



# Mineral Products Association Sustainable Development Report 2018

## INTRODUCTION

The Mineral Products Association (MPA) is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica sand industries. It has a growing membership of 520 companies and is the sectoral voice for mineral products. MPA membership is made up of the vast majority of independent SME quarrying companies throughout the UK, as well as the major international and global companies. It covers 100% of GB cement production, 90% of aggregates production, 95% of asphalt and over 70% of ready-mixed concrete and precast concrete production.

Sustainability is relevant to every aspect of our activities, from quarry development, and operation, dredging and recycling to manufacturing and transport, to the use of our products and materials and to the restoration of extraction sites. More detailed data and additional product information can be found in the sustainable development reports for Cement, Concrete, Lime and Marine Aggregates.

In 2017, industry markets were broadly flat following significant post-recession growth since 2012. Within this overall picture, sales of ready-mixed concrete declined, reflecting a general slow down in construction, but there was substantial further growth in mortar sales as housing development continued to increase.

## MPA STRATEGIC PRIORITIES

Following the launch of the MPA Charter in 2017, the Sustainable Development Report is now set out to align with the 7 MPA strategic priorities.



## Health and Safety

### OBJECTIVE: EMPLOYEE AND CONTRACTOR HEALTH AND SAFETY

Treat the health and safety and well-being of employees, contractors and visitors as the number one priority in order to achieve Zero Harm.

### TARGET

The MPA targets Zero Harm to all employees and contractors; in order to move further in that direction, we have set a target of further reducing Lost Time Incidents by 65% between 2014 and 2019.

In 2017, the industry recorded seven fatalities, the worst outcome since 2003. While the number of businesses represented by MPA, and therefore the scope of MPA reporting, has increased significantly over the period, this was clearly an unacceptable figure. In order to redress this position, MPA has fundamentally reviewed the industry risk profile and is focussing on six high consequence hazards which have the greatest potential to result in workplace fatalities. The six priority areas are: struck by vehicles; falls from height; contact with moving machinery and isolation, struck by falling or moving objects; road traffic accidents; respirable crystalline silica. Work is also being undertaken to reinforce safety leadership within the industry.

The Lost Time Incident Frequency Rate increased slightly from 3.47 in 2016 to 3.59 in 2017, but represents an overall 4 year reduction of 30%.

In 2018, MPA member activities to support and embed health & safety included holding 36 IOSH Leading Safety Seminars, increasing the number of health surveillance mobile chest x-rays to over 4,000 and numerous other workshops and events. The MPA Health & Safety Awards saw a record number of 148 entries from 30 companies.

### OBJECTIVE: PUBLIC SAFETY

Protect the general public around active operations, on disused sites and in the transportation and use of our products.

MPA has continued to work to improve public safety through the Stay Safe campaign. This assists in alerting local communities to the dangers associated with unauthorised entry into both operational and old sites alongside working collaboratively with a range of national drowning prevention stakeholders.

MPA and member companies have continued to act to reduce collisions between industry vehicles and pedestrians, cyclists and other vulnerable road users. This includes being a lead supporter of the Construction Logistics and Community Safety (CLOCS) initiative. Industry action has included fitting additional safety equipment to vehicles, improving driver awareness and training, buying new lorries with better direct vision for drivers and working with contractors and clients on safer delivery routes.

## People



**25,442**

MPA membership - direct employees



**265,779**

employee training hours



**6,852**

voluntary hours worked by staff during normal working hours



**202**

community liaison activities



**36,357**

visitors to Member sites

### OBJECTIVE: LOCAL COMMUNITIES

Engage fully with local communities and strive to be good neighbours.

258 complaints were recorded by MPA members in 2017, 2% more than last year, with 29% relating to noise and 25% relating to dust. Chart 1 provides further break down of site complaints.

### PERCENTAGE OF COMPLAINTS RELATING TO

-  Blasting/Vibration
-  Dust
-  Water Discharge
-  Noise
-  Odour
-  Other
-  Lighting/Visual Impact
-  Transport

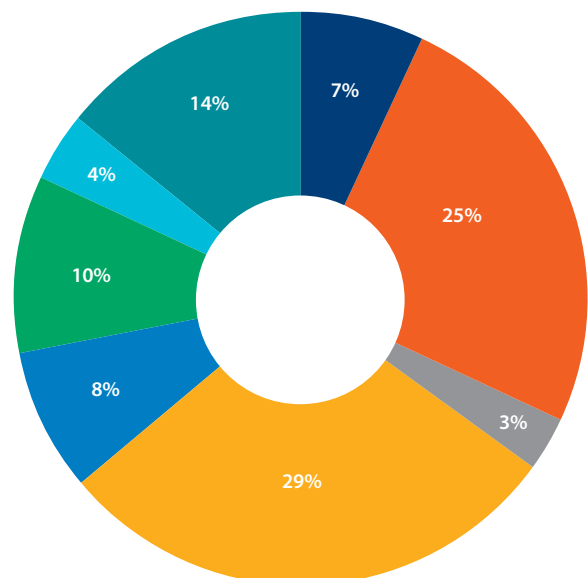


Chart 1 showing categorised complaints

**OBJECTIVE: EQUALITY AND DIVERSITY**

**Encourage opportunities in the industry for all, attracting and retaining the best talent.**

In 2017, 25,442 people were directly employed by MPA Members, of which, 86% were male and 14% female. Chart 2 summarises the demographics of the directly employed mineral products workforce. A new "Make the Link" film highlighted opportunities for all in the industry.

**DEMOGRAPHICS OF WORKFORCE**

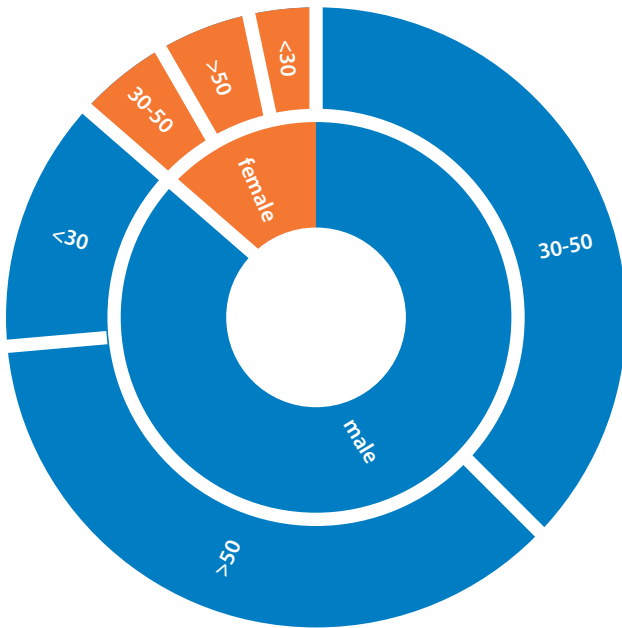


Chart 2 showing the demographic of the mineral products industry workforce



**Resource Use**



**OBJECTIVE: WATER**

**Optimise the use of water and ensure prudent management.**

MPA members strive to minimise water use wherever possible and Table 1 provides data on water use, by source, for crushed rock and sand and gravel. Recent changes to regulations around dewatering quarries is expected to change the way in which quarries monitor water movements on site.

Water Source	Aggregate type	Cu m <sup>3</sup> per tonne consumed
Mains	Sand and gravel	0.01
Abstracted	Sand and gravel	0.63
Mains	Crushed rock	0.009
Abstracted	Crushed rock	0.06

Table 1 showing water use by source for the main aggregate types.

Further data on water discharges is also being collected and will be published in the future.

**OBJECTIVE: ACCESS TO SUFFICIENT MINERALS AND RESOURCES**

**Plan, consult and engage with communities, planning authorities and regulators when seeking new permissions to ensure steady and adequate supply.**

MPA's annual survey of the replenishment of aggregates reserves indicated that in 2017 3% of crushed rock sales and 24% of terrestrial sand and gravel sales were replaced by new planning permissions. The more meaningful 10 year average replenishment rates for crushed rock and sand and gravel were 69% and 53% respectively.

The latest planning guidance in England (National Planning Policy Framework – NPPF) states: "It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation."

Evidence suggesting that the domestic supply of aggregates is relatively resource efficient includes:

- Proportion of UK land area subject to all mineral extraction = 0.3%
- Proportion of UK seabed subject to aggregates extraction = 0.01%
- Share of GB aggregates market supplied from recycled sources = 30%
- Relative GB/EU primary aggregates sales per head = 2.8/4.8 tonnes



**OBJECTIVE: WASTE****Minimise waste and maximise re-use and recycling.**

MPA reported that 43,664 tonnes of waste was sent to landfill and 1,566,386 tonnes of waste was sent off site for recycling. Site restoration activities also beneficially used 2,608,144 tonnes of waste. It is estimated that this figure for inert waste use in site restoration falls short of the true figure.

MPA have published a document, 'From Waste to Resource', on the reuse and recycling of Excavation Waste (EW), the "soft" element of Construction, Demolition and Excavation Waste (CDEW), by the minerals industry. An additional report will also be published in early 2019 on revised recycling rates of Construction and Demolition Waste (CDW), the "hard" element of CDEW. MPA estimates that over 90% of CDW and over 55% of EW is recycled or recovered, either into recycled aggregate or used to recycle land to a beneficial after use.

## Climate Change and Energy

**OBJECTIVE: ENERGY****Optimise the use of energy whilst maximising the use of non-fossil fuels.**

CO<sub>2</sub> emissions per tonne of hard rock and sand and gravel saw minor reductions in 2017. The UK cement industry continues to be successful in improving its carbon footprint by increasing energy efficiency, using alternative fuels instead of traditional fossil fuels, and utilising renewable energy sources. In 2017 direct emissions of CO<sub>2</sub> per tonne PCe from the UK cement industry were 25% lower than in 1998 and 0.4% lower than in 2016. The MPA Cement Sustainable Development Report provides further information on this important measure.

A new Environmental Product Declaration (EPD) published based on 2016 data showed a reduction in the Global Warming Potential of cement. The MPA Cement driven 'Cement Decarbonisation Action Plan' was signed jointly with a BEIS Minister for Climate Change and Industry.

CO<sub>2</sub> emissions from dolomitic, high calcium and standard purity high calcium lime all saw slight reductions from 2016 and 2017. Currently, there are limited options to decarbonise the sector further without the widespread availability of carbon capture technologies.

**OBJECTIVE: TRANSPORT****Reduce the climate change and other impacts of the transportation and delivery of products.****TARGET**

**To understand and obtain a baseline for the amount of CO<sub>2</sub> produced per tonne of product during transportation by 2020.**

Product type	Distance by road one way in miles	Average load tonnes by road	Share of sales transported by road percent
Aggregates	27.0	20.3	83
Ready-mixed concrete	6.6	14.5	100
Asphalt	30.2	17.7	100

Table 2 showing road transport information for individual product groups.

2017 saw an increase in aggregates transported by rail with aggregates and mineral products representing the largest UK rail freight flow by weight. 14.3 million tonnes of marine dredged aggregates were delivered to wharves close to major construction markets. As demonstrated in Table 2, the average aggregates delivery distance by road is 27.0 miles and the average delivery load 20.3 tonnes. The average delivery distances for asphalt and ready-mixed concrete were 30.2 and 6.6 miles, highlighting the significance of local supply chains.

MPA is working closely with allied organisations to ensure that the opportunities for rail and water deliveries of aggregates and mineral products are sustained and potentially improved through the safeguarding of rail depots and wharves within the mineral planning system. This means not only safeguarding the sites themselves but ensuring that new developments adjacent to these sites do not constrain the future operation of depots and wharves. Typical aggregates trains and dredgers carry the equivalent material of 75 and 250 lorries respectively, and while final deliveries to construction sites will almost always be by road, making full use of rail and water freight will make important contributions to improving air quality and managing road congestion.



## Natural Environment



### OBJECTIVE: BIODIVERSITY

**Protect and enhance biodiversity and deliver net gain wherever possible.**

#### TARGET

**100% of extractive sites to have Biodiversity Action Plan in place by 2025.**

76% of extractive sites reported that they had a Biodiversity Action Plan in place, an increase of 10% from 2016.

The restoration of exhausted mineral workings is essential, and Members strive to deliver, where possible, priority habitats. To date MPA Members have recorded the creation 8,192ha of priority habitat and have a further 11,458ha planned. This data probably understates the industry's full contribution to biodiversity.

The biennial Quarries & Nature Conference and Awards event attracted 160 delegates from over 60 organisations. MPA also launched the 'Quarrywatch' initiative, which will involve focused nature surveys at designated locations to gain a picture of the species colonising restored quarries and other mineral sites. Local wildlife groups, individual enthusiasts and schools will also be invited to take part in the initiative. MPA's Nature Photo competition for member company employees and volunteers based at RSPB and Wildlife Trust nature reserves which are former quarries, attracted over 100 entries. These were displayed at an exhibition and promoted in the Quarries & Nature calendar which was sent to a wide range of stakeholders.

### OBJECTIVE: ENVIRONMENTAL PROTECTION

**Minimise and mitigate operational impacts.**

#### TARGET

**100% sites to have an Environmental Management System in place by 2025.**

The number of sites with an Environmental Management System in place continues to increase, with 97% reporting in 2017 that they had one in place, an increase of 5% compared to 2016.

## Built Environment



### OBJECTIVE: SUSTAINABLE PRODUCTS

**Promote the development and use of sustainable and responsibly sourced mineral products.**

92% of surveyed quarries reported that they operated under the British Standard EN ISO 9001 Quality Management System. Other Member sites reported similar results with 97% of ready-mixed concrete, 99% of asphalt, 85% of wharves and 100% of slag processing sites also covered by the Standard.

Members also reported that for aggregates, ready-mixed concrete and asphalt over 95% of surveyed production was certified to 'very good' or 'excellent' level under the Responsible Sourcing Standard BES6001. This is a significantly better performance than many other construction materials and highlights the sustainability value of the regulated domestic supply chain for mineral products.

## Communicating Industry Value



MPA published an updated 'Profile of the UK Mineral Products Industry', including key industry data, including:



**390mt**

GB production of aggregates and manufactured mineral products



**£18bn**

Annual turnover of the Mineral and Minerals Products Industry



**£6.8bn**

Gross value added by the industry



**£513bn**

Annual turnover of the industries we supply



**£150bn**

Value of construction output, our main customer



**74,000**

People employed in the industry



**3.5m**

Jobs supported in our supply chain

MPA carries out quarterly surveys of industry sales volumes for aggregates, asphalt, ready-mixed concrete (RMC) and mortar. Regular information on cementitious markets is also available. Comparing the MPA sales volumes data with official statistics suggests a representation of at least 85% for the total aggregates market in Great Britain, 75% for RMC and 90% for asphalt.

This data is widely regarded as a useful and credible indicator of the movement of construction markets, particularly as the confidence in official statistics on construction has been affected by frequent and significant revisions in recent years.

MPA's YouTube views increased to 295,000 and Twitter followers reached over 23,000 across all 5 MPA channels.

	Units	2014	2015	2016	2017
Aggregates production (primary) GB	GB mt	161.9	170.0	176.8	176.3
Recycled/ secondary materials GB	GB mt	64.8	67.8	70.4	75.5
Asphalt sales GB	GB mt	20.6	21.9	22.7	22.7
Ready-mixed concrete sales GB	GB m <sup>3</sup>	16.4	17.0	17.8	17.4
Cement- domestic sales GB (2015- UK onwards)	GB mt	9.0	10.2	10.5	10.2
Cementitious materials GB (2015- UK onwards)	GB mt	12.4	13.0	15.0	15.3
Quicklime and Dolomite GB	GB mt	1.3	1.2	1.0	1.1
Per capita production primary aggregates (GB/EU)	(GB/EU) tonnes	2.5/4.4	2.6/4.5	2.6/4.6	2.8/4.8
Aggregate sites with certified EMS	% of survey	96.0	92.0	92.0	97.0
Cement sites with certified EMS	%	100.0	100.0	100.0	100.0
CO <sub>2</sub> emissions directly from cement production	kg/tonne	679.0	709.0	695.6	692.7
CO <sub>2</sub> emissions from crushed rock production	kg/tonne	3.8	3.4	3.7	3.6
CO <sub>2</sub> emissions from sand and gravel- land won production	kg/tonne	3.5	2.4	3.4	3.1
CO <sub>2</sub> emissions from asphalt production	kg/tonne	33.9	25.2	27.0	24.1
CO <sub>2</sub> emissions from ready-mixed concrete production	kg/tonne	0.8	0.7	0.6	0.7
Share of sales moved by rail (aggregates)	%	12.0	10.2	10.1	10.9
Average road delivery distance (aggregates)	miles	32.0	35.0	30.1	26.7
Average road load (aggregates)	tonnes	22.7	22.3	22.6	20.3
Marine dredged aggregates landings for construction use	mt	11.8	13.2	14.1	14.3
Priority Habitats created to date by MPA members	Ha	5,695.0	6,164.0	6,000.0	8,192.0
Priority Habitats planned by MPA members	Ha	5,689.0	8,437.0	8,700.0	11,458.0
Waste and by products recovered as raw materials and fuels by cement industry	mt	1.6	1.6		1.5
Archaeology- land investigated pre-planning permission	Ha	331.0	307.0	245.0	453.1
Archaeology- land investigated post-planning permission	Ha	183.0	226.0	93.6	379.6
Proportion of UK land area being quarried (aggregates)	%	0.1/0.3	0.1/0.3	0.1/0.3	0.1/0.3
Area of seabed dredged	km <sup>2</sup>	85.7	82.7	88.0	90.9
Lost Time Incident Frequency Rate (LTIs per million employees- all MPA activities)		3.3	3.8	3.5	3.6
Employment- direct by MPA members (excl cement, precast)		22,021.0	21,653.0	24,563.0	25,442.0
Employment- direct by MPA Members (cement)		2,517.0	2,339.0	3,015.0	2,210.0
Number of recorded complaints (aggregates)		419.0	444.0	253.0	258.0
Number of community liaison groups (aggregates)		246.0	270.0	253.0	297.0
Liaison group meetings (cement)		26.0	31.0	30.0	25.0
Recorded visitors to aggregates sites, cement kiln sites		30,292.0	33,568.0	22,130.0	39,155.0
Trees planted		46,846.0	151,443.0	133,698.0	111,370.0
Hedgerows planted	km	5.5	4.6	11.1	13.2
Dry Stone Walling- Kilometres built	km	0.7	10.0	9.8	5.4



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This report has been titled as 2018 to follow the general MPA nomenclature to use the year of data collection rather than the year of performance.

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

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