Morgan Crucible EHS Report 2011

ADVANCED MATERIALS RECORD RESULTS CONTINUING AMBITION





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MORGAN CRUCIBLE IS A WORLD-LEADER IN ADVANCED MATERIALS

We produce a wide range of specialist, high-specification materials that have extraordinary attributes and properties.

Engineered into products, they deliver enhanced performance, often under extreme conditions.

Our dynamic, highly skilled people are continuously engaged in finding solutions for complex and technologically demanding applications, which are used all over the world.

In short, we supply innovative, differentiated products made from highly technical advanced materials which enable our customers' products and processes to perform more efficiently, more reliably and for longer.

OUR GOAL

- Our goal is to continue to be one of the world's very best advanced materials companies
- STRATEGIC PRIORITIES
- Focus on higher growth, higher margin, non-economically cyclical markets
- Have a culture of operational excellence and cost efficiency
- Be number one or number two in our chosen market segments

Be innovative, differentiated

and high value-added

to our customers

- **OUR AIM**
- Our aim is to create long-term sustainable shareholder value
- Find, keep and develop the right people

INTRODUCTION



Kevin Dangerfield Chief Financial Officer

We believe that it is important to ensure that improved financial performance is not achieved at the expense of our programme of continuous improvement in our EHS performance. We see this as a key part of our aim of producing long term sustainable value.

Introduction

2011 was a record year for Morgan Crucible with the strongest performance in terms of revenue and operating profit in 155 years of history. I am particularly pleased to be able to report that this was achieved at the same time as the Group produced continued improvement in Environmental, Health and Safety (EHS) performance, as measured by a number of critical KPIs. We believe that it is important to ensure that improved financial performance is not achieved at the expense of our programme of continuous improvement in our EHS performance. We see this as a key part of our aim of producing long term sustainable value.

This is the eighth year in which we have published a dedicated EHS Report. As I have stated in previous reports, our EHS programmes continue to be integral to our business and are aligned with our Core Values Statement and our strategic priorities.

In order to validate the accuracy of the EHS KPI data that we include in this report and the Annual Report, in 2011 we engaged PricewaterhouseCoopers LLP (PwC) to provide independent assurance of certain EHS KPIs. For 2011, PwC provided assurance of the Group's energy, CO_2 and water intensity. A copy of their assurance report is included in this report.

In 2011 we set ourselves new two year targets for improvement in our environmental performance, covering the 2011 and 2012 financial years. These targets focus on CO_2 emissions, water usage, waste generation and waste recycling.

A large proportion of the Group's products are manufactured using energy intensive high temperature processes, generally over 1000°C and as high as 2600°C and therefore efficient use of energy with the resultant reduction in climate change related emissions is a key challenge for the Group. The improvement in the Group's environmental performance in 2011 is demonstrated by reductions in energy intensity of 6%, which followed a reduction of 11% over the previous two year period, CO₂ emissions intensity of 5%, water intensity of 12% and waste intensity of 6% (with an increase in the proportion recycled of 1.7%), all expressed as intensities per unit of sales. In absolute terms, in 2011 the Group's CO₂ emissions were 432,900 tonnes for sales of £1,101m compared to emissions of 417,200 tonnes for sales of £1,017m in 2010.

These results reflect the efforts that have been made throughout the Group to reduce the impact of our operations on the environment. Of particular note is the R&D work that developed a programme to reduce the energy used in the melting furnaces of our fibre plants. This has been successfully rolled out throughout the Thermal Ceramics businesses, as well as efforts in the Thermal Ceramics plants in the US and India to reduce water consumption.

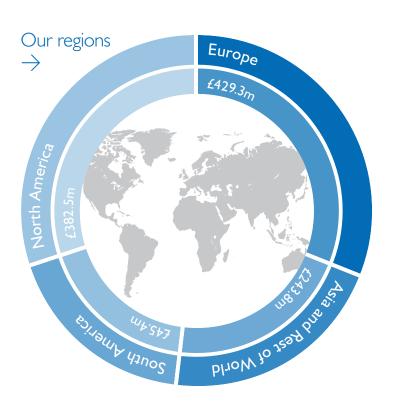
The Group's health and safety performance, as measured by the frequency of lost time accidents, was unchanged from 2010 at 0.57 accidents per 100,000 hours worked, although there was a small increase in the number of accidents reported. There was a reduction in the severity of the accidents, with the average lost time per accident falling from 24 days to 22 days. We are working to improve our health and safety performance and a number of sites are implementing the DuPont™Stop™ system for safety management. In addition, we have continued with our health and safety training in India and China and have strengthened our EHS resources by appointing senior EHS managers in both countries.

I look forward to reporting further progress next year, but in the meantime if you have any comments or suggestions, please let us know at ehs@morganplc.com

Kevin DangerfieldChief Financial Officer
April 2012

MORGAN CRUCIBLE AT A GLANCE

A truly global operation with significant and growing levels of business in the dynamic growth economies of Asia and South America.



Morgan Crucible's markets

2011 total revenue



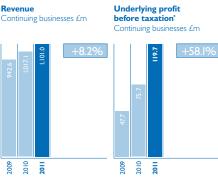
- Industrial 41%
- Transportation 17%
- 3 Security & Defence II%
- 4 Electronics II%
- 5 Petrochemical 8%
- 6 Energy 8%
- 7 Healthcare 4%

2011 performance





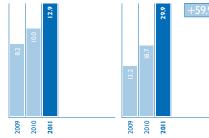
Continuing businesses £m



Underlying earnings per share Pence







- Defined as operating profit before amortisation of intangible
- assets less net financing costs.

 Defined as operating profit before amortisation of intangible assets.

 "Defined as basic earnings per share adjusted to exclude amortisation of intangible assets.

Our Divisions





Morgan Ceramics uses its expertise in material science and applications engineering to manufacture custom products for demanding environments.

Through its Technical Ceramics Business it supplies customer-specific, applications-engineered industrial products manufactured from advanced materials including structural ceramic, electro-ceramic and precious metals. The Thermal Ceramics Business provides thermal management solutions for high-temperature applications which benefit technically, financially and environmentally from optimised energy and emissions control.

Core products

- → Insulating fibre, insulating bricks and monolithics
- → Ceramic cores for complex turbine blades
- → Components for electron tubes
- → Feedthroughs for medical implants
- → Piezoelectric ceramic actuators

Core markets

- → Industrial
- → Transportation
- → Electronics
- → Petrochemical
- → Energy
- → Healthcare

Revenue £m 685.2m

Divisional EBITA* £m Continuing business

92.7m

*Divisional EBITA is defined as segment operating profit before restructuring costs, other one-off items and amortisation of intangible assets.



Morgan Engineered Materials delivers materials technology through its global businesses.

Morgan Engineered Materials delivers highly engineered solutions across the world from a portfolio of advanced material technologies that include carbon, silicon carbide, oxide-based ceramics and advanced polymeric composites. The Division's core applications are industrial and rail transportation, fluid handling, power generation (gas turbine, solar and wind), molten metal handling and advanced lightweight ceramic/composite armour systems for personnel and vehicle protection.

Core products

- → Electrical brushes
- ightarrow Seals and bearings
- → Protective ballistic armour
- → Ultra-high-temperature insulation
- Crucibles
- → Lithium ion battery anode materials

Core markets

- \rightarrow Industrial
- → Security & Defence
- > Transportation
- → Energy
- → Electronics
- Petrochemical

Revenue £m 415.8m

Divisional EBITA* £m Continuing business

55.7m

OVERVIEW

About this report

Morgan Crucible's 2011 EHS Report summarises the Group's environmental, health and safety performance in the year to 1 January 2012. This, Morgan Crucible's eighth annual EHS Report, covers the available data for the whole Group. It also details the Group's EHS Policies and management systems.

The Group's EHS polices and programmes support the implementation of Morgan Crucible's five strategic priorities and Core Values Statement which commit the Group to strive to minimise the impact of its operations on the environment. The Group is also committed to ensuring that the working environment is safe and that all individuals take responsibility for achieving this.

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

The Group has engaged PricewaterhouseCoopers LLP (PwC) to provide independent external assurance on selected environmental data for 2011. PwC's independent assurance report is set out on page 14.

About Morgan Crucible

Morgan Crucible is a world leader in advanced materials providing high-technology solutions for specialised applications in selected global markets.

Morgan Crucible's business model is aligned with and driven by the Group's strategy as set out on page I. In each Division and across all businesses and sites Morgan Crucible utilises advanced materials technology and

manufacturing expertise to design, develop, manufacture and integrate technically differentiated solutions that help enhance the performance and efficiency of its customers' products or operations. This is supported with a focus on service excellence and the development of genuine partnerships such that the Group works alongside its customers and suppliers in the ongoing refinement of products and solutions. This outward-facing part of Morgan Crucible's business model is combined with an internal focus on operational excellence and effective cost management.

Morgan Crucible has a wide portfolio of products which help make the world safer, healthier and more efficient, helping to improve the environmental sustainability performance of the Group's customer's products and operations. Although the Group has not sought to quantify this benefit, a key part of the Group's contribution to sustainability is the development and supply of new and improved products.

The Group's focus on high-quality customer solutions and efficient operations combine to satisfy Morgan Crucible's stated aim of creating long-term sustainable shareholder value.

2011 was a year of strong performance with record revenue and operating profit for the Group. Revenue for the year increased by 8.2% to £1,101.0 million and operating profit increased by 32.8% to £143.4 million.

Additional information on other areas of Morgan Crucible's CSR-related activities and performance can be found on pages 34-43 of the Group's 2011 Annual Report.

Further information about Morgan Crucible is available on the Group's website at: www.morgancrucible.com

EHS POLICY AND MANAGEMENT

EHS Policy

Morgan Crucible's EHS Policy applies to all Group businesses worldwide. It requires high standards of EHS management at all of the Group's facilities and seeks to provide continuous improvement in environmental, health and safety performance in support of the Group's strategic priorities.

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

The purpose of Morgan Crucible's EHS Policy is:

- → To maintain a safe working environment for staff, contractors and visitors across all Morgan Crucible companies worldwide ('the Group').
- → To minimise the impact of the Group's activities on the environment.
- To confirm the Group's commitment to excellence and continuous improvement in Environmental, Health and Safety ('EHS') performance.

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 Chief Executive of each of the Group's Divisions has responsibility for EHS performance and reporting within their respective business 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 businesses:

- 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, prevent pollution, minimise CO₂ emissions and to reduce hazards.
- Include EHS and climate change related considerations in 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.
- Assess and minimise the environmental impact of the Group's products during design, manufacture, use, and on disposal.
- 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.
- Encourage business partners to adopt this same accountability.

In addition to the Group Policy, Morgan Crucible businesses are required to ensure that they are aware of and take account of best practice, including that set out in the Morgan Crucible EHS Good Management Practice Manual.

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 Crucible's EHS Policy forms the basis of the Group's 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 strategic objectives.

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 Crucible operates. The Group's 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 of each Division, with each site having a point of accountability. EHS performance is reported regularly to the Board by 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 provides Group direction, oversight and has responsibility for implementation of Group EHS programmes including: standards and procedures, review of the adequacy of EHS resources across the Group and training, performance reporting and all assurance processes.

As Morgan Crucible recognises the need for high, consistent and demonstrable standards in EHS governance and control, EHS governance arrangements have been reviewed during 2011 and proposals for further enhancement and formalisation have been presented to the Board for adoption during 2011-12. In addition, as described below, the Group commissioned an external assurance process covering certain 2011 environmental data from PwC.

During 2011, the Group has been active in the recruitment of regional EHS leaders for the Ceramics businesses in India and China, which has helped improve the progress and standards of implementation of EHS management in these countries. This is part of the continuing programme to develop the EHS management resource across the Group.

Morgan Crucible's EHS management processes include the EHS Compliance Audit Programme. This programme helps ensure compliance with national and other regulatory requirements and with good management practice as set out in the Morgan Crucible Environmental, Health and Safety Good Management Practice Manual which is issued to all sites world-wide. The audits help to identify how sites can anticipate and respond to developing and impending regulations and improve their EHS performance to meet internationally accepted good practice. During 2011 the EHS Compliance Audit Programme was extended to cover the EHS management systems and the EHS KPIs reported by each site.

In Europe and Asia Pacific, the programme is conducted by external auditors, whilst in the Americas it is conducted by internal experts and reviewed by external consultants. The audit reports are reviewed by the Group Director, Environment, Health and Safety and by the Divisional Chief Executives. Where necessary sites are required to develop a corrective action plan following the audit. These actions are regularly tracked by the audit teams.

Morgan Crucible's manufacturing sites are audited on a three year rolling cycle. During 2011 25 sites were audited against a target of 26. (2010: 28 sites against a target of 26). The target for 2012 is to audit 32 sites.

In 2011 environmental management systems were in place at 93 sites worldwide, including 38 major sites certified to ISO 14001 (2010: 34 sites). Four additional sites in India, China and Japan achieved certification in 2011. These new certifications are in addition to the ongoing programme of re-certifications. All of Morgan Crucible's major sites worldwide have health and safety management systems in place, with 15 sites certified to or working towards OHSAS 18001.

EHS PROFESSIONAL DEVELOPMENT IN CHINA



Following on from the Group EHS training programmes conducted in China in 2009 and 2010, during 2011 a China-wide EHS Talent Development Programme was launched in the Morgan Ceramics businesses. This delivers intensive training to all EHS personnel in China and helps each individual identify a clear path for professional development. The programme also includes a series of intensive training workshops covering Chinese EHS regulations, job safety analysis and other topics.

By reinforcing the professionalism of EHS staff in China with a focus on the challenges of rapid business growth, the Talent Development Programme is accelerating the development of a network of EHS experts to give cross-site support.

The EHS programme is complemented by training matrix for all employees. This covers over 50 internal and external courses. By using the matrix to leverage the available training resources employees develop a personalized site-specific training plan which takes into account development needs and the risks and opportunities at each location.

EHS POLICY EFFECTIVENESS

In addition to the EHS Compliance Audit Programme, the Group monitors the effectiveness of its EHS Policy through a series of EHS key performance indicators (KPIs). These are reported Group-wide on a monthly basis and the Executive Committee and the Board receive reports every six months.

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 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.

As noted above, in 2011 the Group engaged PwC to provide independent external assurance on the Group's CO_2 intensity, energy intensity and water intensity using international assurance standards. Their assurance report is on page 14. In addition, a work-programme is underway with a view to gain assurance for the Group's waste and lost time accident frequency data in future.

Environment

Wherever possible the Group works to minimise the impact of its business on the environment.

Morgan Crucible's key environmental impacts include the CO₂ emissions due to the use of energy in the Group's processes and facilities, the consumption of raw materials, water use and discharge, the recycling and disposal of waste and the impact of the Group's products on its customers' environmental performance.

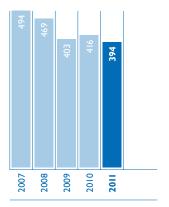
The Group monitors the effectiveness of its environmental policy through a series of environmental key performance indicators (KPIs) reported by all sites on a monthly basis with the Executive Committee and the Board receiving regular reports. The Group also sets targets for key aspects of its environmental performance. These are summarised in the table on page 20 with performance against target reviewed by KPI below.

Morgan Crucible sets two-year targets for the reduction of the impact of its operations on the environment, as measured by CO_2 emissions, energy, waste and water intensity. The Group's 2011 performance is an interim report against the current targets for the two-year period 2010-12.

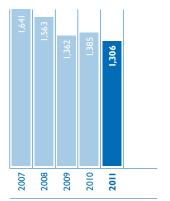
EHS POLICY EFFECTIVENESS

continued

CO₂ intensity*Tonnes/£m revenue**



Energy intensity⁺ MWh/£m revenue**



The 2011 CO_2 intensity and energy intensity information has been subject to external assurance by PwC.

- * CO₂ from fosil fuels, including country-specific electricity.
- ** Constant currency basis updated to reflect changes in reporting methodology.
- + Energy from all sources including electricity, natural gas, fuel oil, LPG etc.

Environmental performanceEnergy use and emissions intensity

Much of the Morgan Crucible'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 CO_2 emissions, indexed to turnover. This takes into account the use of all sources of energy. Site, Divisional and Group performance are assessed on the basis of energy and emissions intensity i.e. energy use and emissions relative to revenue.

 CO_2 intensity was down by 5% in 2011 compared with 2010 with a reduction from 416 to 394 tonnes per £m revenue. Performance is on track to achieve the Group's target to reduce the CO_2 emissions intensity due to energy use by 5% over the two years 2010-12.

In absolute terms total CO_2 emissions due to energy use were some 432,900 tonnes in 2011, including 167,100 tonnes of Scope I emissions and 265,800 tonnes of Scope 2 emissions. 2010 emissions were some 417,200 tonnes.

Energy intensity was reduced by 6% compared to 2010. This was achieved through increased efficiency at many of the Group's energy-intensive businesses driven by energy reduction programmes. This 6% reduction follows on from the 11% reduction achieved over the two-year period 2008-10, reflecting the benefits of energy efficiency measures at the Group's energy-intensive businesses.

Total energy use was some 1,434 GWh in 2011 against 1,390 GWh in 2010. The Group will be seeking to achieve further reductions in energy intensity in 2012.

In addition to improving energy consumption and emissions performance through increased efficiency, changes in the Morgan Crucible 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 Crucible's carbon management can be found in the Group's reports to the Carbon Disclosure Project. See www.cdproject.net for further details.

ENERGY AND CO₂ SAVINGS WORLDWIDE



The Group works to continually reduce energy use and CO_2 emissions according to the specific opportunities at each business and site. Examples of the initiatives undertaken in 2011 include:

Thermal Ceramics, Yixing, China implemented a project to reduce natural gas use by reusing heat from the plant's 108 meter long tunnel kiln, pictured above, into the four adjacent 70 meter long drying kilns. This contributed to the sites' overall 7% reduction in natural gas intensity helping to save some 1,020 tonnes of CO₂.

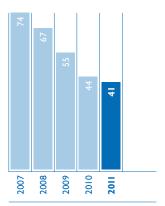
At Morgan AM&T Capellen, Luxembourg, energy-efficient boilers with sophisticated temperature controls were installed. These helped to reduce natural gas intensity by 52%, contributing to a saving of 208 tonnes of CO₂.

The Morgan AM&T Atlacomulco site in Mexico focussed on reducing electricity use. Transparent roof panels were installed and shift patterns changed to make use of day light. These measures combined with energy saving lamps and movement sensors helped to reduce electricity use by 24%. CO₂ emissions due to the site's energy use were down by 220 tonnes.

EHS POLICY EFFECTIVENESS continued

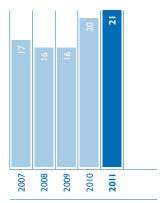
Waste intensity[~]

Tonnes/£m revenue**



Recycling %

% of total waste~ recycled



- Hazardous and non-hazardous waste, including recycled material
- ** Constant currency basis updated to reflect changes in reporting methodology.

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 at a site, Divisional and Group level according to waste stream and disposal route, with performance assessed on the basis of waste intensity (i.e. waste quantities indexed to turnover). The Group also monitors and targets the proportion of total waste which is recycled.

Waste intensity was down by 6% in 2011, ahead of the Group target to reduce waste intensity by 5% over the two years 2010-12. This was achieved through increased emphasis on waste management and reduction with an increase in sales volume. Total waste was some 45,100 tonnes in 2011 against 43,900 tonnes in 2010.

The proportion of total waste which was recycled was increased from 20% in 2010 to 21% in 2011 which is not on track to achieve the target to increase the proportion of total waste which is recycled by five percentage points over the two years 2010-12. The Group will increase its focus on this area over the coming year with a view to increasing recycling rates, however, recycling performance is highly dependent on the markets for recycled materials.

Over 9,000 tonnes of waste material was recycled during the year. This included some 900 tonnes of paper and cardboard, 200 tonnes of plastic, 600 tonnes of wood and 700 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 etc.

The markets for recycled materials strengthened in 2011 from a low in 2009, helping to drive the increased rates of recycling. In addition, consistent attention to waste management has brought increased site-level

awareness of re-use, waste minimisation and recycling opportunities. As a result a number of major sites recycled over 80% of their waste during the year. The focus going forward will be on further reducing total waste intensity and increasing the proportion of waste which is recycled.

THERMAL CERAMICS CANADA – ENVIRONMENTAL IMPROVEMENTS



The Thermal Ceramics site in Burlington, Ontario Canada set up a 'Joint Environmental Review Committee'. Pictured above, the committee includes members of the office and production teams who undertake monthly site inspections and quarterly reviews of risks and opportunities.

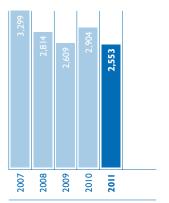
In 2011 the site, which produces converted fibre engineered shapes, grew sales and reduced its environmental footprint. Energy intensity was reduced by 27% saving some 340 tonnes of CO₂. Energy saving initiatives included the use of air drying in place of kiln driers and fitting movement sensors to lighting.

The team also worked on waste reductions through behavioural change, concentrating on 'reduce, reuse, recycle' initiatives posted on bulletin boards and on the site's video display system. Waste intensity was reduced by 22% in the year with recycling up by 200%.

Reducing water use was also a focus and water intensity was cut by 38%, reducing water use by some 5,600m³. This was achieved through the introduction of a closed-loop cooling water system and other measures such as low-flow taps.

EHS POLICY EFFECTIVENESS continued

Water intensity m³/£m revenue**



The 2011 water intensity information has been subject to external assurance by PwC.

* Water from on-site extraction and from

local-authority sources.

** Constant currency basis updated to reflect changes in reporting methodology.

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.

Group water intensity was down 12% in 2011, ahead of the target to reduce water intensity by 5% over the two years 2010-12. This improvement was achieved through a focus on reducing water use at the Group's more water-intensive businesses, combined with further reductions achieved through re-use and recycling of water at a number of sites and an increase in revenue.

Total water use in 2011 was 2.80 million m³, down from 2.91 million m³ in 2010.

The use and recycling of water remains an area of focus for the Group's businesses and the objective for 2012 is to achieve further reductions in water intensity.

Environmental Regulatory Compliance

Morgan Crucible received no fines or penalties in relation to environmental compliance matters during 2011. However, a small number of environmental violation notices were received as follows:

Two facilities in the USA received violation notices in respect of the solids in their waste-water discharges. At one site the issue was attributed to an erroneous sampling methodology. At the other site the waste-water treatment plant was upgraded to address the issue. One site in the UK received a notice relating to the presence of lead in their water discharge. The site updated its effluent management process to address this.

The Group also has a small number of ongoing remediation programmes to address historical soil and groundwater contamination issues.

SAVING WATER AT THERMAL CERAMICS AUGUSTA



The Thermal Ceramics plant in Augusta, GA, USA is Morgan Crucible's largest facility worldwide. Pictured above, the site has 1,000,000 ft² of manufacturing and warehouse space and produces ceramic fibre, including blanket, paper and board, as well as castables and insulating fire brick, all of which help customers to save energy.

Many of the processes on site are water intensive, particularly in paper production and vacuum forming. The production team at Augusta has adopted a continuous improvement approach to reducing water consumption, setting themselves the challenge of implementing at least one water elimination, reduction or reuse project every month.

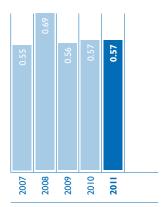
These projects have included: installing recirculation systems; fitting on/off timers, high pressure spray nozzles, automated solenoid valves and visual indicator lights; improving pump seals; reducing flow rates; and upgrading controls as well as process changes. These measures helped the site to reduce 2011 mains water consumption by some 140,000m³, thereby cutting costs, minimising water treatment requirements and reducing the site's environmental footprint.

EHS POLICY EFFECTIVENESS

continued

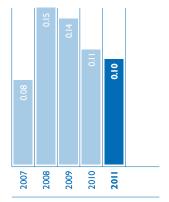
Lost time accident frequency*

LTAs/100,000 hours* worked

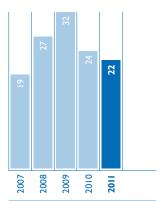


Health and safety-related lost time

% of total working time



Lost time per LTA* Days per LTA*



^{*} Lost time accident (LTA): accident which results in one or more days' lost time.

Health and safety

In accordance with the Group EHS policy outlined on page 6, Morgan Crucible is committed to conducting its activities in a manner which achieves the highest standards of health and safety for all those affected by the Group's operations. This commitment is aligned with the Group strategic objectives and Core Values Statement.

Morgan Crucible's long-term health and safety objective is to have no accidents or work-related illnesses. In 2011 the Group continued to extend its accident prevention and training programmes with the objective of reducing accident numbers and the time lost per lost time accident. Particular focus is placed on those sites with below-average performance and where there maybe a risk of under-reporting.

The Group's health and safety KPIs include accident frequencies and causes and related lost working time. These are reported monthly by all sites to monitor the effectiveness of the Group's Health and Safety Policies and related systems. The Executive Committee and the Board receive reports and review health and safety matters on a regular basis.

The Group's health and safety reporting and analysis systems continue to be refined to enable the production of KPIs that more accurately reflect the health and safety situation throughout the Group. The health and safety KPIs in this report cover 100% of employees (2010: 100%).

Health and Safety performance

In 2011 the Group achieved a 9% reduction in the proportion of working time lost due to accidents and work-related illnesses. This resulted from a reduction in the average number of days lost per lost time accident from 24 days in 2010 to 22 days in 2011. The absolute number of days lost was down by 4% in the year. This improvement reflects a reduction in the number of longer-term cases and an increased focus on 'back-to-work' programmes.

The frequency of lost time accidents during 2011 was 0.57 per 100,000 hours worked (2010: 0.57) with a total of 129 accidents resulting in lost time of one day or more. (123 in 2010). The performance over the past

three years takes into account improved reporting by the Group's businesses in China and India. The Group is continuing to focus on behavioural safety initiatives, awareness and training.

SAFETY ACHIEVEMENTS IN THE AMERICAS



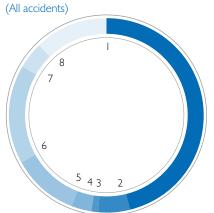
The Morgan Ceramics Division's 2011 safety achievement awards were presented in the first quarter of 2012. There are four levels of award: Platinum for zero accidents, Gold for zero lost time accidents and no more than one non-lost time accident, Silver for zero lost time accidents and no more than two non-lost time accidents and Bronze for sites which reduce lost time and non-lost time accident rates by 50% or more.

Eight sites received awards for their 2011 performance, including Allentown and Latrobe at Platinum level, Fairfield and Hudson at Gold and Burlington, Cannon City, Elkhart and Hayward Metals achieved silver.

Two Morgan Crucible sites in North America also passed significant multi-year milestones: the Morgan AM&T site in Ontario, Canada which produces carbon brushes achieved 30 years without a lost time accident and the Thermal Ceramics plant in Elkhart, Indiana, USA (pictured above) which manufactures lightweight microporous insulation achieved ten years without a lost time accident.

EHS POLICY EFFECTIVENESS continued

Accident causes



- Cuts & abrasions 42%
- 2 Slips, trips, falls 5%
- 3 Fall from height 1%
- 4 Exposure to harmful substances 3%
- 5 Struck by object 10%
- Strike stationary object 15%
- 7 Moving machinery 4%
- 8 Other II%

Manual handling cuts and abrasions are the most common cause of accidents and the Group will be working to address this, specifically targeting businesses with below-average performance.

Health and Safety Regulatory Compliance

No reported health and safety enforcement prosecutions were received during the year, however, four sites received enforcement or violation notices, as follows:

One site in the USA received a notice in respect of machine guarding and was fined US\$4.9k. A second site, also in the USA, was fined US\$5.6k in respect of container labels and fork lift truck training and equipment. One site in France received a notice in respect of safety-related documentation and a site in Australia received notices in regarding machine guarding and high-level access.

DEVELOPING A SAFETY CULTURE AT COUDERSPORT



Historically the AM&T site at Coudersport, PA, USA was not at the top of the Group's safety league tables. However, over the past two years an intense focus on safety and a change from reactive to proactive safety management has seen the site rise to become one of the leaders.

Safety innovation, a 'Spring into Safety' campaign and a 'Safety Buck' programme have contributed to the success which was driven through three Kaizen safety teams each with 22 volunteer employees. The teams were given wide scope to identify and address actual and potential safety issues and during the Kaizen campaign over 150 potential problem areas were identified and corrected.

This helped ensure there were no lost time accidents at Coudersport during the full year 2011, the first time in over 15 years this had been achieved. In 2012 new Kaizen teams are being formed to help drive Coudersport's campaign for continuous improvement in safety.

INDEPENDENT ASSURANCE REPORT

To the Directors of The Morgan Crucible Company plc.

What we found

Based on the work described below, nothing has come to our attention that causes us to believe that the Selected Data for the year ended I January 2012 has not been prepared, in all material respects, in accordance with the Reporting Criteria.

What we did

The Morgan Crucible Company plc (Morgan Crucible) engaged us to perform a limited assurance engagement on selected performance data within the Environment, Health and Safety (EHS) Report for the year ended 1 January 2012 (the EHS Report).

Selected Data¹

The 2011 performance data set out in the charts and related narrative on pages 9 and 11 of the EHS Report in respect of:

- \rightarrow CO₂ intensity
- Energy intensity
- → Water intensity

Reporting criteria

The basis of preparation of the Selected Data is available under the heading 'Reporting Criteria' on the EHS performance reporting page of Morgan Crucible's website www.morgancrucible.com/governance/responsible-business/environment-health-safety/ as at 15 February 2012.

Responsibilities

Morgan Crucible

Morgan Crucible is responsible for the contents of the EHS Report, including preparation and presentation of the Selected Data in accordance with the Reporting Criteria, and implementation and maintenance of systems that support production and reporting of the Selected Data.

PricewaterhouseCoopers LLP

Our responsibility is to express an independent limited assurance² conclusion based on the procedures described below.

This report, including our conclusions, has been prepared solely for the Directors of Morgan Crucible to assist them in reporting EHS performance. We consent to the inclusion of this report in the EHS Report to assist the Directors to demonstrate how they have discharged their responsibilities by commissioning an independent assurance report in connection with the Selected Data. To the fullest extent permitted by law we do not accept or assume responsibility to anyone other than the Directors as a body and Morgan Crucible for our work or this report save where terms are expressly agreed and with our prior consent in writing.

What our work involved

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial Information. This Standard requires that we comply with independence and ethical requirements and plan the engagement so that it will be performed effectively.

Main procedures performed

- → Making enquiries of relevant Morgan Crucible management.
- Evaluating the design of the key processes and controls for managing and reporting the Selected Data.
- → Testing the Selected Data, on a sample basis, substantively at both an operational and corporate level.
- → Undertaking analytical procedures over the Selected Data.
- Reviewing a sample of relevant management information and documentation supporting assertions made in the Selected Data.

We believe that the information we have obtained is sufficient and appropriate to provide a basis for our conclusion.



PricewaterhouseCoopers LLP

Chartered Accountants London 15 February 2012

I Inherent limitations

Non-financial data may be subject to more inherent limitations than financial data given both its nature and the methods used for determining, calculating and estimating such data. The range of different, but acceptable, techniques used can result in materially different reporting outcomes which may affect comparability with other organisations.

2 Limited assurance

We have sought to obtain sufficient, appropriate evidence to support our assurance conclusions. A limited assurance engagement is restricted primarily to enquiries and analytical procedures. The work is substantially less in scope than that undertaken for a reasonable assurance engagement, accordingly the level of assurance is lower than would be obtained in a reasonable assurance engagement.

MORGAN CRUCIBLE PRODUCTS: ENHANCING GLOBAL SUSTAINABILITY

The Group's Divisions work to help enhance the sustainability of many industries around the world. These four pages highlight select examples of the Group's products which make a positive contribution to the sustainability and safety.



Energy page 16



Industrial page 17



Petrochemical page 18



Transportation page 19

INCREASING POWER AND SUSTAINABILITY IN THE ENERGY SECTOR

Morgan Crucible continues to develop high-performance products for the evolving energy sector. The Group makes components for power distribution and generation from renewable and traditional sources and is a world-leader in heat management insulation products.



SMART METERING



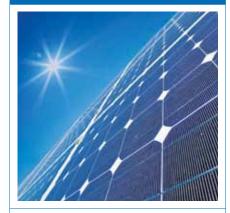
Piezoceramic from Morgan Technical Ceramics is used in new smart gas meter technology being rolled out across the UK.

Accurate, real-time energy consumption data helps consumers save energy.

£14 billion predicted UK savings through use



ENERGY COST REDUCTION



Morgan AM&T has helped to reduce energy and maintenance costs for production of electronic grade poly-silicon by up to 50%. Customers benefit from a 20% reduction in the cost of capital due to optimised throughput using Morgan AM&T's materials and applications know-how.

50%



ELECTRICITY SUPPLY IN DEVELOPING COUNTRIES



Morgan AM&T provide low-friction high-strength seal face components that significantly improves the energy efficiency of water pumps allowing drinking water to be delivered more extensively in developing countries.

30% reduction in energy consumption



IMPROVING PERFORMANCE IN HIGH-TECH INDUSTRIAL PROCESSES

Morgan Crucible's products are used in a broad range of challenging process and manufacturing environments. From foundry equipment to seals and bearings for industrial fluids, handling and insulation products for thermal processing, its advanced materials improve process efficiency and productivity, minimise waste and reduce environmental impact.



SEA DEFENCE



Morgan Thermal Ceramics thermal management products are widely used for fire protection of critical installations.

One of the world's largest sea defence projects, the Modulo Sperimentale Elettromeccanico (MOSE) in Venice, Italy, is using 40km of FireMaster® FastWrap XL™ fire protection blanket from Morgan Thermal Ceramics.

100 years



LED SAPPHIRE PRODUCTION



Graphite felt from Morgan AM&T is used to provide a uniform thermal environment for crystal growth in LED sapphire production.

Its stable insulation enables long process cycles and improves insulation life and its chemical inertness reduces contamination of the sapphire ingot.

99.99%

purit



METAL RECYCLING



Morgan MMS is supporting China's efforts to recycle more aluminium and other non-ferrous materials.

As a leader in the production and consumption of non-ferrous metals, China is increasingly turning to recycled materials for its manufacturing industries, creating new demand for crucibles.

>25%

increase in demand for recycled aluminium in China

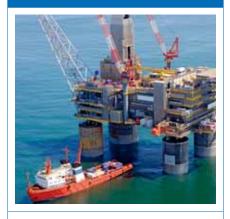


DEVELOPING HARDER-WEARING AND LONGER-LASTING PRODUCTS FOR THE PETROCHEMICAL INDUSTRY

Morgan Crucible supplies products to the global petrochemical industry including heat management insulation and fire protection systems for offshore exploration and downstream processing. Its high-performance components are ideal for severe-duty service valves, pumps and tooling.



OIL RIG SAFETY



Morgan Thermal Ceramics provided 10,000m² of FireMaster® Marine Plus blanket for living quarters of the fixed processing platform on GUDRUN oil field.

Superior thermal conductivity allowed a very lightweight installation with a high standard of protection.

20% lighter than conventional products



HIGH-TEMPERATURE PROCESSING



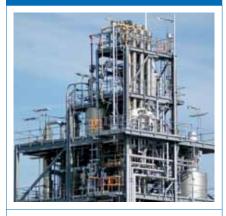
Morgan Thermal Ceramics' lining materials are used in insulating systems for high-temperature processing equipment in chemical plants and hydrocarbon refineries.

This can have a significant effect in reducing energy usage, costs and greenhouse gas emissions.

20% lower thermal conductivity

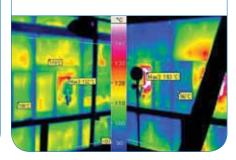


HIGH-PERFORMANCE INSULATION



Using high-performance insulating materials from Morgan Thermal Ceramics, the heat loss from high temperature furnaces, like those used in ethylene crackers, can be reduced by around 20%. This ensures significant energy savings and reduces external casing temperatures.

20% reduction in heat loss



IMPROVING EFFICIENCY AND RELIABILITY IN GLOBAL TRANSPORTATION

Morgan Crucible plays a significant role in the world's transport industries. The Group makes precision-engineered materials for commercial and military aircraft and vehicles, as well as vital components for the rail and marine sectors.

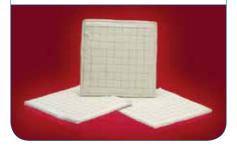


AEROSPACE FIRE BARRIERS



Morgan Thermal Ceramics' Min-K® F382 and Min-K® F351 materials are used for fire barriers in challenging high-temperature aerospace applications. They offer 20-25% lower thermal conductivity than the industry standard F182 and F150 microporous materials.

20% lower thermal conductivity



VEHICLE WATER-COOLING



Morgan Technical Ceramics is supplying ceramic components for water-cooling pumps used in electric vehicles. Ceramic is resistant to chemical attack from the glycol coolant and provides long life. Its reduced weight contributes to low noise running and increased energy efficiency of the vehicle.

60% lighter than steel



HIGH-SPEED RAIL SYSTEMS



Modern rail systems have huge potential to make major savings in global demand for oil. Morgan AM&T is capitalising on significant global growth in this sector, supplying carbon pantographs for high-speed rail and city metro systems.

\$1 trillion (+) global rail investment



GROUP EHS TARGETS

Morgan Crucible sets two year targets for environmental performance. The current target period is 2010-12 and the Group's 2011 environmental performance is an interim report against the current targets.

In addition to Group targets, Morgan Crucible's 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	2011 TARGET/OBJECTIVE	2011 PROGRESS	FUTURE OBJECTIVE
Environmental and Health and Safety data reporting	Consider the potential for external assurance of the Group's EHS KPIs in 2011.	Ongoing: The 2011 CO ₂ intensity, energy intensity and water intensity data for the Group received independent external assurance from PwC.	Consider the potential for external assurance of the Group's waste and lost time accident frequency related KPIs in 2012.
Environmental management systems	Continue to extend ISO 14001 coverage to achieve the objective of certifying five additional sites over the two years period 2009-11	Achieved: A further three sites were certified to ISO 14001 during the year bringing the total new certifications to six over the two year period 2009-11.	Continue to extend ISO 14001 coverage.
Reduction in emissions intensity	A 5% reduction in emissions intensity due to energy use over the two years 2010-12.	Ahead of plan: Interim update: Emissions intensity due to energy use improved by 5% in 2011 against 2010.	Continue to reduce CO_2 intensity and to meet the target to reduce CO_2 emissions intensity due to energy use by 5% over the two years 2010-12.
Reduction in waste intensity	A 5% reduction in waste intensity over the two years 2010-12.	Ahead of plan: Interim update: Waste intensity improved by 6% in 2011 against 2010.	Continue to reduce waste intensity and to meet the target to reduce waste intensity by 5% over the two years 2010-12.
Increase recycling	Increase proportion of total waste which is recycled by 5 percentage points over the two years 2010-12.	Behind plan: Interim update: The proportion of total waste which is recycled was up by one percentage point to 20%.	Focus on increasing the proportion of total waste which is recycled to achieve the target for the two years 2010-12.
Reduction in water use intensity	A 5% reduction in water intensity over two years 2010-12.	Ahead of plan: Interim update: Water intensity decreased by 12% in 2011.	Continue to reduce water intensity and ensure the 2010-12 target is met.
Health and safety management systems	Continue to ensure all production sites have H&S management systems. Four further sites are planning OHSAS 18001 certification over the period 2010-12.	On plan: Interim update: All production sites are covered by an H&S MS. One additional site gained OHSAS 18001, bringing the total certified to eight.	Continue to ensure all production sites have H&S management systems. Work towards the target for OHSAS 18001 certifications over the period 2010-12.
Reduction in lost time accident frequency	Continue to make progress towards the long term goal of zero accidents.	Not achieved: Lost time accident frequency was flat at 0.57 per 100,000 hours worked.	Reduce accident frequencies to make progress towards the long term goal of zero accidents.
Reduction in lost time	Continue to reduce the average time lost per LTA.	Achieved: Average lost time per lost time accident decreased from 24 days to 22 days per LTA.	Continue to reduce the average time lost per LTA.
EHS compliance audit programme	Continue to audit all manufacturing sites on a three-year rolling cycle. 26 EHS compliance audits planned for 2011.	Ongoing: Sites are audited on a three-year cycle with 25 EHS audits completed during the year. (28 audits were undertaken in 2010 against a target of 26)	Continue to audit all manufacturing sites on a three-year rolling cycle. 32 EHS compliance audits are planned for 2012.

NOTES

I. Data gathering and comparisons.

Morgan Crucible's 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. Assurance. In 2011 the Group engaged PwC to provide independent external assurance on the Group's CO₂ intensity, energy intensity and water intensity using international assurance standards. The report from PwC is set out on page 14.

In addition, all Morgan Crucible manufacturing facilities are regularly reviewed under the Group's EHS Compliance 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 UK Government's Department for Environment, Food and Rural Affairs environmental reporting guidelines, the Global Reporting Initiative's Sustainability Reporting Guidelines 2006 and the International Organization for Standardization's ISO14001 standards.
- **4. External Assistance.** Morgan Crucible 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 at Morgan Crucible. You can contact the Group by e-mail at ehs@morganplc.com or write to The Morgan Crucible Company plc, Quadrant, 55-57 High Street, Windsor, Berkshire SL4 ILP, United Kingdom.

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

The Morgan Crucible Company plc

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