



Mineral Products Association

# Accelerating progress ... meeting the challenges

Summary Sustainable Development Report 2011

## Foreword

Following the 20% to 40% reductions in demand experienced in the recession the markets in 2010 and 2011 were more stable but we now face very challenging times as economic growth prospects remain uncertain. This is a very difficult operational backdrop for the industry but progress on sustainability has none-the-less accelerated.

There is a growing awareness of the contribution that good design can make to reduce the sustainability impacts of new buildings and infrastructure, for example how the use of concrete can significantly reduce the whole life energy performance of buildings through thermal mass benefits. Our 2010 Asphalt conference highlighted how effective maintenance policies and interventions can ensure better performing road surfaces - improving safety and sustainability.

During 2010 we developed the MPA Biodiversity Strategy, launched in early 2011, and we have been delighted at the progress the industry has made in working with conservation organisations, NGOs, public Agencies, Local Government and local communities to improve conservation and biodiversity outcomes. We were very disappointed with the Government announcement in December 2010 that the Aggregates Levy Sustainability Fund in England was being scrapped in March 2011, a view shared by our major environmental stakeholders. We will continue to lobby for its re-instatement in a more focussed format which can help deliver Government's aims for localism and biodiversity.

Genuine sustainable development demands UK industries and supply chains are both resource efficient - where our industry is best in class in Europe - and also financially sustainable. Government needs to take great care to ensure that energy and carbon measures do not impose excessive costs on manufacturing industry, particularly energy intensive industries such as cement and lime, which could drive the supply of essential and indigenously available resources overseas.



**Nigel Jackson** Chief executive

## Priorities

### Health and Safety



*MPA is rolling out a new site audit tool to help members assess their health & safety systems.*

**Achievements** MPA members continue to improve performance. We are aiming to halve the Lost Time Injury (LTI) frequency rate between 2009 and 2014, having reduced reportable injuries by 83% in the 10 years to the end of 2009. We continue to highlight H&S performance, share good practice and celebrate success. The members of MPA have developed and approved an ambitious new policy called 'Safer by Competence', which is supported by other MPA initiatives, viz: 'Safer by Association'; 'Safer by Sharing'; and 'Safer by Design', to support actions by member companies and achieve the target of 'Zero Harm'.

**Action needed** There is continuing scope for improvement towards our 'Zero Harm' objective and we will need to work increasingly hard to meet our interim LTI targets and to improve awareness, control and measurement of respirable crystalline silica. We are also increasing our focus on Contractors in general and Transport in particular, having updated the content of Driver Skills courses and initiated a campaign to reduce collisions between industry vehicles and vulnerable road users such as cyclists.

### Sustainable Products



*Lightweight concrete blocks with recycled content including fly ash and crushed demolition waste.*

**Achievements** In spite of the sustained low level of demand for industry products since the recession the industry has continued to take steps to improve the sustainability of products. Certified environmental managements systems are currently

operating in 100% of cement works, 84% of quarries, 86% of ready-mixed concrete plants and 84% of asphalt plants surveyed by MPA. As part of a sustainable strategy MPA and members are closely engaged with organisations such as the UK Green Building Council and BRE to optimise material performance. MPA British Precast has implemented a "Raising the Bar" initiative to further improve the sustainability performance of its members.

**Action Needed** MPA is continually improving the quality and scope of sustainability reporting through a dedicated MPA Sustainable Development micro-site. It is essential that clients and contractors maintain a focus on the sustainability of the supply chain through the use of materials certified as Responsibly Sourced as well as recognising their benefits during the whole life performance of buildings and structures.

### Climate Change



*Emissions of oxides of nitrogen and sulphur from cement plants have declined by 59% and 87% respectively since 1998.*

**Achievements** The cement industry reduced direct CO<sub>2</sub> emissions to 725kg/tonne in 2010 and increased the proportion of fuel comprising waste materials to 38%. For the aggregates and associated industries operational carbon emissions increased in 2010, which we believe may be a consequence of plants operating at sub-optimal capacity. In collaboration with the Carbon Trust a new website has been developed to give open access to aggregates sector specific resources and information to help companies reduce energy use and carbon emissions - accessible through the MPA website.

**Action Needed** It is essential that the net cumulative impact of taxation and other measures and regulations designed to reduce carbon emissions does not lead to the operation of energy intensive manufacturing industries becoming uncompetitive in the UK and the replacement of domestic production with imports. The industry is looking at how emissions associated with the delivery of

industry materials and products can be minimised.

## Biodiversity



The bittern, one of the UK's rarest bird species, has established itself in the reed beds at Nosterfield Quarry, North Yorkshire.

**Achievements** There is increasing awareness of the contribution which minerals industry sites make to biodiversity and restoration. The industry has worked closely with conservation organisations, NGOs and local communities to improve conservation and biodiversity outcomes and to produce a rich legacy of restored land. MPA and Natural England have developed an industry biodiversity award scheme to add to the established MPA restoration awards. MPA launched a Biodiversity Strategy in early 2011 and has already surveyed 20 of its members to evaluate progress as part of a phased process of fieldwork. The marine aggregates industry is developing a sector Biodiversity Action Plan for dredging areas.

**Action needed** There needs to be a greater understanding throughout the planning and development process of the potential biodiversity outcomes resulting from mineral operations. The industry needs to better understand both its biodiversity "footprint" and the relationship between the industry and emerging concepts such as the valuation of ecosystems services and biodiversity offsetting. The development of KPIs is considered beneficial and work is in progress to achieve this.

**Highlights** MPA is committed to **halving** Lost Time Injury rates by 2014 and has the overarching objective of **Zero Harm** • MPA members have planted a **million** trees over the past five years • Cement industry direct carbon emissions **fell in** 2010 but aggregates sector emissions increased • Recycled and Secondary materials accounted for **28%** of the GB aggregates market in 2010 • Per capita production of aggregates in GB in 2010 was **3.3 tonnes** compared with a European average of **5.3 tonnes** • Per capita cement consumption in GB in 2010 was **158kg** compared with the European average of **404kg** • **9.3%** of aggregates sold were moved by rail • The average road delivery distance for aggregates increased to **45.7km** in 2010 with average loads increasing to **22.1 tonnes** • The ratio of the area of aggregates sites restored to the area of land prepared for quarrying was **1:0.8** • **20,569** visitors were recorded at aggregates and cement sites in 2010

## Summary data

### Sustainable consumption and production

	2010	2009
Aggregates production (primary) GB	148m t	147m t
Recycled/secondary materials GB	57.6m t	56.5m t
Asphalt sales GB	21.5m t	20.5m t
Ready-mixed concrete sales GB	14.3m <sup>3</sup>	14.4m <sup>3</sup>
Cement - domestic sales GB	7.8m t	7.6m t
Cementitious materials GB	10.5m t	10.3m t
Per capita production aggregates (GB/Europe)	3.3t/5.3t	3.3t/5.5t
Per capita production cement (UK/Europe)	158kg/404kg	152kg/417kg
Aggregate sites with certified EMS (% of survey)	84%	81%
Cement sites with certified EMS	100%	100%

### Climate change & energy

CO <sub>2</sub> emissions directly from cement works (kg/tonne)	725	731.8
CO <sub>2</sub> emissions from crushed rock (kg/tonne)	5.5	5.27
CO <sub>2</sub> emissions from sand and gravel - land won (kg/tonne)	5.0	4.0*
CO <sub>2</sub> emissions from asphalt production (kg/tonne)	26.3	30.2
CO <sub>2</sub> emissions from ready-mixed concrete prod (kg/tonne)	1.12	0.97
Share of sales moved by rail (aggregates)	9.3%	9.1%
Share of sales moved by rail (cement)	17.0%	21.1%
Average delivery distance (aggregates)	45.7km	41.9km
Average road load (aggregates)	22.1t	21.4t
Marine dredged aggregates landings for construction use	9.9m t	9.6m t

### Natural resources & enhancing the environment

Trees planted	139,392	313,238
Hedgerows planted	17.64km	14.36km
Waste recovered as raw materials and fuels by cement industry	1.31m t	1.28m t
Archaeology - land investigated pre-planning permission	427ha	473ha
Archaeology - land investigated post-planning permission	344ha	302ha
Proportion of UK land area being quarried (aggregates)	0.10%	0.14%
Ratio of land restored to land prepared for quarrying	1:0.8	1:0.8
Area of seabed dredged	105.0km <sup>2</sup>	123.6km <sup>2</sup>

### Creating sustainable communities

Number of reportable injuries (aggregates)	128	142
Lost Time Incidents: employees, contractors, third parties	173	201
Employment - direct by MPA members (aggregates)	20,313**	19,522
Employment - direct by MPA members (cement)	2,417	2,459
Number of recorded complaints (aggregates)	570	385
Number of community liaison groups (aggregates)	257	283
Liaison group meetings (cement)	34	38
Recorded visitors to aggregates sites, cement kiln sites	20,569	18,390

\*original 2009 data of 2.60 believed to be inaccurate, 4.0 reflects alternative data source

\*\*2010 increase due change of survey scope, eg now including office-based employees

# Sustainability in action

## Asphalt Carbon calculator



Research funded by the MPA, Refined Bitumen Association and the Highways Agency at the Transport Research Laboratory (TRL) has led to the development of the asPECT tool for calculating the greenhouse gas emissions associated with asphalt manufacture, supply and use. The aim was to produce a common methodology for the assessment of greenhouse gas emissions which can be used by designers, contractors and suppliers, therefore providing a common standard for the sector. The tool enables both "cradle to site" and "cradle to grave" assessments, including the lifetime of the product, in situ maintenance interventions and end of life, including removal and subsequent management processes.

## Biodiversity



MPA launched its Biodiversity Strategy at a Parliamentary Reception addressed by Defra Minister Richard Benyon MP in January 2011, based around seven commitments now being progressed. As part of this strategy MPA held a Biodiversity Exchange at a wildlife centre located at a former quarry in Milton Keynes in October. The Exchange was attended by industry representatives, conservation groups, NGOs and public Agencies and academics and was an opportunity to discuss lessons arising from past restoration activities by industry and future opportunities. This was followed on 19 October by MPA's first Restoration and Biodiversity Event, comprising presentations on biodiversity topics and an award ceremony including the first Natural England – sponsored industry Biodiversity Award. This renewed focus on Biodiversity comes at a time when Government's Natural Environment White Paper and Biodiversity 2020 Strategy have emphasised the importance of biodiversity.

## Building Assessment



New European standards for assessing the environmental performance of buildings will be published in 2012. These assessments are based on the environmental performance of the building components during the whole life cycle. Environmental Product Declarations (EPD) will provide the input for product information. The UK BREEAM 2011 requirements are already starting to align to these standards. The impact of these developments is being closely monitored by MPA The Concrete Centre. Actions to support these changes are fully integrated into the updated Concrete Industry Sustainable Construction Strategy. The industry, already recognised for its response to the Government's current sustainable construction initiatives in the built environment, is well positioned to respond to future challenges.

## Cycle Safe



MPA has launched a Cycle Safe strategy aimed at reducing collisions between industry vehicles and cyclists. The MPA initiative, which builds on pioneering work of one of its members, aims to increase awareness of the issue throughout the industry. Following a trial event in Oxford the national campaign was launched in June at a joint event held in Central London with the Metropolitan Police to increase cyclist awareness of the HGV driver's environment. MPA will work to increase driver awareness of cyclists, notably when turning left at junctions, to build on driver training opportunities in the sector and to ensure that companies are aware of equipment which can help to prevent collisions. MPA is also working to improve liaison with cyclists, for example through cycling organisations, so that cyclists are conscious of potential dangers of cycling in the vicinity of HGVs.

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The Mineral Products Association is the trade association for the aggregates, asphalt, cement, concrete, lime, mortar and silica sand industries

Front page: The launch of MPA's Cycle Safe campaign at Wellington Arch, London in June 2011



### OUR FULL REPORT

The full version of the MPA Sustainable Development Report has now been evolved into a microsite which can be accessed via [www.mineralproducts.org](http://www.mineralproducts.org). It includes a more detailed analysis of MPA members' performance under each of the main subject areas shown in this summary plus more comprehensive data and an evolving database of case studies.