinforce the messages of zero-harm and personal responsibility for own safety and that of colleagues.
- Includes:
 - The five-step pre-task process: (1) Stop, step back, observe; (2) Think through what you are about to do; (3) Can anything go wrong; (4) What can you do about it; (5) ... so that you can complete the activity safely.
 - Use of near misses as learning tools.
 - Delivery of the message: 'Be safe and healthy in all you do: thinkSAFE'.

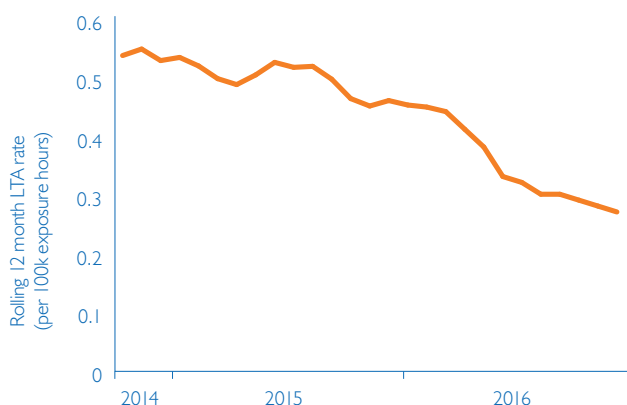
Gas Safety:

- Awareness and process initiative to address specific gas safety risks and equipment used inherent in high-temperature processes.
- Objectives:
 - Sustain safety focus where flammable gases are in use.
 - Reduce risk of catastrophic accidents due to gas safety, focussed particularly on hydrogen use.
 - Step change in awareness, risk reduction and action with follow-through across all gas safety risks.
- Includes:
 - Carrying out Process Hazard Analysis for hydrogen.
 - Consistent five-stage methodology adopted for gas/machine safety to deliver continuous improvements.
 - E learning Gas safety development and training implemented for nominated staff.
 - Involving suppliers and other functions including maintenance, engineering and facilities.
 - Ensuring gas safety systems and controls are in place, fully functional and tested.

Slips, Trips and Falls:

- Awareness and prevention of Slips, Trips and Falls which account for some 8% of accidents Group-wide.
- Objectives:
 - Develop full understanding of root causes.
 - Risk reduction and emphasis on designing risk out.
- Includes:
 - Integration with the 'Take 5 for Safety' quarterly theme.
 - Understanding of unsafe acts leading to near misses and potential accidents.

Morgan thinkSAFE – the LTA journey



Around the world, the Divisional management teams implemented these themes to promote and reinforce the Group-wide thinkSAFE programme and to work towards a zero-harm work place.

EHS POLICY

MORGAN ADVANCED MATERIALS' EHS POLICY APPLIES TO ALL GROUP BUSINESSES WORLDWIDE. IT FORMS THE BASIS FOR EXECUTIVE AND MANAGEMENT OVERSIGHT, REQUIRING HIGH STANDARDS OF EHS MANAGEMENT AT ALL MORGAN FACILITIES.

Morgan's EHS Policy seeks to provide continuous improvement in environmental, health and safety performance in support of the Group's strategy.

The Policy sets out the Group's commitment to the environment and to the health and safety of employees, contractors and visitors across all Morgan companies worldwide.

As summarised below, the Policy is made available to all employees and published on the Group's website and intranet.

All employees have responsibility for EHS Policy and related matters:

- The Chief Executive Officer has overall accountability for corporate responsibility matters.
- The Chief Financial Officer is responsible for EHS Policy, strategic direction and performance monitoring.
- The operational management teams have responsibility for EHS performance and reporting across the businesses for which they are responsible, and for implementing this Policy and ensuring compliance.
- The manager of each operation has operational responsibility for EHS.
- Employees at all levels are responsible for implementing EHS rules and guidance, avoiding potential and actual hazards, for warning others accordingly and for identifying opportunities for improvement.

It is the Group's EHS Policy that all Morgan businesses:

- Achieve an objective of zero harm by implementing the Morgan thinkSAFE programme and by improving our safety culture.
- Comply with EHS legislation, regulations and other applicable legal requirements as a minimum standard.
- Conduct operations so as to minimise the impact on human health, to prevent pollution and to reduce hazards.
- Include EHS and climate change related considerations in our business decisions, promote resource and efficiency programmes across the Group and minimise the environmental impact of historic, current and future operations.
- Supply products that, when used in compliance with product safety communications and common safety practices, will not present an unacceptable risk to human health and safety.
- Set objectives and targets for the continuous improvement of EHS performance and monitor and report progress internally and externally as appropriate.
- Ensure competence in EHS matters through training and education at all levels of the organisation.
- Conduct periodic reviews of the Group's Environmental and Health & Safety management systems.
- Maintain communications with stakeholders on EHS matters to help ensure alignment with their needs and expectations.

Morgan's commitment to this Policy is considered as fundamental to its business success and this Policy must be implemented by all Morgan operations worldwide.

This Policy applies to:

- All Morgan Directors, Officers and employees;
- All Morgan operations, including all legal entities and business units, and to Morgan joint ventures over which Morgan is able to exercise control over policies and procedures; and
- Any other person or entity to the extent that they act on behalf of Morgan in any way, including consultants, contractors, suppliers, agents or intermediaries.

The Company has systems of training, monitoring and accountability in place in order to reinforce the implementation of this Policy and shall take such disciplinary action as it deems appropriate in enforcing this Policy, including dismissal.

In addition to the Group Policy, Morgan businesses are required to ensure that they are aware of and take account of national, regional and local EHS laws and regulations and best practice, including the standards and guidance set out in the Group's EHS Framework.

Where appropriate the Group's operations have supplementary environmental and health and safety policies, key performance indicators and targets according to the risks, opportunities and needs of each particular business.



EHS POLICY IMPLEMENTATION

Morgan's EHS governance procedures are centred on its EHS Policy which forms the basis of its environment, health and safety management systems and processes. The core objectives of these systems are to identify risks and opportunities, legal and other requirements and to monitor and continuously improve performance in support of the Group's strategy.

The Group's operations involve the normal environmental and health and safety risks associated with manufacturing and other activities in the countries in which Morgan operates. EHS management processes are designed to be forward-looking in the identification, management and mitigation of EHS risks and opportunities that could impact the Group's short- and long-term performance and value.

The governance structure for EHS places responsibility for EHS performance with the Chief Executive Officer and the operational management team, with each site having a point of accountability. During the year, EHS performance was reported regularly to the Board by the Chief Executive Officer with the assistance of the Chief Financial Officer who has specific responsibility for EHS Policy, strategic direction and performance monitoring. He is supported by the Group's Director, Environment, Health and Safety who is responsible for Group direction and oversight of the Group's EHS programmes, the review of standards and procedures and the adequacy of EHS resources across the Group and for performance reporting and all assurance processes.

During the year, Morgan developed and launched a new EHS Framework. This represents the new standard for EHS across all Morgan businesses. It includes guidance for the consistent implementation of the Group's EHS programme focussed on 13 key areas. These help drive continuous improvement, integrate EHS into daily tasks and decisions and assist with the shift from compliance to performance. The new Framework was launched in mid-2016 by the Chief Executive Officer and all sites carried out a self-assessment against the Framework backed up by a gap analysis. Action plans were then developed to address key issues. It now forms the standard against which both internal and external EHS audits are conducted.

Morgan's Group-level EHS management processes include:

- The external assurance of selected EHS data by ERM Certification and Verification Services ('ERM CVS'). The assurance report from ERM CVS is on page 24 below.
- The EHS Compliance Audit Programme. This was re-launched during the year and is now carried out by the same external audit provider world-wide. This helps to ensure consistency and facilitates the effective sharing of best-practice across the Group. Audits are conducted against the Morgan EHS Framework with a focus on high-risk items. The programme also covers the EHS management systems and the EHS KPIs reported by each site and helps ensure compliance with local regulations and good management practice. All the Group's manufacturing facilities are reviewed on a three-year rolling cycle. Accordingly, 24 sites were audited during 2016. The audit reports are reviewed by the Director, Environment, Health and Safety and by members of the Group Executive and Regional Executive teams. Action items are tracked through a formal follow-up process.
- In 2016 a new internal EHS audit programme was launched. 11 internal audits were carried out and internal audit training was also provided for North America, Europe and Asia.
- Formal training is an integral part of the implementation of the Group's EHS Policy. This is undertaken at a regional level and tailored to business-specific risks and opportunities, with Group-level support and oversight.
- Monthly performance reporting to Group and regional executives against the Group KPIs by all Group sites. The data is subject to regular review and challenge at Group level with reporting of performance to the Group Executive and the Board.

Taking site openings and closures into account, in 2016 environmental management systems were in place at 97 sites worldwide, including 46 sites certified to ISO 14001. Worldwide, 104 sites have health and safety management systems in place, with 14 sites certified to or working towards OHSAS 18001.

EHS POLICY EFFECTIVENESS

Morgan Advanced Materials monitors the effectiveness of its EHS Policy through the external EHS Compliance Audit Programme, the internal EHS audit programme, the review of performance against a series of Group-wide KPIs, the external assurance programme and by participating in a number of external initiatives as further described below.

The charts in this report summarise the Group's EHS performance in real terms, covering 100% of production sites and 100% of employees during the year. Environmental intensity KPIs are reported at constant currency and, where necessary, historic data has been restated to reflect changes to the business, in reporting methodology and to ensure year-on-year consistency.

The Group has commissioned independent external assurance of its EHS KPIs since 2011. In 2016 the independent assurance performed by ERM CVS covered the Group's Lost Time Accident Frequency rate, CO₂e intensity, energy intensity, waste intensity, water intensity and the waste recycling rate. The Assurance Report from ERM CVS is set out on page 24.

The Group also participates in a number of external initiatives that help to benchmark its effectiveness and progress. These include the Carbon Disclosure Project in respect of the Group's climate-change related strategies, risks, management and performance. In 2016, Morgan achieved a score of A- placing it joint top of CDP's FTSE350 Industrials sector. This reflects the Group's performance and the depth and quality of climate change data the Group has disclosed to investors and the global marketplace through CDP.

Morgan Advanced Materials has also made filings in respect of the Group's UK facilities under the UK government's Carbon Reduction Commitment (Energy Efficiency) Scheme.

BRIGHT, CLEAN AND thinkSAFE



The Bright, Clean and thinkSAFE initiative acts as a focal point for safety and enables all employees to demonstrate an active focus on safety and 5S workplace organisation. The objectives of Bright, Clean and thinkSAFE are:

- To instil a relentless and uncompromising focus on safety;
- Improve efficiency and productivity by implementing 5S workplace organisation across all offices and plants;
- Make Morgan an even better place to work.

The Morgan-wide quarterly initiative culminated in a dedicated 'safety week' covering all sites in each Division in every region.

Engagement is key to Bright, Clean and thinkSAFE with employees encouraged to identify opportunities for improvement at their site and to make them happen by putting thinkSAFE into action.

A series of Division-wide 5S Workplace Organisation, Safety Corner and Safety Talent competitions and related activities helped to promote this:

- The Technical Ceramics site in Latrobe, PA, USA was a 5S competition winner. The site focussed on the ceramic powder bulk storage area where a five member 5S workplace organisation team was set

up. They used visual controls, clean-ups and audits to identify and address nine safety issues, remove unused equipment and to clear 1,300ft² of cluttered floor space. Employee morale improved and other departmental teams were inspired by the results.

- At the Thermal Ceramics site in Kailong, China the 5S teams identified an opportunity to enhance maintenance productivity and responsiveness. Changes included placing pictures of the contents on each storage box in the maintenance department, enabling operators to easily find the tools and parts they need. In addition to helping improve productivity this helped enhance traceability, optimise stocks and improve worker morale.
- The East Stroudsburg, PA, USA site was a winner in the Safety Corner category. As pictured above, every employee visits the site's Safety Corner three times each week and submits their STOP card for display.
- The Morgan Carbon site in Kaohsiung City, Taiwan was a winner in the Safety Talent competition for their tool-box talks which helped involve and engage people site-wide with thinkSAFE and the 'take 5 for safety' initiative.

See thinkSAFE overview on page 9 for further details.

EHS POLICY EFFECTIVENESS continued

MORGAN ADVANCED MATERIALS PLC IS COMMITTED TO ENVIRONMENTAL RESPONSIBILITY AND WORKS TO MINIMISE THE IMPACT OF ITS BUSINESS ON THE ENVIRONMENT AND TO MAXIMISE THE POSITIVE ENVIRONMENTAL BENEFIT OF ITS PRODUCTS.

Environment

The Group monitors the material impacts of its operations on the environment as measured by its Scope 1 CO₂e and Scope 2 CO₂ emissions, energy, waste and water intensity per £ million of revenue and the proportion of total waste which is recycled. Environmental key performance indicators (KPIs) are reported monthly by all sites with the Executive Committee and the Board receiving regular reports.

The Group also sets targets for key aspects of its environmental performance. These are summarised in the table on page 29 with performance against target reviewed by KPI below. Each production site also sets specific internal targets for improvement which are reviewed as part of the annual budget process to ensure they are aligned with and contribute to the Group's targets.

During the year, the Group undertook a series of projects and environmental programmes focused on the sites identified as having the greatest environmental impact. These are subject to regular review and follow-up by the executive team to ensure key opportunities and risks are addressed. In addition, regional programmes covering topics such as energy awareness help to enhance business and environmental performance and competitiveness. Further details and examples are included in the case studies within this report.

2016 environmental performance

Morgan sets targets for the reduction of the impact of its operations on the environment, as measured by CO₂e emissions, energy, waste and water intensity and the proportion of total waste which is recycled. The Group's 2016 performance is a report against the targets for the two-year period 2014-16.

The Group reduced its environmental intensity in key areas over the two years 2014-16 and achieved its targets to reduce CO₂e and energy intensity by 5% and to increase its recycling rate. However, although total waste was down by 6% and water use was down by 2.4%, as a result of the 2.6% decrease in revenue at constant currency compared to 2014, the baseline year for the Group's intensity targets, the Group's waste intensity was reduced by less than the 5% reduction target and water intensity was flat over the period.

Energy use and emissions intensity

Much of Morgan's production involves the use of high-temperature processes. The Group reports the environmental impact of the energy used in these processes and elsewhere in its facilities as CO₂e emissions, indexed to turnover. This takes into account the use of all sources of energy. Business performance is assessed on the basis of energy and emissions intensity i.e. energy use and emissions relative to turnover.

In absolute terms, total CO₂e emissions due to energy use in 2016 were 342,600 tonnes, down by 6% from 365,600 tonnes in 2015 and 12% lower than the 389,800 tonnes reported for 2014. Energy use was some 1,145 GWh, down by 6% from 1,224 GWh in 2015 and 14% down against the 1,333 GWh reported for 2014.

CO₂e intensity¹ was down by 5% compared to 2015 and by 10% compared to 2014. Thus the Group exceeded its target to reduce CO₂e emissions intensity due to energy use by 5% over the two-year period 2014-16. Energy intensity¹ in 2016 was down by 5% compared to 2015 and by 12% compared to 2014. These improvements in energy efficiency in 2016 helped the Group to reduce its energy costs by £5.7million over the two-year period.

CO₂e⁵ INTENSITY DUE TO ENERGY USE^{1,2} Tonnes CO₂e/£m revenue³

2016	346
2015	364
2014	384
2013	384
2012	377

CO₂e⁵ DUE TO ENERGY USE^{1,2} Tonnes³

2016	342,600
2015	365,600
2014	389,800
2013	382,200
2012	394,100

ENERGY INTENSITY^{1,4} MWh/£m revenue³

2016	1,157
2015	1,219
2014	1,313
2013	1,303
2012	1,262

ENERGY USE^{1,4} GWh³

2016	1,145
2015	1,224
2014	1,333
2013	1,295
2012	1,319

- The 2016 CO₂e intensity and energy intensity information has been subject to assurance by ERM CVS. For further details of the assurance provided see the Independent Assurance Report on page 24. Further details of the 2015, 2014, 2013 and 2012 assurance provided by PwC are included in the Independent Assurance Reports on page 32 of the 2015 Annual Report, page 30 of the 2014 Annual Report, page 31 of the 2013 Annual Report and page 25 of the 2012 Annual Report.
- Scope 1 CO₂e emissions from fossil fuel usage and Scope 2 CO₂ using country-specific electricity factors as CO₂e factors are not consistently available for electricity use in all countries.
- Constant currency basis and updated to reflect changes in reporting methodology.
- Energy from all sources.
- CO₂e. Carbon Dioxide Equivalent – the amount of Carbon Dioxide or the amount of non-CO₂ Greenhouse Gas with the equivalent global warming potential.

EHS POLICY EFFECTIVENESS continued

As shown in the five-year performance charts on the previous page, energy and CO₂e intensity has been reduced since 2012 and the Group continues to have a number of production improvement projects which include energy efficiency programmes. These are planned to help reduce energy and CO₂e intensity in 2017 and beyond and to ensure the Group delivers continuous performance improvement.

In addition to improving energy consumption and emissions performance through increased efficiency, changes in Morgan's business and product mix influence the Group's energy and emissions when indexed to turnover. Emissions are also affected by changes in national electricity-CO₂ conversion factors. More details on Morgan Advanced Materials' carbon management can be found in the Group's submissions to the Carbon Disclosure Project. See www.cdp.net for further details.

ENERGY REDUCTIONS AT THERMAL CERAMICS ITALY



The Thermal Ceramics plant in Casalpusterlengo, Italy, is one of Morgan's top five energy using sites. The site produces thermal insulation products that help to significantly reduce energy consumption and emissions in a variety of high temperature processing applications.

During 2016 the site focussed on reducing electricity use and introduced a number of initiatives which helped to cut electricity use per unit of sales by 29%. These included:

- Replacement of the scrubber plant fan with a new more efficient and slower-running unit managed by an inverter which efficiently manages electricity consumption as load on the fan motor varies.
- Installation of energy efficient lighting in a rolling programme across the factory. This includes LED lighting in general areas and low energy electrodeless magnetic induction lamps in the kiln area. In addition to helping to cut electricity use and maintenance costs, this also improved lighting levels and working conditions.

→ The team reviewed the efficiency of the site-wide compressed air network and identified the opportunity to replace two older and inefficient air compressors with a single large unit also with an inverter.

→ In addition, a compressed air leak programme was implemented. This identified number of inefficiencies and leakage points in the site-wide compressed air distribution network which were addressed and repaired helping to reduce compressor load by some 10-15%.

These initiatives helped the site to reduce electricity use by some 500,000 kWh during the year, cutting CO₂ emissions by 165 tonnes.

During 2017 the site team will be working to improve natural gas use efficiency and is developing a technical solution for heat recovery from one of the kilns used to fire slinger bricks which will help the site to deliver further reductions in energy use and CO₂ emissions.

EHS POLICY EFFECTIVENESS continued

Waste and Recycling

Waste management is a key area of focus for the Group with opportunities to reduce the use of raw materials, packaging and other consumables. As well as saving money through waste reduction, by recycling certain waste streams including scrap metal, cardboard and other materials, the Group can turn costs into revenue.

Hazardous and non-hazardous waste is monitored according to waste stream and disposal route, with performance assessed on the basis of waste intensity (i.e. waste quantities indexed to turnover) and the proportion of total waste which is recycled.

Total waste reported in 2016 was 46,500 tonnes, down by 4% from 48,400 tonnes in 2015 and 6% lower than the 49,400 tonnes reported for 2014. Waste intensity¹ was down by 2% compared to 2015 and down by 3% compared with 2014.

Thus, whilst waste intensity was reduced, the Group was behind its 5% reduction target over the two-year period 2014-16. This was partly due to one off disposals at a number of sites as part of the 5S workplace organisation initiative, and changes in product mix at certain sites which with increased production of products that have higher waste intensity compared to 2014.

Consistent attention to waste management helped improve rates of recycling through increased site-level awareness of recycling opportunities. As a result, some 20,800 tonnes of waste material was recycled during the year. This included some 870 tonnes of paper and cardboard, 290 tonnes of plastic, 1,760 tonnes of wood and 1,380 tonnes of metal. The remainder of the recycled material included scrap, dust, slag and other process by-products which were used by others as raw materials for their processes and for other purposes.

The proportion of total waste which was recycled¹ was 45% in 2016, an increase of 2 percentage points from 43% in 2015 and an increase of 12 percentage points from 33% in 2014. Thus, over the two years 2014 to 2016 the Group achieved its target to increase the proportion of total waste which is recycled. A significant part of the improvement over the period is due to the identification of an opportunity for a third party to re-use a significant waste stream at the Group's site in Augusta, GA, USA. Prior to 2014 the waste was unsegregated and was reported as landfill and the 2014 and 2015 reports have been restated accordingly.

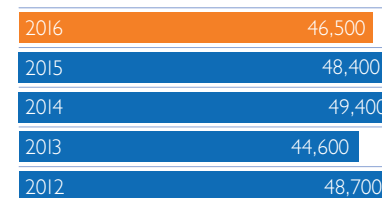
WASTE INTENSITY^{1,3}

Tonnes waste/£m revenue²



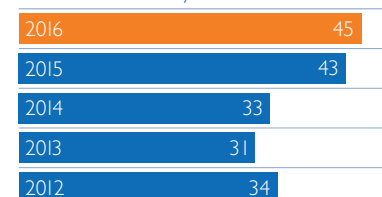
WASTE^{1,3}

Tonnes²



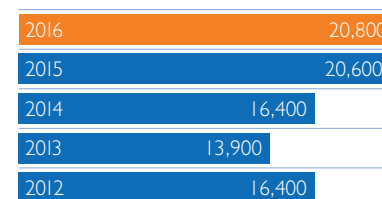
RECYCLING¹

% of total waste³ recycled



RECYCLED WASTE^{1,3}

Tonnes²



- The 2016 CO₂e intensity, energy intensity, water intensity, waste intensity and waste recycling rate information has been subject to assurance by ERM CVS. For further details of the assurance provided see the Independent Assurance Report on page 24. Further details of the 2015, 2014, 2013 and 2012 assurance provided by PwC are included in the Independent Assurance Reports on page 32 of the 2015 Annual Report, page 30 of the 2014 Annual Report, page 31 of the 2013 Annual Report and page 25 of the 2012 Annual Report.
- Constant currency basis and updated to reflect changes in reporting methodology.
- Hazardous and non-hazardous waste, including recycled material.

EHS POLICY EFFECTIVENESS continued

WORKING TO REDUCE WASTE AND TO INCREASE RECYCLING WORLD WIDE



Morgan sites around the world are working to reduce waste and to increase recycling with a range of initiatives including behavioural change, process improvements, scrap reductions and working with their waste management contractors to identify recycling and re-use opportunities. Example initiatives include:

- Technical Ceramics, Melbourne, Australia worked with a local waste management specialist to reduce the quantity of waste being sent to landfill. Following testing and trials, ceramic sludge waste which was previously sent for treatment and ultimately to landfill was confirmed as inert and of use in road construction, helping increase the like-for-like proportion of total waste recycled from 9% in 2015 to 18% in 2016.
- The Carbon site in Shanghai, China produces electrical carbon and seals and bearings products for customers across Asia. Historically dust collected from the grinding and cutting processes was sent to landfill but during the year the site worked with their waste contractor to develop opportunities to recycle this carbon powder dust. This helped to reduce the site's waste to landfill by some 340 tonnes and to increase the percentage of waste recycled from 14% in 2015 to 27% in 2016.
- The team at the Technical Ceramics, Corby, UK site worked to improve the quality of waste management reporting to help segregate and refine their waste streams to target the best means of disposal. This helped them shift 95% of the waste that previously went to landfill to an energy-from-waste incineration plant. The increased waste-awareness also helped reduce total waste by 25% in 2016.
- The Thermal Ceramics site at Emporia, KS, USA produces insulating fibre for high-temperature applications. During 2016 the site team worked to implement process improvements and to reduce short-run production runs. As a result the site reduced total waste by 46% and waste intensity by 27% in the year.
- The Morgan site in Rio de Janeiro, Brazil is part of the Thermal Ceramics global business unit, producing thermal management products for the South American market. The team in Rio introduced brightly coloured bins around the plant to help change waste segregation behaviours and also explored waste recycling and re-use opportunities. This helped increase recycling from 102 to 190 tonnes and from 13% to 20% of total waste.

During 2017 sites will be leveraging these best practice examples to help deliver the Group's 2017 target to reduce waste intensity by 2.5% and to increase the proportion of total waste which is recycled by one percentage point.

EHS POLICY EFFECTIVENESS continued

Water Use and Intensity

The Group reports water use for potable, sanitary, irrigation and process purposes. A significant proportion of the Group's water usage is in production processes, approximately 60% of which is subsequently discharged. The Group monitors use of water from both on-site extraction and from local authority and similar sources and assesses performance on the basis of water intensity.

Total water use in 2016 was 2.44 million m³, up 4% from 2015 but down 2.4% from 2.50 million m³ in 2014. Taking into account the decline in sales at constant currency, 2016 water use intensity¹ was flat compared with 2014 and so the target to reduce water intensity by 5% over the two years 2014-16 was not achieved. The increase in water use in 2016 compared to 2015 resulted from additional use of water for wash-down and clean-up activities as part of the 5S programme and the introduction of a new production line at one of the Group's more water intensive sites in the USA. Many sites around the world and particularly in Asia, where water is a limited resource, achieved strong improvements over the period.

WATER INTENSITY^{1,3} m³/£m revenue²

2016	2,466
2015	2,337
2014	2,463
2013	2,285
2012	2,407

WATER USE^{1,3} million m³²

2016	2.44
2015	2.35
2014	2.50
2013	2.27
2012	2.52

1 The 2016 water intensity information has been subject to assurance by ERM CVS. For further details of the assurance provided see the Independent Assurance Report on page 24. Further details of the 2015, 2014, 2013 and 2012 assurance provided by PwC are included in the Independent Assurance Reports on page 32 of the 2015 Annual Report, page 30 of the 2014 Annual Report, page 31 of the 2013 Annual Report and page 25 of the 2012 Annual Report.

2 Constant currency basis and updated to reflect changes in reporting methodology.

3 Water from all sources, including process, irrigation and sanitary use.

WATER SAVING INITIATIVES IN THE AMERICAS



Although Morgan's overall water use increased during the year due to the introduction of a new production line at one of the Group's more water-intensive sites and with additional wash-down and clean-up activities as part of the 5S programme, many sites reduced their water use and water intensity during the year. Examples include:

- The Thermal Ceramics site in Rio de Janeiro, Brazil introduced an initiative to actively re-use the water from the on-site effluent treatment plant in the production process. This contributed to a 38% reduction in water intensity at the site.
- The Technical Ceramics site in San Juan del Rio, Mexico changed their effluent disposal process thereby reducing the use of water for rinse down and clean up purposes. Along with other initiatives, this helped the site reduce water use by 37% in the year, with water intensity down 49%.
- At the Thermal Ceramics site in Burlington, ON, Canada a team of production leaders and engineers introduced a series of water reduction initiatives in the vacuum forming area of the plant as pictured above. Previously water was discharged after use but the team introduced a filtration system with programmable logic controls and valves to re-use the water automatically. They have also started capturing and treating rain water for use in the closed-loop cooling system. Overall the site reduced water by 30% in the year, with water intensity down by 21%.
- The Technical Ceramics site in Hayward CA, USA site makes ceramics parts. The site is in an area suffering from water shortages and the site worked to reduce water use during 2015-16. A number of underground leaking pipes were identified and repaired and irrigation use was reduced in 2016 contributing to a 41% decrease in water use in the year.

The Group will continue to focus on water use efficiency at key sites world-wide and is targeting an overall reduction in water intensity in 2017.

EHS POLICY EFFECTIVENESS continued

Environmental Regulatory Compliance

Morgan Advanced Materials received no reported prosecutions in relation to environmental compliance matters during 2016. However, a small number of environmental enforcement notices were received as follows:

A site in China received an enforcement notice in relation to noise levels adjacent to the plant. The issue was addressed through sound-proofing and changes to operation times. One site in India received a notice regarding the operation of its effluent treatment plant and a hot water generator. This was addressed through clarification with the relevant authorities and corrections to the site's environmental permits. Two sites in the USA received notices of violation in respect of air quality issues and waste water treatment, one of which resulted in a fine of US\$1,000. All issues have been addressed and are closed or are with the relevant authorities for confirmation.

In addition, the Group has a small number of ongoing remediation programmes to address historical soil and groundwater contamination issues.

2017 Priorities for Environmental

- Focus on specific environmental improvement projects at sites with the biggest environmental impact.
- Formalise the improvement project review process to include summary reporting to the Group Executive.
- Benchmark sites with similar production technologies to identify best practice and implement improvement plans accordingly.
- Implement energy awareness and resilience programmes, focused on the Group's energy intensive operations.
- Focus on robust ownership and delivery of environmental targets at site, business and Divisional levels.

EHS POLICY EFFECTIVENESS continued

THE GROUP'S LONG TERM OBJECTIVE IS 'ZERO HARM' AND IT SEEKS TO ACHIEVE YEAR-ON-YEAR IMPROVEMENTS IN PERFORMANCE AS IT PROGRESSES TOWARDS THIS OBJECTIVE.

Health and Safety

Morgan Advanced Materials is committed to implementing its health and safety core values with the long-term aim of an injury-free workplace and to conducting all its activities in a manner which achieves high standards of health and safety for all employees and others affected by its operations.

Morgan's Health and Safety Policy statements are clear and communicated throughout the Group. The Policy statements are supported by site-level assessment and monitoring of risks. Leading and lagging health and safety metrics are reported by all sites world-wide and receive a high degree of focus at all levels of the business.

The Group's Health and Safety core values are available in the 17 working languages used across the Group and have been communicated and adopted Group-wide:

- We are committed to creating a culture and environment that is 'zero harm' with no related accidents or illness due to our activities.
- We will encourage and expect our employees and contractors to be passionate about safety.
- We are dedicated to creating a positive safety culture based on openness, transparency and responsibility.
- We support a safe working culture through investment and training.
- We will engage with our people to continuously improve safety knowledge, reporting and performance through our commitment to our thinkSAFE programme.

Morgan 'thinkSAFE', the Group's safety performance improvement programme, is further described on page 9.

TAKE 5 FOR SAFETY – MACHINE GUARDING

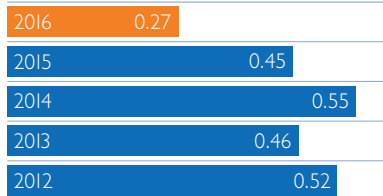


One of the Morgan thinkSAFE quarterly topics during 2016 was 'Take 5 for Safety'. This encouraged employees to implement a five-step pre-task process. As a result a number of sites identified and fixed potential machine guarding hazards. Examples include:

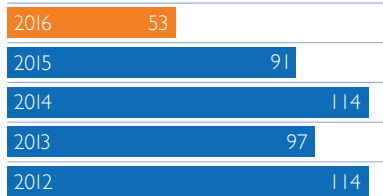
- By implementing 'Take 5 for Safety' the team at Thermal Ceramics Casalpustelengo, Italy identified and addressed a number of potential hazards, including on the sawing line where a double-band saw automatically cuts insulating bricks prior to palletisation. A safety fence was installed to prevent access to the machine whilst it is operating.
- At the site in Lillebonne, France which produces vacuum formed and other Thermal Ceramics heat-saving products, a hazard was identified on a number of vacuum forming tanks. As a result, interlocking gates were installed which cut all movement of the tool if the gates are opened or sensors are triggered, removing the risk of the operator being struck by the moving tool.
- The Thermal Ceramics site in Rio de Janeiro, Brazil identified potential hazards due to rotating equipment and belt-drives on the spun fibre line and on a band saw. Machine guards were installed and follow-up project is underway to cover any equipment that had exposed rotating parts.
- Also in South America, the site in Colombia identified the potential for injury due to rotating parts on the concrete packing machines. Cabinet-style doors were installed to protect employees whilst also allowing easy access for maintenance (see before and after images above).

EHS POLICY EFFECTIVENESS continued

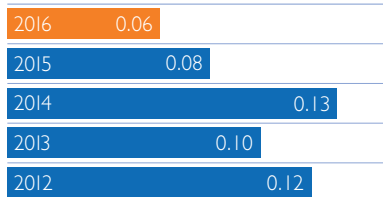
LOST TIME ACCIDENT FREQUENCY^{1,2} LTAs/100K hours worked



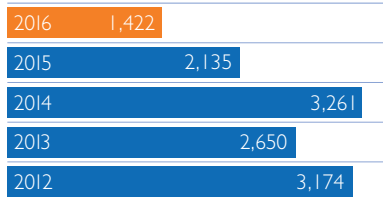
LOST TIME ACCIDENTS² Number of LTAs



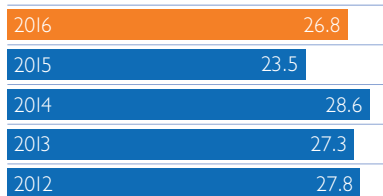
HEALTH AND SAFETY-RELATED LOST TIME % of total working time



HEALTH AND SAFETY-RELATED LOST TIME Days lost due to LTAs²



LOST TIME PER LTA³ Days per LTA²



2016 Health and Safety performance

The Group's health and safety KPIs include accident frequencies, causes and related lost working time. These are used to monitor the effectiveness of the Group's Health and Safety Policies and related systems on a monthly basis. The independent external assurance performed by ERM CVS covered the Group's 2016 Lost Time Accident (LTA) frequency rate. The health and safety KPIs in this report cover 100% of employees.

In 2016, the Morgan thinkSAFE accident prevention and training programmes were ongoing, with the objective of reducing accident numbers and the time lost per lost time accident. Focus is increasingly placed on leading indicators as well as those sites with below-average performance, as measured by their health and safety KPIs and through the EHS Compliance Audit Programme. The Executive Committee and the Board receive reports and review health and safety matters on a regular basis.

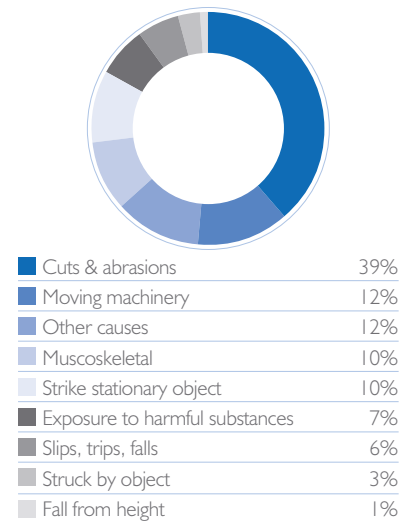
The Group's 2016 health and safety performance improved compared to 2015 and so the Group achieved its objective of improving performance compared with the prior year. Aggregating manufacturing sites and sales offices, the Group has over 130 locations worldwide and the majority reported no LTAs during the year.

In 2016, the Group's LTA frequency¹ was down 41% at 0.27 per 100,000 hours worked (2015: 0.45). This followed a 17% reduction in 2015 from 2014. The number of LTAs reported was down 42% to 53 (2015: 91).

The Morgan thinkSAFE programme, supported by a focus on leading indicators and on underperformance identified helped to deliver this improved performance.

Reported lost time due to accidents and work-related illnesses as a percentage of working time decreased from 0.08% in 2015 to 0.06% in 2016. As shown in the charts on this page, the number of days lost during 2016 was down by 33%. This follows a 35% reduction in 2015. The average number of days lost in 2016 per LTA reported in the year increased by 14% from 23.5 to 26.8 days.

FY16 ACCIDENT CAUSES (All accidents)



Accidents are reported in the year in which the accident actually occurs with the lost time reported in the year in which the individual is away from work. Thus accidents which occur in a prior year which result in lost time the following year can impact the lost time as a percentage of total working time and the lost time per LTA key performance indicators and the increase in the average days lost per LTA in 2016 was in part due to days lost in 2016 due to accidents which occurred in 2015.

A total of 767 accidents were reported in the year, including lost time and non-lost time incidents. This was down from 977 in 2015 and 996 in 2014.

Manual handling related cuts and abrasions remain the most common causes of accidents and the Group continues to address this, with attention being focussed through the regional EHS management team to targeting the main causes of accidents in each region.

1. The 2016 Lost Time Accident Frequency information has been subject to assurance by ERM CVS. For further details of the assurance provided see the Independent Assurance Report on page 24. Further details of the 2015, 2014, 2013 and 2012 assurance provided by PwC are included in the Independent Assurance Reports on page 32 of the 2015 Annual Report, page 30 of the 2014 Annual Report, page 31 of the 2013 Annual Report and page 25 of the 2012 Annual Report.

2. Lost Time Accident (LTA): accident or work-related illness which results in one or more days' lost time.

3. Total time lost due to health and safety in the year divided by the number of lost time accidents reported in the year.

EHS POLICY EFFECTIVENESS continued

GAS SAFETY INITIATIVE



This Morgan thinkSAFE quarterly topic was launched with specific support, monitoring and follow-up from the Executive team. Local gas suppliers and process safety experts were also involved, providing information on gas safety best practice.

Targeting high risk sites using hydrogen or chlorine or with bulk storage LPG/Propane the initiative included:

- Improvements around gas storage, distribution and point of use equipment. This included equipment set up, maintenance and inspection as well as Job Safety Analysis and risk assessments with checks on gas safety systems, procedures and briefings.
- A Process Hazard Analysis (PHA) was carried out by or reviewed by external process safety experts.
- Plans for improvement actions were developed and prioritised with some immediate actions completed.

- Standard Operating Procedures and preventative maintenance schedules were reviewed and updated.
- Focussed initiatives on operator capability and approval/ training, including e-learning in local languages which has been completed by some 600 personnel.

The overall action plans and priorities are monitored and reported to the EHS leadership committee and the Group Executive Committee.

For example, the team at the Thermal Ceramics plant in Augusta, GA, USA, Morgan's largest facility world-wide, focussed on flammable gas use. Their Process Hazard Analysis resulted in a number of gas safety upgrades across the site, including:

- A natural gas map was created for entire facility and process valves were identified and tagged so that all valves can be easily identified for operations, maintenance and safety use (pictured).
- Hydrogen leak detection equipment was installed with flow meters and a daily auditing process to alert maintenance personnel to potential leaks.
- Hoods were installed over indoor hydrogen stations to remove any leaked gas and prevent accumulation.

The solutions implemented at Augusta are being shared as best practice examples for other sites using flammable gas world-wide.

Health and Safety Regulatory Compliance

Morgan Advanced Materials received no prosecutions, fines or penalties in relation to health and safety compliance matters during 2016. However, one site in the UK received improvement notices in relation to a potential machine guarding issue and with regard to manual handling activities relating to the change-over of press tools. Both issues have been addressed pending confirmation from the UK Health and Safety Executive whose costs of £1,856 were reimbursed.

2017 Priorities for Health and Safety

- Sustain the momentum of the Morgan thinkSAFE programme.
- Monitor visible safety leadership at all levels of the organisation to help ensure strong, personal safety leadership is evident to all.
- Continue to implement the new Group-wide EHS framework with focus on high-risk health and safety issues shown in the graphic below.
- Continue the focus on gas safety and ensure actions from the Process Hazard analysis are complete.
- Introduce the principles for Process Safety Management.
- Continue to roll-out quarterly themes to address safety risks and to help improve performance.
- Focus on reducing the time lost by each lost time accident through appropriate return-to-work initiatives.
- Carry out a Group-wide EHS personnel competency resource assessment.

HIGH-RISK HEALTH AND SAFETY ISSUES COVERED IN MORGAN'S NEW EHS FRAMEWORK



EHS POLICY EFFECTIVENESS continued

WORKING AT HEIGHT



During 2016 Morgan developed and launched its new EHS Framework. This Framework covers ten key risk areas against which sites carried out a gap analysis and developed action plans. One of the high-risk areas identified is working at height and the action plans developed by a number of sites specifically addressed this area of risk:

- A number of sites identified that employees were working at height whilst loading and securing finished product on trucks for transport to customers. The Thermal Ceramics sites in Gujarat, India and in Kailong and Shanghai, China worked to mitigate this risk by installing simple-to-use plug in safety harness systems with overhead wires to help prevent falls from the back of trucks being loaded.
- Morgan Murugappa Thermal Ceramics in Ranipet, India, Thermal Ceramics Elkhart, IL, USA and Thermal Ceramics Pachuca, Mexico worked to restrict access to high areas by installing ladder

grills and locks such that only suitably trained and authorised personnel are able to access the higher-risk areas.

- Movable guard rails and barriers are in place at multiple sites world-wide. At Morgan Thermal Ceramics, Shanghai the rails at second and third floor levels of the lifting area bay have manual locks. Following a risk-assessment the team installed automated locks and if the locks are not closed then an audible and visual alarm sounds.
- Other sites around the world also upgraded railings in areas where employees work at height, including Augusta where the railings were installed on top of the annealing ovens and around platforms on the silos. At the Technical Ceramics site in Yixing, China chains around the kiln loading platform were replaced by solid railings.

These solutions are being shared as best practice examples for other sites world-wide.

EHS POLICY EFFECTIVENESS continued

REDUCING DUST EXPOSURES WORLD-WIDE

Dust exposure is inherent in many manufacturing tasks and workers can be exposed to dust every day resulting in health risks and an unpleasant working environment. During 2016 the Morgan thinkSAFE quarterly topic 'Bright, clean and thinkSAFE' had objectives including improving efficiency and productivity and making Morgan an even better place to work. As a result, sites world-wide have been working to reduce dust generation and exposure and to improve dust collection systems. Examples include:

- The Thermal Ceramics site in Korea which produces high temperature fibrous insulation products, carbon brush products, and high performance self-lubricating bearing and seal components for the industrial market has improved its dust collection and management systems across the plant. On the Pyro-Log production line this cut dust exposure by 10% through improvements to the dust extraction duct work. This initiative helped improve operating efficiency and by further automating part of the Pyro-Log production process, exposures were further reduced, cutting operator fatigue. The changes also helped waste segregation and recycling was improved.
- At Morgan's largest site in Augusta, GA, USA which produces the full Thermal Ceramics' product range, dust-reduction measures included the installation of a new dust collector in the batching area which helped reduce dust exposure by up to 90% whilst a new air classifier exhaust system reduced exposure by over 40%.



→ At the site in Burlington, ON, Canada, improvements to the dust collection system controls and to the venting reduced risk in the event of malfunction and cut noise from 85dB to 75dB.

→ The JMCC site in Jiangsu, China – pictured above – installed a high-efficiency dust collection system with programmable logic controls, variable frequency drives and electromagnetic diaphragm valves on the extraction units. The flexibility of the system allows adaptation to changing working conditions and applications covering larger 25m² work areas down to 4.5m² work stations.

INDEPENDENT ASSURANCE REPORT

INDEPENDENT ASSURANCE STATEMENT TO MORGAN ADVANCED MATERIALS PLC

ERM Certification and Verification Services (ERM CVS) was engaged by Morgan Advanced Materials plc (Morgan) to provide limited assurance in relation to specified 2016 EHS performance data in Morgan's Annual Report for the year ended 31 December 2016 (the Report) as set out below.

ENGAGEMENT SUMMARY	
Scope of our assurance engagement	Whether the following EHS performance data for year ended 31 December 2016 are fairly presented, in all material respects, with the reporting criteria: <ul style="list-style-type: none"> → GHG: Total Scope 1 and Scope 2 emissions due to energy use in tonnes CO₂e; CO₂e intensity (tonnes CO₂e/£m revenue). → Total Energy use (GWh) and Energy intensity (MWh/£m revenue). → Water use (million m³) and Water intensity (million m³/£m revenue). → Waste (tonnes) and waste intensity (tonnes/£m revenue). → Recycling rate. → Safety: Number of lost time accidents (LTAs) and Lost Time Accident Frequency (LTAs/100,000 hours worked).
Reporting criteria	Morgan's own internal reporting criteria and definitions set out at: www.morganadvancedmaterials.com/en-gb/corporate-responsibility/environment-health-and-safety .
Assurance standard	ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000 (Revised).
Assurance level	Limited assurance.
Respective responsibilities	Morgan is responsible for preparing the data and for its correct presentation in reporting to third parties, including disclosure of the reporting criteria and boundary. ERM CVS's responsibility is to provide conclusions on the agreed scope based on the assurance activities performed and exercising our professional judgment.

Our conclusions

Based on our activities, nothing has come to our attention to indicate that the EHS performance data for year ended 31 December 2016, as listed above, are not fairly presented, in all material respects, with the reporting criteria.

Our assurance activities

Our objective was to assess whether the selected data are reported in accordance with the principles of completeness, comparability (across the organisation) and accuracy (including calculations, use of appropriate conversion factors and consolidation). We planned and performed our work to obtain all the information and explanations that we believe were necessary to provide a basis for our assurance conclusions.

A multi-disciplinary team of EHS and assurance specialists performed the following activities:

- Interviews with relevant staff to understand and evaluate the data management systems and processes (including IT systems and internal review processes) used for collecting and reporting the selected data;
- A review of the internal indicator definitions and conversion factors;
- Visits to five sites (two in USA, one each in Mexico, France and India) to review local reporting processes and consistency of reported annual data with selected underlying source data for each indicator. We interviewed relevant staff, reviewed site data capture and reporting methods, checked calculations and assessed the local internal quality and assurance processes.
- An analytical review of the data from all sites and a check on the completeness and accuracy of the corporate data consolidation.

- Year-end assurance activities at corporate level including the results of internal review procedures and the accuracy of the consolidation of the data for the selected indicators from the site data.

The limitations of our engagement

The reliability of the assured data is subject to inherent uncertainties, given the available methods for determining, calculating or estimating the underlying information. It is important to understand our assurance conclusions in this context.



JENNIFER LANSEN-ROGERS
HEAD OF CORPORATE ASSURANCE SERVICES
23 February 2017

ERM Certification and Verification Services, London
www.ermcvs.com; email: post@ermcvs.com

ERM CVS
Informed Assured

ERM CVS is a member of the ERM Group. The work that ERM CVS conducts for clients is solely related to independent assurance activities and auditor training. Our processes are designed and implemented to ensure that the work we undertake with clients is free from bias and conflict of interest. ERM CVS and the ERM staff that have undertaken this engagement work have provided no consultancy-related services to Morgan Advanced Materials plc in any respect.

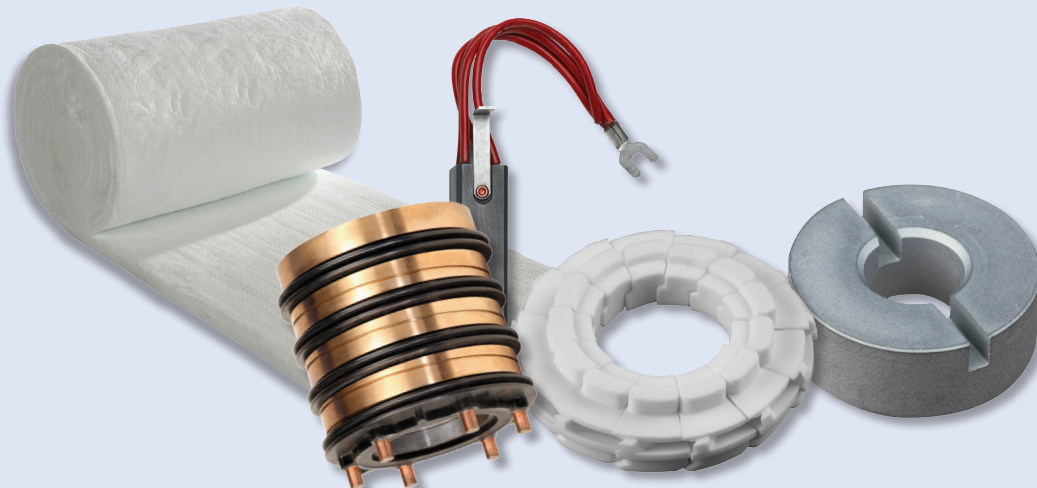
MORGAN ADVANCED MATERIALS PRODUCTS: ENHANCING GLOBAL SUSTAINABILITY

STRATEGY IN ACTION

Morgan identifies major opportunities in sectors driven by megatrends where its materials science and applications engineering skills can solve technically demanding challenges. The Company chooses its markets carefully, focussing on those in which it can achieve leadership and then continue to refine its output to increase the proportion of differentiated, technically complex products.




HOW ENERGY EFFICIENCY ISSUES ARE CREATING OPPORTUNITIES ACROSS MORGAN ADVANCED MATERIALS' SECTORS AND MARKETS



The development of advanced materials science and engineering has a major role to play in the global drive towards energy efficiency.

In implementing its strategic priorities, Morgan is ideally placed to provide the technical support that its customers need to plan their own approach to improving energy management.

HOW ENERGY EFFICIENCY ISSUES ARE CREATING OPPORTUNITIES ACROSS MORGAN'S SECTORS AND MARKETS



ENERGY DEMAND IS A CRUCIAL GLOBAL ISSUE. ADVANCED MATERIALS ARE INCREASINGLY PLAYING A SIGNIFICANT ROLE IN HELPING TO DEVELOP GREATER ENERGY EFFICIENCIES FOR A SUSTAINABLE FUTURE.

As Global energy demand continues to rise, the solutions to the world's energy problems will include optimisation of a range of traditional and renewable energy sources.

The question of how to deal with rising energy demand will not be answered by a single solution. Energy efficiency improvements, clean energy initiatives and education to reduce consumption will all play a part. And in all these, materials science and developments in ceramics and carbon technology in particular have a major role to play.

The Company works with customers in energy and industrial sectors all over the world, including in the expanding industrial economies in China, India and Latin America.

In well-developed markets and dynamic growth economies, innovation in carbon and ceramics is helping to improve efficiencies in fossil fuel energy generation and distribution systems, and is a key enabler in the new clean energy infrastructures including wind, solar and electric vehicle technology.

In the drive to reduce energy consumption, ceramic materials are being used to make energy efficiency improvements in a wide variety of existing industrial and transportation systems, for example by reducing friction and increasing reliability. Ceramic and carbon materials are also used to provide high performance insulation for use in buildings and in industrial processes.

Central to Morgan's strategy and vision are the first-class people that make it happen. The company strives to attract, retain and develop the very best for every aspect of the business from engineering excellence and technical innovation to business management and customer service. This fundamental recognition of the contribution of the individual is apparent throughout the company's activities from its outstanding graduate and apprenticeship schemes to its development programmes.

In the energy sectors there are many examples of how Morgan's expert teams, advanced materials science and engineering are making a contribution to the cumulative global effort to manage climate change now and into the future.

World-renowned for performance and reliability, Morgan's carbon brush technology is used in coal, gas, nuclear and wind power plants all over the world and is at the heart of electricity storage and distribution systems for applications from rail transport to electric vehicles.

Ceramic technology is contributing to the development of solar energy systems in the production of photovoltaic cells using silicon wafers and by thin film deposition.

For example, alumina/silica rollers are used to move the wafers through the high temperature (900°C) deposition furnaces without damage, and fully stabilised zirconia is used for high reliability thermocouples. Similarly, high purity aluminium oxide bars and locator pins are used for wafer lifting, stacking and transporting between furnaces. They provide greater strength at high temperatures and eliminate the buckling associated with metal equipment.

A specialist ceramic, Pyrolytic Boron Nitride (PBn) has been developed by Morgan for use in crucibles and boats used to hold materials for thin film deposition. It is chemically inert at high temperatures, has low wetting to alloys and is resistant to chemical shock. As a result, the crucibles remain dimensionally stable and do not react with the molten material.

ENHANCING SUSTAINABILITY

CRUCIBLE SUSTAINABILITY



Morgan materials and furnace technology is helping enhance metal melting and holding.

Through advances in foundry crucible technology and furnace management systems, Morgan Molten Metal Systems is introducing the concept of 'Green Operations' into the foundry industry. Morgan is working to raise awareness of foundry energy consumption patterns and is working with customers to minimise energy use and CO₂ emissions.

Through the development of new materials for use in metal holding & melting products and the employment of smart monitoring systems, Morgan has helped to reduce the energy consumption of a typical aluminium foundry by approximately 20%, with more potential savings to come.

RAIL



Morgan materials ensure reliable and efficient operation of electric trains.

Rail is on average four times more energy efficient than road transport. It has huge potential to make a difference to fuel consumption globally. Carbon technology is at the heart of rail transportation with brushes and collectors used in overground and underground rail and tram systems all over the world.

Railway applications are exceptionally demanding on these components; they have to be able to cope with large current peaks, weak load operation, intermittent usage and aggressive environments and, especially in long distance networks, perform in high ambient temperature differentials and humidity.

Morgan's advanced technology components perform optimally over a wide range of environments from sub zero to >40°C and at up to 2km above sea level. They are designed for high reliability on all types of rolling stock from high-speed trains to long haul trains covering varying terrain, changeable loads, impact and vibration.

4x

efficiency of rail vs road

ELECTRIC AND HYBRID VEHICLES



The development of new carbon materials holds the key to better performing electric and hybrid vehicles.


Advances in electric and hybrid vehicle battery technologies are driving the demand for increasingly tough thermal management solutions.

The exceptional properties of Morgan's carbon and ceramic materials are helping enable the manufacture of pump components robust enough to circulate the aggressive coolants used through Lithium-Ion batteries.

Components produced by Morgan are also offering additional benefits. Being up to 60% lighter than steel, their weight saving contributes to low noise running and the increased energy efficiency of modern electric and hybrid vehicles.

INCREASING EFFICIENCY

LED TECHNOLOGY



Carbon and ceramic materials are key enablers for LED technology.

Morgan makes graphite felt which is used in LED sapphire production to provide a uniform thermal environment to support crystal growth. This highly stabilised, long-life insulation enables long process cycles and the high chemical inertness of the insulation minimises contamination of the sapphire ingot.

INSULATION



Advances in ceramic insulation materials help industrial installations to reduce energy consumption.

Morgan's low bio-persistent Superwool® Plus fibre, designed for use in duct and chimney insulation, process heater linings, pipe wrap and automotive exhaust heat shields is 17% more energy efficient than traditional insulation products such as Refractory Ceramic Fibre (RCF).

High-temperature insulating fibre, bricks and monolithics are used to help optimise thermal efficiency in industrial applications from 500°C to 1,600°C.

17%
Superwool increase in energy efficiency

PUMPING SYSTEMS



Pumping systems account for nearly 20% of the world's energy demand.

Improvement in the efficiency of pumps and pump systems has the potential to impact global energy consumption significantly.

Morgan has developed a family of graphite-loaded silicon carbide materials based on the patented PGS100 for hardwearing seals in long-life pumps for demanding processing applications such as those with extremely caustic environments, abrasive process fluids or high pressures and operating temperatures.

The material contains a free-graphite, which improves lubricity, for greater dry run survivability and better thermal shock resistance than conventional sintered materials. The graphite also gives it better pressure-velocity capability between hard-face mating pairs. As a result, it lasts twice as long as other materials in harsh field conditions.

GROUP EHS TARGETS



MORGAN ADVANCED MATERIALS SETS ANNUAL TARGETS AND OBJECTIVES FOR EHS PERFORMANCE IMPROVEMENT.

In addition to Group targets, Morgan Advanced Materials' businesses set targets and undertake initiatives appropriate to their specific opportunities for improvement, as is highlighted in a number of the case studies in this report.

AREA	2016 TARGET/OBJECTIVE	2016 PROGRESS	FUTURE OBJECTIVE
Environmental and Health and Safety data reporting	→ Keep the assurance programme under review to ensure added value.	✔ Achieved & ongoing: Following review the programme scope is maintained with assurance process changes.	Keep the assurance programme under review to ensure ongoing added value.
Environmental management systems	→ Maintain and where appropriate extend ISO 14001 coverage.	✔ Achieved: The level of certifications was maintained during the year.	Maintain and where appropriate adopt the principles of ISO 14001 for environmental management.
Reduction in emissions intensity	→ Focus on energy efficiency to deliver the 5% intensity reduction target for the two years 2014-16.	✔ Achieved: Absolute emissions were down by 12% compared to 2014 and emissions intensity was down by 5% over the two-year period.	A 1% decrease in CO ₂ emissions intensity due to energy use in 2017 vs. 2016.
Reduction in waste intensity	→ Reduce waste to achieve the 5% waste intensity reduction target for the two-years 2014-16.	✘ Not achieved: Absolute waste was down 4% over the two years but 2016 waste intensity was only down 2% vs. 2014.	A 2.5% decrease in waste intensity in 2017 vs. 2016.
Increase recycling	→ Continue to increase the proportion of total waste which is recycled.	✔ Achieved: The proportion of waste recycled in 2016 was up two percentage points vs. 2015 and by 12 percentage points from 2014.	A 1 percentage point increase in the recycling rate in 2017 vs. 2016.
Reduction in water use intensity	→ Reduce water intensity to achieve the 2014-16 target to reduce water intensity by 5%.	✘ Not achieved: Absolute water use was down by 2% from 2014 but water use intensity was flat over the period.	A 2.5% decrease in water use intensity in 2017 vs. 2016.
Health and safety programmes	→ Reinforce the Morgan thinkSAFE programme at all levels. Work to correlate leading indicators with improved performance.	✔ Achieved & ongoing: Morgan thinkSAFE further embedded and reinforced in 2016, helping to deliver the dramatic improvement in the Group's H&S performance.	Sustain the momentum of Morgan thinkSAFE with the monitoring of visible safety leadership and programmes focussed on high-risk H&S issues.
Reduction in lost time accident frequency	→ Reduce accident frequencies to make progress towards the long-term goal of zero harm.	✔ Achieved: LTA frequency was down 41% in 2016 and the number of LTAs was down 42%.	Continue to reduce accident frequencies and make progress towards the long-term goal of zero accidents.

GROUP EHS TARGETS continued

AREA	2016 TARGET/OBJECTIVE	2016 PROGRESS	FUTURE OBJECTIVE
Reduction in lost time	→ Further reduce the average time lost per LTA.	<p>✘ Not achieved:</p> <p>The days lost in the year were down 33% but this lagged the reduction in accident rate so the average working days lost per LTA was up 14% to 26.8 days.</p>	Future focus will be on reductions in lost time as a percentage of working time.
External EHS compliance audit programme	→ Continue to audit all manufacturing sites on a three-year rolling cycle whilst also reviewing the external audit process.	<p>✔ Achieved & ongoing:</p> <p>Sites are externally audited on a three-year cycle with 24 external EHS audits completed in 2016. The programme relaunched during the year with the same audit provider world-wide.</p>	Continue to externally audit all manufacturing sites on a three-year rolling cycle.
Internal EHS audit programme	→ Review the process for internal EHS audits.	<p>✔ Achieved & ongoing:</p> <p>A new internal EHS audit programme launched during the year complementing the external audits. 11 internal audits were conducted and training was carried out in North America, Europe and Asia.</p>	Continue the internal EHS audit programme with a focus on specific sites and issues to help drive continuous EHS improvements.
EHS Framework	→ Introduce a new EHS Framework with a focus on high severity incident causes.	<p>✔ Achieved & ongoing:</p> <p>New EHS Framework launched with standards and guidance for the Group's EHS programme. Site gap analysis completed with action plans developed.</p>	Continue the implementation of the EHS Framework and complete follow-up actions on high risk items.

APPENDIX: GREENHOUSE GAS EMISSIONS DISCLOSURES

Under The Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 (the 'Regulations') the Group is required to report its annual greenhouse gas emissions in tonnes of carbon dioxide equivalent ('CO₂e') in its Directors' Report.

Morgan has published information on its emissions due to the combustion of fossil fuels and the electricity purchased by the Company for its own use in its annual EHS report since 2004 and in its Annual Report since 2005. Since 2011 the Group's CO₂e emissions due to energy consumption have been externally assured (see 2016 Assurance Report from ERM CVS on page 24). The Group has participated in the Carbon Disclosure Project (CDP) since 2006 and in 2016 achieved a score of A-, reflecting the Group's strong performance and the depth and quality of climate change data Morgan has disclosed to investors and the global marketplace through the CDP.

The Regulations require the Group to disclose its emissions due to the combustion of biomass and due to process and fugitive emissions which are in addition to the emissions due to energy use reported on pages 13 to 14 of this Report.

	2016 Tonnes CO ₂ e	2015 Tonnes CO ₂ e
Emissions from combustion of fuels and operation of facilities¹		
Combustion of fossil fuels ²	126,400	133,200
Operation of facilities, including process emissions ³	29,100	29,500
Electricity, heat, steam and cooling purchased/for own consumption⁴		
Purchased electricity ^{2,3}	216,200	232,400
Intensity measurement⁵		
Tonnes CO ₂ e due to fossil fuels and purchased electricity per £m revenue ²	346	364
Tonnes GHGs per £m revenue	376	393

CO₂e is the amount of CO₂ and the amount of non-CO₂ greenhouse gas with the equivalent global warming potential.

Data is rounded to the nearest 100 tonnes of CO₂e.

- 1 Excludes emissions from Company-owned and leased vehicles estimated at circa. 2,100 tonnes CO₂e in 2016 (2015: 2,200).
- 2 The 2016 information regarding CO₂e due to energy use has been subject to assurance by ERM CVS. See the Independent Assurance Report on page 24 of this Report. See page 32 of the 2015 Annual Report for further details of the assurance of the 2015 information regarding CO₂e by PwC.
- 3 Electricity from renewable sources at zero tonnes CO₂ per kWh. Emissions increase by 2,600 tonnes at grid-average rates (2015: 4,400 tonnes).
- 4 Excludes steam supplied by third parties to two sites in China and one in Europe.
- 5 Constant currency basis and restated to reflect changes in reporting methodology.

As required under the Regulations, the above report includes the material emission sources from the operations and activities covered by the Group's Financial statements. As noted, the reports exclude emissions from Company-owned and leased vehicles and emissions relating to steam supplied by third parties to two sites in China and one in Europe, which are in total estimated to account for less than 1% of total emissions. The Directors consider that these sources of emissions are not material to the total of the emissions.

The Group's reporting methodology is based on the Greenhouse Gas Protocol with emission factors for standard grid electricity by country and year from the International Energy Agency together with other factors as published by the UK Department for Environment, Food and Rural Affairs used to calculate the CO₂e emissions included in this Report.

NOTES

1. Data gathering and comparisons.

Morgan Advanced Materials' EHS reporting processes are focussed on data that is of EHS and commercial value and are increasingly accurate. Thus improvements in environmental and health and safety performance reporting and measurement may increase or decrease some reported figures and require historic data to be restated. Where possible, the Group ensures meaningful comparisons between annual performance indicators are available.

2. Verification.

In 2016 the Group engaged ERM CVS to provide independent external assurance on the Group's CO₂e emissions and intensity; energy use and intensity; water use and intensity; waste generation and intensity; recycling and the proportion of total waste recycled; and the number of lost time accidents and the lost time accident frequency rate using international assurance standards. The report from ERM is set out on page 24.

In addition, all Morgan Advanced Materials manufacturing facilities are regularly reviewed under the Group's externally audited EHS Compliance Audit Programme and through the internal EHS audit programme. Those sites certified to ISO 9001, ISO 14001, OHSAS 18001 and other standards have regular external audits. The Group's Director, Environment, Health and Safety and the Divisional EHS teams also work with independent external consultants to review and where appropriate verify the Group's environmental and health and safety related key performance indicators.

The Board considers that these procedures provide a reasonable level of assurance that the Group's EHS disclosures are free from material misstatement whether caused by fraud or other irregularity or error.

3. Guidelines.

A variety of guidelines, reports, standards and other authorities have been consulted and utilised in the compilation of this report. These include the Greenhouse Gas Protocol, the UK Government's Department for Environment, Food and Rural Affairs environmental reporting guidelines, the Global Reporting Initiative's G4 Sustainability Reporting Guidelines and relevant ISO standards.

4. External Assistance.

Morgan Advanced Materials utilised the assistance of CSR Consulting Ltd. in the compilation and production of this report.

5. Feedback

The Group welcomes feedback on this EHS report and comments on ways reporting could be further developed at Morgan Advanced Materials. You can contact the Group by e-mail at ehs@morganplc.com or write to Morgan Advanced Materials plc, Quadrant, 55-57 High Street, Windsor, Berkshire SL4 1LP, United Kingdom.

Employees and others who have concerns regarding EHS or other matters which cannot be satisfactorily resolved locally may also use the Morgan Advanced Materials Ethics Hotline. Further details are available on the Morgan Advanced Materials website and on the Group's intranet.