



# Mineral Products Association Sustainable Development Report 2019

## HIGHLIGHTS

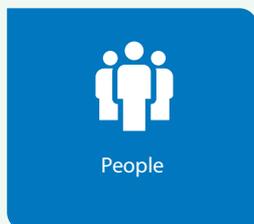
Following the launch of the MPA Charter in 2017, the Sustainable Development Report is now set out to align with the 7 MPA strategic priorities to enable the Vision for 2025 to be achieved.

*'to be valued as an essential and economically, socially and environmentally sustainable industry of significance to the economy and our way of life'*



Health  
& Safety

- The Fatal 6' campaign to mitigate high consequence hazards, gains traction.
- MPA collaborates with TfL on the London Direct Vision Standard and permitting scheme.



People

- The Good Neighbour Scheme pilot is launched.
- 26,447 visitors to Member sites.



Resource  
Use

- Recycled and secondary aggregates accounted for 29% of total aggregates supply.
- MPA responds to the global sand debate.



Climate Change  
& Energy

- CO<sub>2</sub> emissions in the cement industry reduced 25% from 1998.
- Rail freight tonnage of mineral products has increased by 21% from 2013 -2018



Natural  
Environment

- 8,327ha of priority habitat created with a further 10,770ha planned.
- MPA members plant over 500,000 trees.



Built  
Environment

- 99% of surveyed quarries operate under BS EN ISO 9001.
- Over 95% of surveyed production certified to 'very good' or 'excellent' under BES6001.



Communicating  
Industry Value

- The industry contributes £18bn in turnover to UK economy.
- Productivity rates are equivalent to 1.7 times the national average.

## 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 550 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 impacts on every aspect of our activities - from quarry development, dredging and recycling to manufacturing and transport operations, to the use of our products and materials in construction and other activities and to the restoration of sites and associated biodiversity enhancement. More detailed data and additional product information can be found in the sustainable development reports for Cement, Concrete, Lime and Marine Aggregates.

Construction activity in 2018 was driven mostly by housebuilding which supported a 15.5 per cent growth in mortar sales volumes, their highest level since 2004. Beyond housebuilding, the wider picture of construction demand was more muted, reflecting an industry still waiting for major projects to break through and greater clarity on the Brexit outcome. Faltering commercial construction markets, where private investment has been impacted by Brexit-related anxiety, resulted in a 1.6 per cent drop in ready mixed concrete sales in 2018, primarily due to weak demand in London. Meanwhile, asphalt sales remained broadly flat (0.7 per cent) with major projects on the strategic network yet to come online.

Front cover: Quarries provide important habitats for birds of prey. This Peregrine falcon by Michael Cardus was an entry in the 2019 MPA Nature Photo competition.



## 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.**

In 2018, the industry recorded one third party fatality, which, although a lower figure than in 2017, is still unacceptable. At the request of the MPA Council and Board, the MPA Health and Safety Committee looked back at the fatal incidents over the last decade, identifying 6 high consequence hazards. These are now the focus of MPA's health and safety activities, and are listed here.

- Contact with moving machinery and isolation
- Workplace transport and pedestrian interface
- Work from height
- Workplace Respirable Crystalline
- Struck by moving or falling object
- Road traffic accidents

MPA's pocket 'Guide to Energy Isolation and LOTOTO (lock out – tag out – try out)', together with Guidance for managers and supervisors plus posters and stickers, have been circulated widely throughout the industry and beyond.

### 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.**

The Lost Time Incident Frequency Rate, that tracks the Lost Time Injuries per million hours worked, decreased slightly from 3.59 in 2017 to 3.39 in 2018. Whilst progress continues to be made towards this ambitious target, it is unlikely it will be reached by the end of 2019.

### OBJECTIVE: PUBLIC SAFETY

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

The industry has continued to work to improve public safety through the 'Stay Safe' campaign, alerting local communities to the dangers associated with unauthorized entry into both operational and inactive old sites. MPA progressed its strategy of pro-active collaboration on drowning prevention and issued a series of alerts to members. It engaged in social media and other collaborative media campaigns and sent direct mail outs and facilitated visits to primary and secondary schools. Over the school summer holidays, MPA worked with 'Fun Kids' radio to run a radio campaign and accompanying competition. MPA also contributed to the new guidelines 'Managing Safety at Inland Waters' which it promoted to members and continued to play an active role in the National Inland Water Safety Forum.

MPA and member companies have continued to act to reduce collisions between industry vehicles and pedestrians, cyclists and other vulnerable road users with MPA being a leading supporter of the Construction Logistics and Community Safety (CLOCS) initiative. The CLOCS initiative now has a more national presence. MPA resources to promote driver, vulnerable road user and general road safety include the MPA Driver Handbook, of which over 45,000 copies have been distributed, the MPA Company Car and Van Handbook and the MPA Drivers App.

MPA, Transport for London (TfL) and Age Concern worked to increase elderly people's awareness of the dangers of collisions with industry HGVs. MPA also collaborated with TfL on the London Direct Vision Standard and permitting scheme, requiring operators to demonstrate that many industry HGVs have been fitted with 'safe systems' to continue operating in London, consistent with CLOCS.

## People



# 27,652

MPA membership - direct employees



# 342,153

Employee training hours



# 9,707

Voluntary hours worked by staff during normal working hours



# 213

Sites undertaking community liaison activities



# 26,447

Visitors to Member sites

### OBJECTIVE: LOCAL COMMUNITIES

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

In 2019 MPA launched a pilot of the 'MPA Good Neighbour Scheme' providing Members with a Community Engagement Plan template, a suite of banners and signs to install in and around sites to demonstrate their support for the scheme, posters for internal use and a "How are We Doing?" Community Response checklist to assess how the local community perceives the site has performed in a particular year. Take up so far has been positive and this will be reported on further next year as part of the official launch.

193 complaints were recorded by MPA members in 2018, with 25% relating to transport and 25% relating to dust. Chart 1, on page 4, provides a further breakdown of site complaints.

### PERCENTAGE OF COMPLAINTS RELATING TO

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

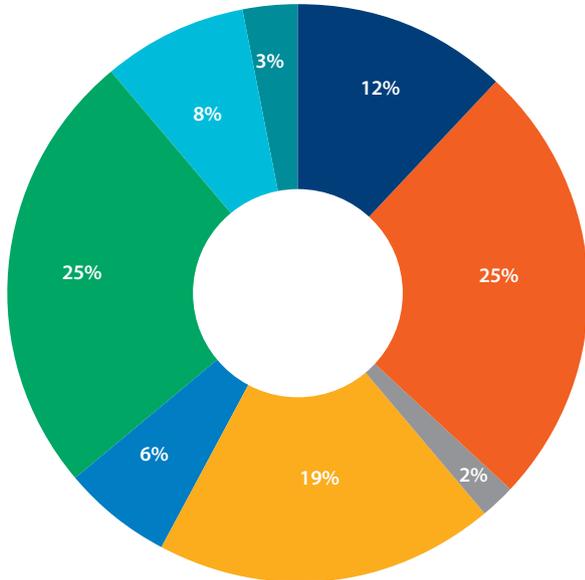


Chart 1 showing categorised recorded complaints

### OBJECTIVE: EQUALITY AND DIVERSITY

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

In 2018, 27,652 people were directly employed by MPA Members, of which, 84% were male and 16% female. MPA will continue to work with relevant partners to improve this.

### DEMOGRAPHICS OF WORKFORCE

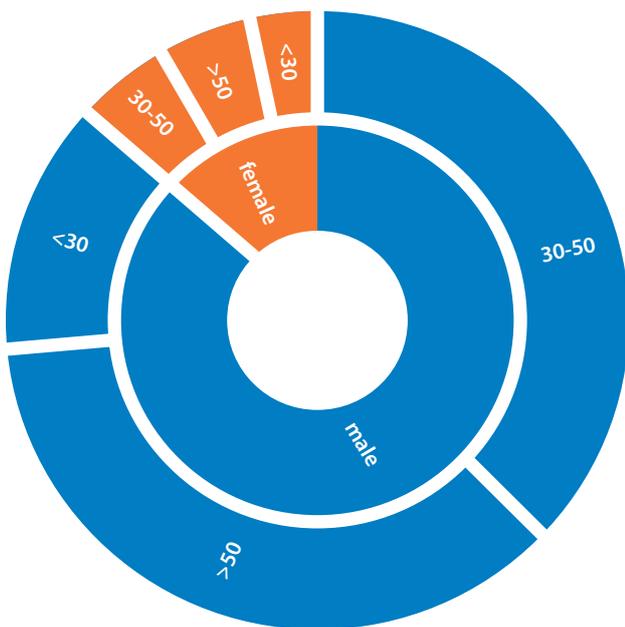


Chart 2 showing the demographic of the mineral products industry workforce

## Resource Use



### OBJECTIVE: WATER

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

### TARGET

**100% of sites to be measured for water consumption and discharges by 2025**

MPA members strive to minimize water use wherever possible prioritising water from sustainable sources and reusing water in washing plants. Recent changes to regulations around quarry dewatering have meant that previously exempt water transfer and abstraction activities on sites must be licensed by the Regulator. The Regulator now has three years, from January 1st 2020, to determine licences for these historic water transfer and abstraction activities. Once sites are licensed MPA will review data collection on sustainable water use.

### 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 2018, 84% of crushed rock sales and 92% of land-won 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 75% and 63% respectively.

In 2019 MPA responded to the global debate regarding the availability, access to and consumption of sand by publishing 'Sand Supply - a UK Perspective on a Global Issue'. The report confirmed that the robust minerals regulation and implementation for sand and aggregates extraction on land and in the marine environment ensure future sustainable supplies of aggregates and mineral products in the UK.

Evidence suggests that the domestic supply of aggregates is relatively resource efficient include:

- Land area subject to all mineral extraction = <0.3%
- Area of seabed subject to aggregates extraction = 97.9 km<sup>2</sup>
- Share of GB aggregates market supplied from recycled and secondary sources = 29%
- Relative GB/EU aggregates sales per head = 2.8 tonnes / 4.8 tonnes



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

MPA members strive to reduce, reuse and recycle waste in accordance with the Waste Framework Directive. Members also utilise inert waste from the Construction, Demolition and Excavation Waste stream beneficially in site restoration and engineering.

Aggregates can be obtained from the recycling of Construction, Demolition and Excavation Wastes (CDEW), or derived from other industrial, production or extractive processes, referred to as secondary aggregates. Secondary aggregates can include furnace ash and slag from iron and steel production. MPA produces annual estimates on the use and reuse of recycled and secondary sources of aggregates detailed in its 'The contribution of Recycled and Secondary Materials to Total Aggregates Supply in Great Britain' publication. The latest estimates show that, in 2017, recycled and secondary aggregates accounted for 29% of total aggregates supply, which has put Great Britain in a leading position internationally for many years, well ahead of the European average.

## Climate Change and Energy


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

CO<sub>2</sub> emission per tonne of hard rock and sand and gravel saw further reductions in 2018. This was mainly due to adjustments in the Defra energy factors used to calculate CO<sub>2</sub> emissions as the decarbonization of electricity supply continues. The UK cement industry continues to be successful in reducing its carbon footprint by improving energy efficiency, increasing the use of waste derived raw materials, using alternative fuels instead of traditional fossil fuels, and utilising renewable energy sources.

In 2018, direct emissions of UK Cement industry CO<sub>2</sub> emissions were 51% lower than the 1990 Paris Agreement baseline (25% lower per tonne of cement from 1998). Waste derived fuels made up 43% of the thermal input with waste biomass fuels composing 17% of the thermal input to the cement manufacturing process.

Looking ahead, in 2019 MPA is leading a project looking at innovative ways to fuel switch the cement kilns to fossil fuel free energy.

As expected, CO<sub>2</sub> emissions from dolomitic, high calcium and standard purity high calcium lime remain broadly similar to previous years as there are limited options to decarbonise the sector further without the widespread availability of technologies such as low carbon fuels or carbon capture technologies.

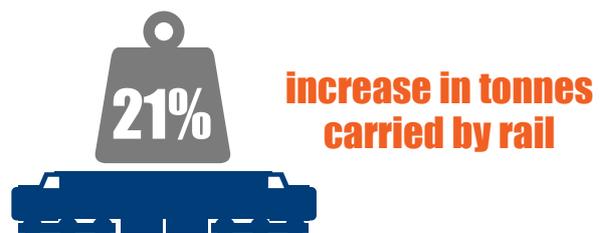
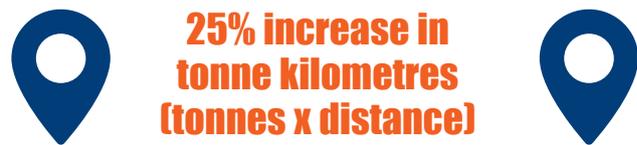
**OBJECTIVE: TRANSPORT****Reduce the climate change and other impacts of the transportation and delivery of products.****TARGET****To understand and obtain a baseline for the amount of CO<sub>2</sub> produced per tonne of product during transportation by 2020.**

Whilst it remains difficult to obtain an accurate baseline for the amount of CO<sub>2</sub> produced per tonne of product during transportation, table 1 shows transport information for individual product groups.

Product type	Distance by road one way in miles	Average load tonnes by road	Share of sales transported by road percent
Aggregates	28	21	87
Ready-mixed concrete	6	14	100
Asphalt	34	16	100

Table 1 showing road transport information for individual product groups.

In 2019 MPA and the Rail Freight Group published 'Cutting Carbon and Congestion: Rail Freight and Mineral Products working together to build Britain.' Over the last five years (2013-2018) the rail freight tonnage of mineral products has increased by 21% and is now the largest user of the rail freight network in terms of tonnes carried. This ensures that construction demands are met while carbon emissions and road congestion are reduced.

**Rail Freight of aggregates and cement, 2013 to 2018 changes****8% increase in tonnes carried per train**

## 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, no change from 2017. MPA have developed a guide for members on how to prepare and implement a Biodiversity Action Plan at an operational site to encourage further uptake.

The restoration of exhausted mineral workings is essential, and Members strive to deliver, where possible, priority habitats for nature. To date MPA Members have recorded the creation 8,327ha of priority habitat and have a further 10,770ha planned. This data probably understates the industry's full contribution to biodiversity as the survey information is incomplete.

MPA is also engaged in initiatives to value the contribution of biodiversity, for example, through assessment of industry's contribution to natural capital and biodiversity net gain. The Quarries & Nature event on the theme of delivering net gain, including the Restoration and Biodiversity Awards and Nature Photo Competition, attracted 160 delegates from over 70 organisations.

### 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 remained constant, with 97% reporting in 2018 that they had one in place.

A perspective on the industry's environmental impact was included in Government's December 2018 Resources and Waste Strategy (Our Waste, Our Resources: A Strategy For England, which states: "Some lightweight materials have large environmental footprints, like plastics, while some heavy materials have small footprints, like aggregates."

## Built Environment



### OBJECTIVE: SUSTAINABLE PRODUCTS

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

99% 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, 95% 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. Other examples of more sustainable products in construction include the promotion of lower energy "warm" asphalts as alternatives to "hot" asphalts.

Looking at non-construction mineral products, Members of MPA's Agricultural Lime Association are promoting the use of lime to reduce the acidity of agricultural land, therefore making farmland more productive and requiring less fertiliser.

## Communicating Industry Value



### FACTS AT A GLANCE:

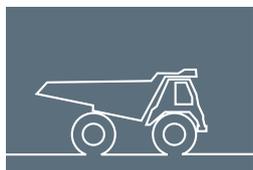
The Mineral Products industry supplies the raw and manufactured materials for building our homes, as well as vital new and upgraded infrastructure to support future economic growth and our quality of life. With around 390 million tonnes of aggregates, asphalt, cement, concrete and other mineral products supplied in Great Britain in 2016, the industry generated over 4 times the total volume of all energy minerals combined. It also contributed to £18bn in turnover to the UK economy in 2016, employed 74,000 people at over 2,000 active sites and plants, and supported an additional 3.5 million jobs throughout the supply chain. The UK Mineral Products industry is also a highly productive industry: each worker produced about £92,000 in 2016, equivalent to 1.7 times the national average.



	Units	2015	2016	2017	2018
Aggregates production (primary) GB	GB mt	170	176.8	176.3	179.9
Recycled/ secondary materials GB	GB mt	66.9	69	71.9	72
Asphalt sales GB	GB mt	21.9	22.7	22.7	22.9
Ready-mixed concrete sales GB	GB m <sup>3</sup>	17	17.8	17.4	17.1
Cement- domestic sales GB (2015- UK onwards)	GB mt	10.2	10.5	10.2	10.1
Cementitious materials GB (2015- UK onwards)	GB mt	13	15	15	15.2
Quicklime and Dolomite GB	GB mt	1.2	1	1.1	1.2
Per capita production primary aggregates (GB/EU)	(GB/EU) tonnes	2.6/4.5	2.6/4.6	2.6/4.6	2.8/4.8
Aggregate sites with certified EMS	% of survey	92	92	97	97
Cement sites with certified EMS	%	100	100	100	100
CO <sub>2</sub> emissions directly from cement production	kg/tonne	709	695.6	692.7	697.1
CO <sub>2</sub> emissions from crushed rock production	kg/tonne	3.4	3.7	3.6	2.8
CO <sub>2</sub> emissions from sand and gravel- land won prod	kg/tonne	2.4	3.4	3.1	2.7
CO <sub>2</sub> emissions from asphalt production	kg/tonne	25.2	27	24.1	25.2
CO <sub>2</sub> emissions from ready-mixed concrete prod	kg/tonne	0.7	0.6	0.7	0.7
Share of sales moved by rail (aggregates)	%	10.2	10.1	10.9	11
Average road delivery distance (aggregates)	miles	35	30.1	26.7	28
Average road load (aggregates)	tonnes	22.3	22.6	20.3	21
Marine dredged aggregates landings for construction use	mt	13.2	14.1	14.3	13.7
Priority Habitats created to date by MPA members	Ha	6,164	6,000	8,192	8,327
Priority Habitats planned by MPA members	Ha	8,437	8,700	11,458	10,770
Waste and by products recovered as raw materials and fuels by cement industry	mt	1.6		1.5	1.4
Archaeology- land investigated pre-planning permission	Ha	307	245	453.1	256
Archaeology- land investigated post-planning permission	Ha	226	93.6	379.6	171
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>	82.7	88	90.9	97.9
Lost Time Incident Frequency Rate (LTIs per million employees- all MPA activities)		3.8	3.5	3.6	3.4
Employment- direct by MPA members (excl cement, precast)		21,653	24,563	25,442	26,085
Employment- direct by MPA Members (cement)		2,339	3,015	2,210	2,250
Number of recorded complaints (aggregates)		444	253	258	193
Number of community liaison groups (aggregates)		270	253	297	188
Liaison group meetings (cement)		31	30	25	25
Recorded visitors to aggregates sites, cement kiln sites		33,568	22,130	36,257	26,447
Trees planted		151,443	133,698	111,370	503,488
Hedgerows planted	km	4.6	11.1	13.2	7.6
Dry Stone Walling- Kilometres built	km	10	9.8	5.4	1



**The mineral products and quarrying industry contribution to the UK:**



**390mt**

GB production of aggregates and manufactured mineral products



**4 times**

The volume of energy minerals produced in the UK including oil, gas and coal



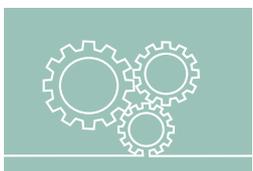
**£18bn**

Annual turnover for the Minerals and Mineral Products industry



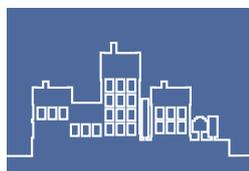
**£6.8bn**

Gross value added generated by the industry



**£513bn**

Annual turnover of the industries we supply



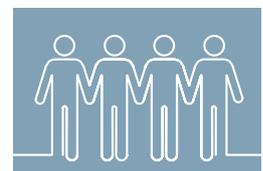
**£152bn**

Value of construction, output, our main customer



**74,000**

People employed in the industry



**3.5m**

Jobs supported through our supply chain

© Mineral Products Association 2019

This report contains data collected from year 2018 which is collated by MPA in 2019 for publication end of 2019/ early 2020.

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

**Mineral Products Association**

Gillingham House  
38 - 44 Gillingham Street  
London SW1V 1HU  
Tel +44 (0)20 7963 8000  
Fax +44 (0)20 7963 8001  
info@mineralproducts.org  
www.mineralproducts.org



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