

ENVIRONMENT, HEALTH AND SAFETY

MORGAN ADVANCED MATERIALS IS COMMITTED TO PROTECTING THE HEALTH AND SAFETY OF EMPLOYEES AND OTHERS AFFECTED BY ITS OPERATIONS. IT ALSO SEEKS TO MINIMISE THE ENVIRONMENTAL IMPACTS OF ITS ACTIVITIES AND MAXIMISE THE POSITIVE EFFECTS OF ITS PRODUCTS AND SERVICES. THE GROUP'S ENVIRONMENT, HEALTH AND SAFETY (EHS) PROGRAMMES DELIVER REAL BUSINESS BENEFITS WHILST ENSURING ITS OBLIGATIONS TO STAKEHOLDERS ARE MET.

2016 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 improved in key areas 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 unchanged over the two-year period. Thus the Group achieved its targets to reduce CO₂e¹ 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.
 - The momentum of 'thinkSAFE', the Group's safety performance improvement programme, was sustained with a series of preventative quarterly safety briefings. Topics covered were Slips, Trips and Falls, 'Take 5 for Safety' (5S), Gas Safety and Bright, clean and 'thinkSAFE'.
 - Morgan also carried out 21 two-day 'thinkSAFE'+ 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 covers 10 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 with training for internal auditors.
 - Morgan participated in the Carbon Disclosure Project (CDP) 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.
- Morgan Advanced Materials is committed to conducting all its activities in a manner that achieves high standards of health and safety for employees and others affected by its operations. This commitment is reflected in the Group's core health and safety values set out below and which are available in 17 languages:
- We are committed to creating a culture and environment that is 'zero harm' with no accidents or illness due to our activities.
 - We 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 engage with our people to continuously improve safety knowledge, reporting and performance through our commitment to Morgan's 'thinkSAFE' programme.
- The Group is also committed to minimising the impact of its business on the environment and maximising the positive environmental benefits of its products. Examples of Morgan's products which help enhance the environmental performance and efficiency of the Group's customers are included in pages 2 to 7 of this Report.
- Under The Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013, the Group is required to report its annual greenhouse gas emissions for the year in its Directors' Report. This information is shown on page 48 and includes the CO₂ due to energy use which is further analysed in this section, as well as other sources of greenhouse gases.

1. CO₂e. Carbon Dioxide Equivalent – the amount of carbon dioxide or the amount of non-CO₂ greenhouse gas with the equivalent global warming potential.

CORPORATE RESPONSIBILITY

continued

EHS Policy

Morgan's EHS Policy applies to all Group businesses worldwide; it forms the basis for the Executive Committee and management oversight and implementation and has been communicated across all sites within the Group. The Policy is regularly reviewed and is published on the Group's website.

EHS Policy implementation

Morgan's EHS governance procedures are centred on its EHS Policy, which forms the basis of the Group's EHS management systems and processes. This is achieved through performance monitoring, risk assessment and the management and mitigation of identified risks to help provide continuous improvement in EHS performance in support of the Group's strategic priorities.

The Group is committed to providing effective leadership in pursuit of an injury-free and environmentally responsible work place and the Chief Executive Officer and the operational management team are responsible for EHS performance, with each site having a point of accountability. There are EHS leaders in each region and within each business. This global network of specialists reports to their respective regional management team and are responsible for improving the standards of EHS management and performance across the Group's businesses.

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 47.
- 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 Executive Committee and Regional Executive teams. Action items are tracked through a formal follow-up process.
- Formal training as 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 Executive Committee 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

The Group 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 summary charts on pages 43 to 46 represent the Group's EHS performance, covering all production sites during the year.

Environmental intensity KPIs are reported at constant currency and, where necessary, historic EHS data is restated to reflect changes in reporting methodology and to ensure year-on-year consistency.

The independent external 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 47.

The Group also participates in a number of external initiatives that help to benchmark Policy effectiveness and progress. These include the Carbon Disclosure Project (CDP) 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 the CDP's FTSE 350 Industrial sector. This reflects the Group's performance, and the depth and quality of climate change data disclosed to investors and the global marketplace through the 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.

Environmental performance

The Group 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.

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 pound of revenue and the proportion of total waste which is recycled.

Two-year targets are set for the improvement in environmental metrics, and the Group's 2016 performance is reported against the targets for the two-year period 2014-2016. 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. Further details of the Group's EHS targets and objectives will be included in the Group's 2016 EHS Report which is scheduled for publication on the Group website in mid-2017.

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 Committee 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.

These programmes helped the Group to reduce its environmental intensity in key areas over the two years 2014-2016 and to achieve its target 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 down less than the 5% reduction target and water intensity was flat over the period.

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 1,145 GWh, down by 6% from 1,224 GWh in 2015 and 14% down against the 1,333 GWh reported for 2014.

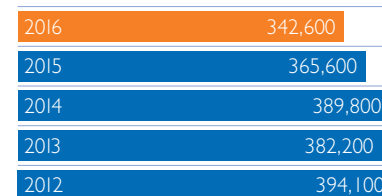
CO₂e intensity was down by 5% compared to 2015 and by 10% compared to 2014. Thus the Group exceeded its target to reduce CO₂e emissions intensity due to energy use by 5% over the two-year period 2014-2016. Energy intensity in 2016 was down by 5% compared to 2015 and by 12% compared to 2014.

The five-year performance charts reflect reductions in energy and CO₂e intensity from 2012. The Group continues to work on a number of production improvement projects which include energy-efficiency programmes. These are aimed at driving continuous performance improvement in energy and CO₂e intensity in 2017 and beyond.

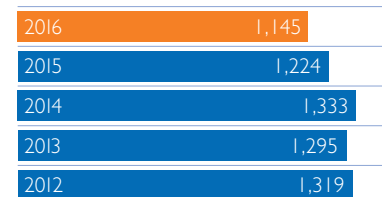
CO₂e⁵ INTENSITY DUE TO ENERGY USE^{1,2} Tonnes CO₂e/£m revenue³



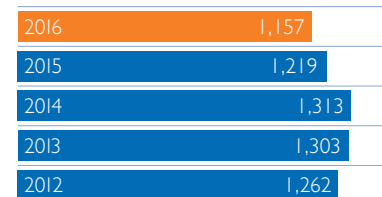
CO₂e⁵ DUE TO ENERGY USE^{1,2} Tonnes³



ENERGY USE^{1,4} GWh³



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



1. 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 47. 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. 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.
3. Constant currency basis and updated to reflect changes in reporting methodology.
4. Energy from all sources.
5. CO₂e. Carbon Dioxide Equivalent – the amount of carbon dioxide or the amount of non-CO₂ greenhouse gas with the equivalent global warming potential.

CORPORATE RESPONSIBILITY

continued

WASTE^{1,3} Tonnes²

2016	46,500
2015	48,400
2014	49,400
2013	44,600
2012	48,700

WASTE INTENSITY^{1,3} Tonnes waste/£m revenue²

2016	47.0
2015	48.2
2014	48.7
2013	44.8
2012	46.6

WATER USE^{1,4} million m³²

2016	2.44
2015	2.35
2014	2.50
2013	2.27
2012	2.52

WATER INTENSITY^{1,4} m³/£m revenue²

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

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 intensity was down by 2% compared to 2015 and down by 3% compared with 2014. Although waste intensity was reduced, the Group was 2% behind its 5% reduction target over the two-year period 2014-2016. This was partly due to one-off disposals at a number of sites and changes in product mix with increased production of products that have higher waste intensity compared to 2014.

The proportion of total waste which was recycled was 45% in 2016, an increase of 2%, from 43% in 2015, and an increase of 12% from 33% in 2014. This means that over the two years 2014-2016 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, Georgia, USA. Prior to 2014 the waste was unsegregated and was reported as landfill and the 2014 and 2015 reports have been restated accordingly.

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 intensity was flat compared with 2014 and so the target to reduce water intensity by 5% over the two years 2014-2016 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.

2017 priorities for environmental performance:

- 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 Executive Committee.
- 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.

1. 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 47. 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. Hazardous and non-hazardous waste, including recycled material.
4. Water from all sources, including process, irrigation and sanitary use.

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 Executive Committee. It has helped to drive a dramatic improvement in the health and safety performance of the Group since it was introduced.

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':

- Employee awareness, training and business improvement programme implemented across all sites worldwide.
- Objectives:
 - Instilling an unrelenting focus on work place safety as part of the drive to zero harm.
 - Implement 'Take 5 for Safety' (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.

Take 5 for Safety (5S):

- 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 free lessons.
 - 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 in high-temperature processes.
- Objectives:
 - Sustain safety focus where flammable gases are in use.
 - Reduce risk of catastrophic accidents due to gas safety, focused 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:

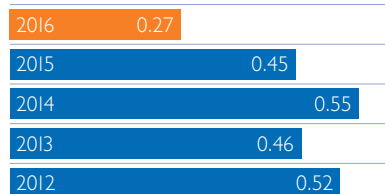
- Awareness and prevention of slips, trips and falls which account for circa 8% of accidents Group-wide.
- Objectives:
 - Develop full understanding of root causes.
 - Risk reduction and emphasis on designing risk out.
- Includes:
 - Integration with the 'Take 5 for Safety' quarterly theme.
 - Understanding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

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

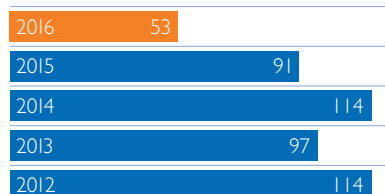
CORPORATE RESPONSIBILITY

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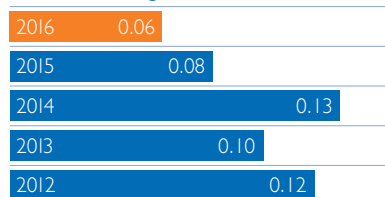
LOST TIME ACCIDENT FREQUENCY² LTAs/100K hours worked¹



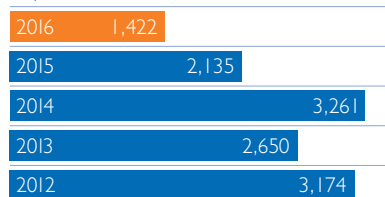
LOST TIME ACCIDENTS² Number of LTAs¹



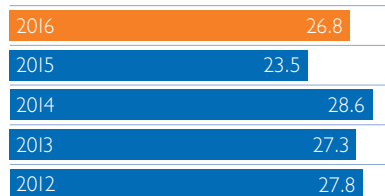
HEALTH AND SAFETY-RELATED LOST TIME % of total working time



HEALTH AND SAFETY-RELATED LOST TIME Days lost due to LTAs¹



LOST TIME PER LTA^{1,2} Days per LTA^{1,3}



- 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 47. 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.
- Lost Time Accident (LTA): accident or work-related illness which results in one or more days' lost time.
- Total time lost due to health and safety in the year divided by the number of lost time accidents reported in the year.

HEALTH AND SAFETY PERFORMANCE

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

The Group's health and safety Policies are clear and communicated throughout the Group. Health and safety metrics receive a high degree of focus at all levels of the business. The Policy statements are supported by site-level assessment and monitoring of risks.

In 2016, the Group's accident prevention and training programmes were focused on 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 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 Lost Time Accident (LTA) frequency rate.

The Group's 2016 health and safety performance improved compared to 2015. 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 frequency 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). Many sites had no LTAs and other sites improved on their accident frequency rates from 2015.

Reported lost time due to accidents and work-related illnesses as a percentage of working time decreased to 0.06% in 2016 (2015: 0.08%). The number of days lost during 2016 was down by 33% (2015: 35% reduction). The average number of days lost in 2016 per LTA reported in the year increased by 14% to 26.8 days (2015: 23.5 days). Morgan reports the accidents in the year in which they occur and the days lost in the year that the time is lost. 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 the prior year.

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

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.
- Continue the focus on gas safety and ensure actions from the Process Hazard analysis are complete.
- Continue to rollout 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.

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.

CORPORATE RESPONSIBILITY

continued

GREENHOUSE GAS EMISSIONS

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 47). 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 page 43 of this Annual Report. In the table below 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.

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 published by the UK Department for Environment, Food and Rural Affairs used to calculate the CO₂e emissions included in 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

1. Excludes emissions from Company-owned and leased vehicles estimated at circa 2,100 tonnes CO₂e in 2016 (2015: 2,200 tonnes CO₂e).
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 47 of this Annual 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.