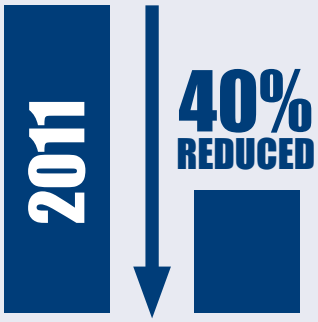
mpa
essential materials
sustainable solutions

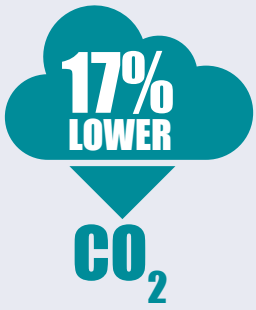
British Lime Association

Sustainable Development Report 2019

SUMMARY OF PERFORMANCE



Health and safety
40% fewer incidents than 2011



Decarbonisation
From dolime combustion since 2011

Waste to landfill
76% lower than 2011

Fossil fuel replaced
With alternative fuels in dolime manufacture

Export sales
15% increase since 2011 and 38% since 2006

Particulate, NOx and SO_2 emissions
1,370t less than 2011

Environmental incident free
No Category 1 or 2 incidents

MPA STRATEGIC PRIORITIES

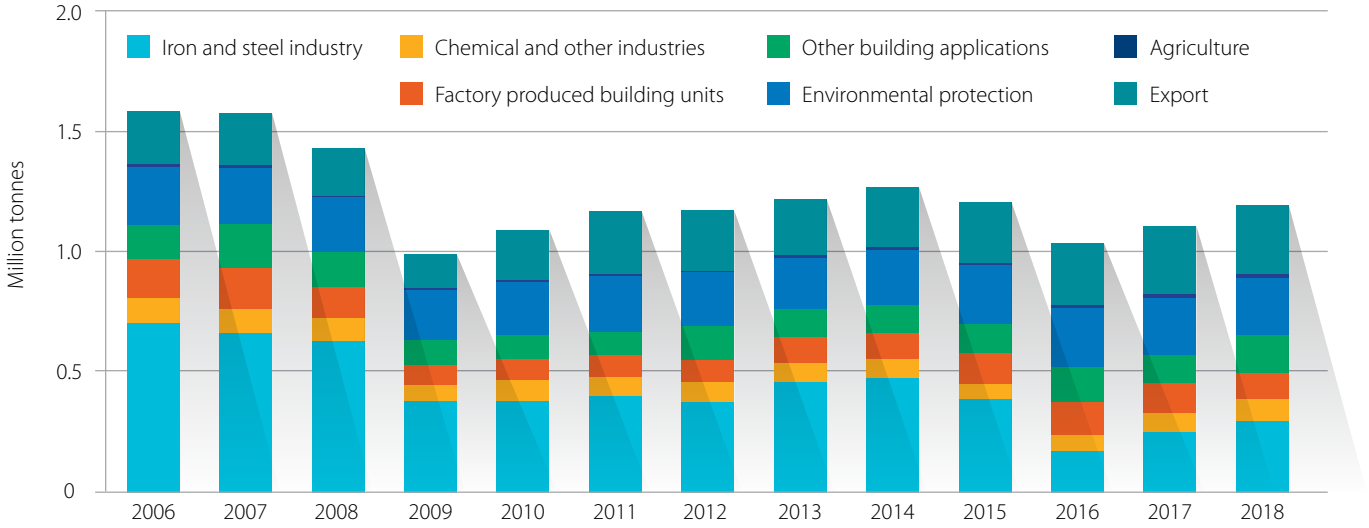
This British Lime Association (BLA) Sustainable Development Report is now set out to align with the seven MPA Strategic Priorities. In particular, this report highlights the positive contribution made by the lime industry in 2018 to Communicating Industry Value, Health and Safety, People, Resource Use, Climate Change and Energy, the Natural Environment and the Built Environment.

Front cover: *Image taken during a non operational site tour organised as part of the European Lime Association Safety Seminar, held at Tarmac Tunstead and Lhoist Hindlow, on 28th September 2017*

Communicating Industry Value

The UK lime sector continues to respond to improved conditions in the domestic market, and the increased demand from the iron and steel sector in 2018.

Exports from members of the British Lime Association reached new heights in 2018, exceeding 300,000 tonnes. This is more than double the exports during the recession (around 140,000 tonnes in 2009) and accounts for over a quarter of the UK's total lime output. But this massive increase represents more than just bounce-back – it's a real increase in export market share, exceeding pre-recession levels by around 40% (around 218,000 tonnes in 2006). And the BLA estimates that the 2018 exports added more than £3 million to the UK economy.



Health and Safety

OBJECTIVE: EMPLOYEE AND CONTRACTOR HEALTH AND SAFETY

Targeting Zero Harm to all employees and contractors.

BLA Members are proud of the Health and Safety improvements they have implemented over recent years. Members continue to focus on the Zero Harm target and to work collaboratively to achieve this ambition.

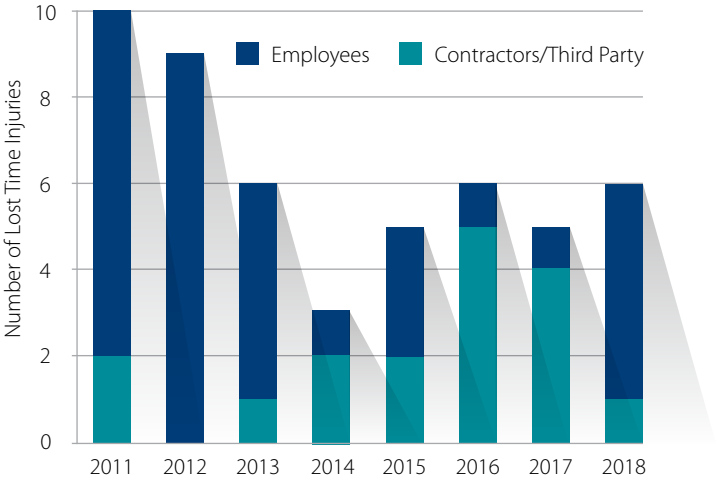
Details on Serious and Lost Time Incidents are shared on a regular basis, both within the UK and at a European level, to enable learning across the sector.

A BLA 'Good Practice' Safety Seminar held at the end of September 2018 was a great success and covered Kiln Isolation & Process Safety; and Stored Energy Awareness & Examples.

However, whilst the number of incidents across all employees and contractors has reduced by 40% from 2011 levels, there has been an increase in lost time incidents compared to the low levels achieved in 2014, and in 2018 more lost time injuries were reported for direct employees compared to contractors/third parties.

BLA Members remain vigilant and are taking active steps to address these issues, with work undertaken during 2019 including:

- A 'Good Practice' Safety Seminar covering Point of Work Risk Assessments.
- An Occupational Health Survey to identify any gaps in the industry's approach.
- A Safety Climate Survey to gauge improvement in safety culture.



People

352 direct employees

5,016 employee training hours

£72k charitable donations made

678 voluntary hours worked by staff during normal working hours

13 local liaison meetings

523 visitors to lime plants

OBJECTIVE: EMPLOYMENT

Improving the profile and perception of the sector to attract employees and offer rewarding career opportunities.

The UK lime sector continues to provide rewarding opportunities for the local community and beyond. BLA Members have active apprenticeship schemes that help young people build careers in the manufacturing and administrative sectors.

Starting in 2018, BLA Members have initiated contact with higher education institutions with a view to raising the profile of lime in teaching, to enhance understanding of the material and its uses, and to attract a wider range of candidates to the career opportunities arising in the sector.

OBJECTIVE: LOCAL COMMUNITIES

Engaging fully with local communities and striving to be a good neighbour.

BLA Members and Associate Members routinely engage with their local communities, making an active contribution through formal volunteering, and by encouraging informal staff-organised charitable activities.

Employees of the Singleton Birch Group took part in a 134 mile Coast to Coast Cycle Challenge - the John Muir Way in Scotland. This is the 5th multiday coast to coast completed by staff and associates of Singleton Birch, raising over £7,000 for Lindsey Lodge Hospice during the last few years.

Showing their commitment to the Lhoist Move and Care Challenge, the Whitwell Plant arranged a wellness event during March. A team carried out a 1 hour walk around Creswell Crags – including litter picking duties around the area – whilst racking up the kilometres as a team. The event concluded with a lunch at the Creswell Crags Visitor Centre.

As part of its ongoing partnership with the Peak District National Park, a team from Tarmac volunteered for path building/clearing to tackle overgrown brambles and hedgerows on the path alongside Shining Bank Quarry, Alport, near Bakewell - making the route safer for walkers.

Resource Use

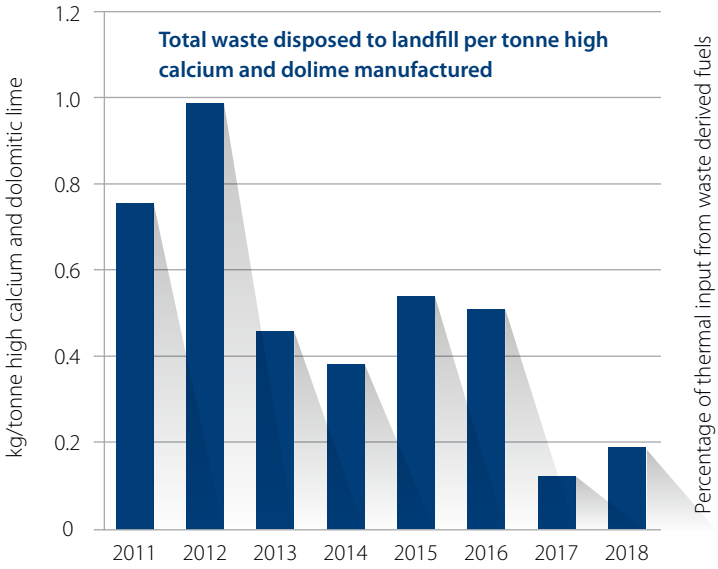
OBJECTIVE: WASTE

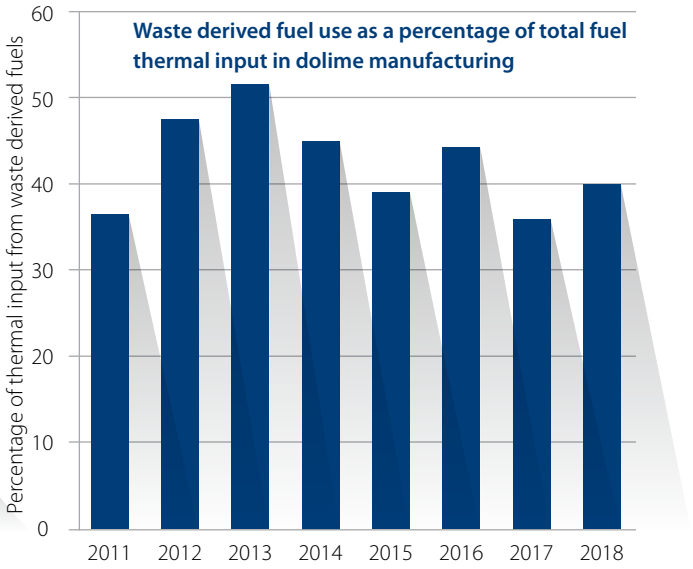
Minimising waste and maximising re-use and recycling.

All BLA Members and Associate Members continue to minimise the waste they send to landfill, seeking recycling and recovery routes where possible.

Dolime producers continue to use waste derived fuels as an alternative to fossil fuels.

As the mineral content of fuels is recycled into the dolime product, the specification of input materials is strictly controlled and the quantity of waste derived fuels used in any year will depend on market demand for different product types as well as on the availability of waste derived fuels.





Climate Change and Energy

OBJECTIVE: CARBON AND ATMOSPHERIC EMISSIONS

Reducing emissions in accordance with the MPA carbon route maps and Government objectives.

BLA Members and Associate Members manage carbon dioxide (CO_2) emissions in accordance with the European Union Emissions Trading System (EUETS). Under the EUETS, emissions of CO_2 from high calcium lime production are normalised to a standard purity high calcium lime content[1].

CO_2 emissions result from the combustion of fuels and the thermal decomposition of input materials during the high temperature manufacturing process – referred to as combustion and process CO_2 respectively.

Dolime manufacturing has reduced its CO_2 emissions from combustion by using alternative fuels from biomass sources. These emissions have reduced by 17% compared to 2011 and are now around 528 kg CO_2/tonne dolime, compared to 636 kg CO_2/tonne in 2011.

This option is not available to high calcium lime manufacturers who rely on natural gas to maintain high purity required by the product standards of their diverse markets.

Despite investments to improve energy efficiency and reduce fossil fuel use, a step change in decarbonisation will only be possible with the widespread deployment of carbon capture technologies. The lime industry remains engaged in the development of such technologies, such as the European LEILAC project - www.project-leilac.eu.

Industries supported by lime

- Construction
- Food production
- Iron & Steel
- Paper products
- Water treatment
- Glass making
- Emissions control
- Plastics
- Agriculture
- Pharmaceuticals

Natural Environment

OBJECTIVE: ENVIRONMENTAL PROTECTION

Minimising and mitigating operational impacts.

BLA Members and Associate Members are regulated by the Environment Agency under the Environmental Permitting Regulations. As such, the sector implements the best available techniques for environmental protection and manufacturers comply with strict emission limits.

BLA Members and Associate Members commitment to high standards of environmental management are reflected by the low number of environmental incidents associated with the sector. No major incidents (Category 1 or 2) have been recorded[2].

Changes to production and investment in abatement technologies have resulted in reductions in emissions to air from lime manufacturing, which were 1,370 tonnes lower in 2018 compared to 2011.

Emissions are known to vary with the market demand for different products and with changes to production facilities. These variations explain the changes in emission levels on a year by year basis.

Built Environment

OBJECTIVE: SUSTAINABLE CONSTRUCTION

Influencing the design and procurement of the built environment with high quality and sustainable solutions.

Lime is used in multiple construction products:

- Mortars and renders - as a binder and as an addition to other binders to deliver required characteristics when being applied and when hardened.
- Soil stabilisation - as a soil modifier through its heat of hydration and in binding with clay minerals in the soil, enabling the use of other binders to deliver required characteristics.
- Earthworks - as a soil modifier to enable handling and placing of materials.
- Aerated autoclaved concrete product manufacturing - as a key ingredient to activate production of voids and pores.
- Calcium silicate brick/ product manufacturing - as a key ingredient to combine with the silica.
- Asphalt – as a multimodal additive.

The 2017 British Lime Association Conference – Lime in Road Solutions - brought together over 75 delegates from across the highways supply chain to discuss the use of hydrated lime in asphalt and for soil stabilisation.

The conference presented international experience and the latest UK-research on the use of hydrated lime in asphalt. These findings gained the interest of UK highway asset managers and the BLA is actively engaging with highways stakeholders with the ambition of identifying suitable sites, mixtures and materials for road trials.

RESOURCE USE									
	Units	2011	2012	2013	2014	2015	2016	2017	2018
Waste sent to landfill for all lime manufacturing	kg/t	0.77	0.98	0.43	0.39	0.54	0.53	0.13	0.19
Proportion of alternative fuels in dolime manufacture	%	36	47	51	45	39	44	36	40

ENERGY AND CLIMATE CHANGE								
Units: kg CO_2/t	2011	2012	2013	2014	2015	2016	2017	2018
CO_2 emissions from calcination of standard purity quicklime (process emissions)	663	660	696	679	677	697	677	665
CO_2 emissions from calcination of quicklime (process emissions)	673	670	705	691	688	708	687	674
CO_2 emissions from combustion of fossil fuels used to produce standard purity quicklime	231	229	236	234	238	231	239	241
CO_2 emissions from combustion of fossil fuels used to produce quicklime	234	233	239	239	242	235	242	244
CO_2 emissions from calcination of dolime (process emissions)	708	677	692	692	711	779	759	772
CO_2 emissions from combustion of fossil fuels used to produce dolime	636	563	586	598	503	532	543	528

NATURAL ENVIRONMENT								
Units: kg emission/t	2011	2012	2013	2014	2015	2016	2017	2018
Emissions of NOx from quicklime manufacture	0.25	0.52	0.27	0.13	0.09	0.14	0.11	0.19
Emissions of NOx from dolime manufacture	12.77	13.69	13.14	8.84	16.15	16.19	16.91	17.71
Emissions of particulate matter from quicklime manufacture	0.05	0.04	0.06	0.06	0.05	0.06	0.07	0.05
Emissions of particulate matter from dolime manufacture	0.46	0.43	0.32	0.25	0.24	0.20	0.13	0.14
Emissions of SO_2 from quicklime manufacture	0.14	0.07	0.03	0.02	0.03	0.05	0.02	0.01
Emissions of SO_2 from dolime manufacture	4.92	5.90	4.54	1.93	1.20	0.96	1.29	3.41

Note: Emissions are known to vary with the market demand for different products and with changes to production facilities. These variations explain the changes in emission levels on a year by year basis.

make the link
to mineral products

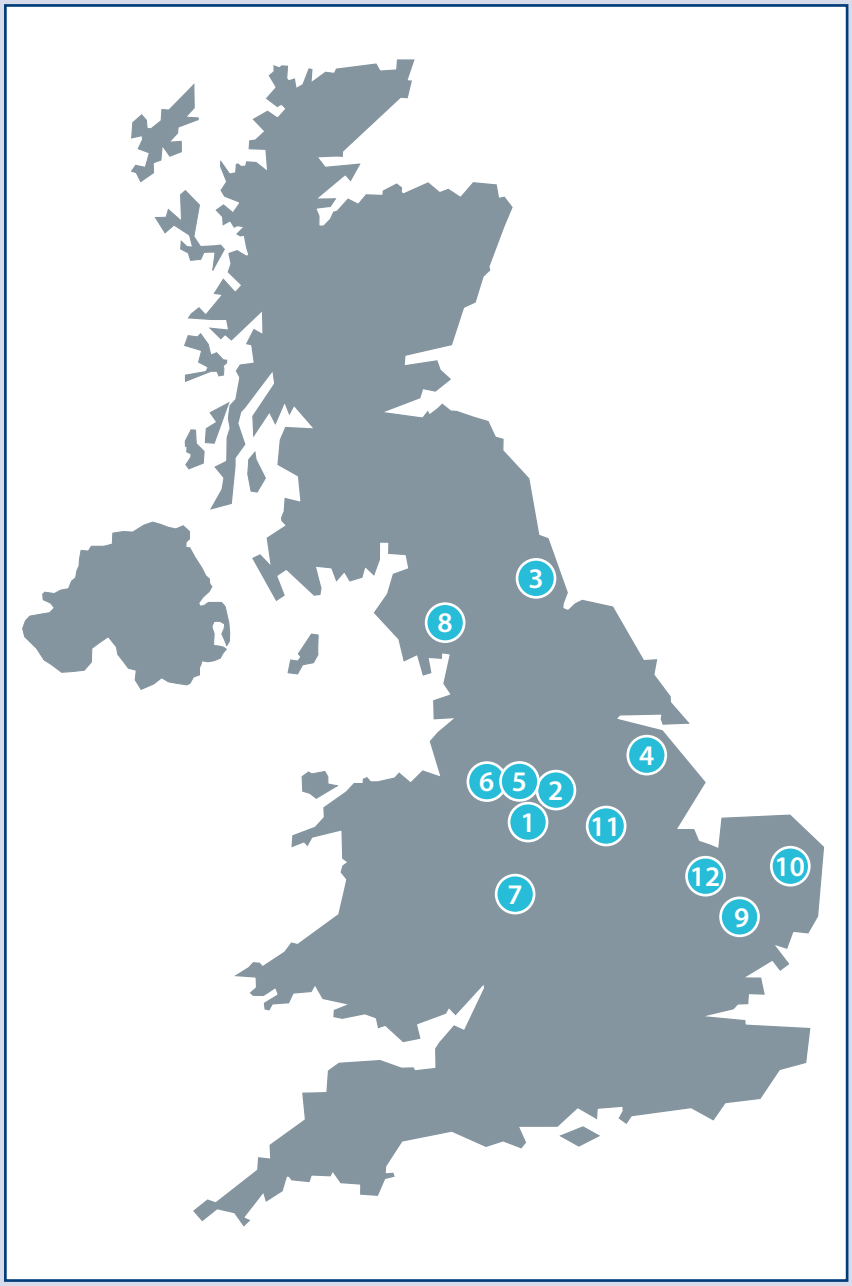
LIME PLANTS

BLA Members

Factory/Site Owner	Location	
Lhoist UK	Buxton	1
	Whitwell	2
	Thrislington	3
www.lhoist.co.uk		
Singleton Birch	Melton Ross	4
www.singletonbirch.co.uk		
TARMAC	Tunstead	5
	Hindlow	6
www.tarmacbuxtonlime.com		

BLA Associate Members

Factory/Site Owner	Location	
Specialty Minerals	Birmingham	7
www.mineralstech.com		
TATA STEEL	Shapfell	8
www.tatasteeleurope.com		
BritishSugar	Bury St Edmunds	9
	Cantley	10
	Newark	11
	Wissington	12
www.britishsugar.co.uk		



NOTES

1 Standard purity stated for lime (94.5%) is sourced from the EU Commission Decision of 27 April 2011 "determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council", Page 37 Available: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:130:0001:0045:EN:PDF

2 Environment Agency's Compliance Classification Scheme (CCS):

Category 1 incident defined as "a non-compliance which would have the potential to have a major environmental impact".

Category 2 incident defined as "a non-compliance which would have the potential to have a significant environmental impact".

Category 3 incident defined as "a non-compliance which would have the potential to have a minor environmental impact".

Category 4 incident defined as "a non-compliance which has no potential to have an environmental impact".

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

British Lime Association
Gillingham House, 38 - 44 Gillingham Street
London SW1V 1HU
Tel +44 (0)20 7963 8000 Fax +44 (0)20 7963 8001
bla@mineralproducts.org
www.britishlime.org

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