



Sustainability Matters 2017

The Precast Sector's Sustainability Performance Report (2016 Data)

Sustainability Matters 2017

This year marks the 10th anniversary since we first launched the Precast Sustainability Strategy. The strategy, and Raising-the-Bar scheme, continues to be a success with our sector taking responsibility and investing in improvements.

Since 2008, the precast sector has reduced manufacturing carbon emissions by 26%, mains water consumption by 31% and factory waste to landfill by well over 95%. All but one of our Sustainability 2012 Targets were achieved successfully and our member companies continue to make good progress towards the 2020 targets. The mandatory annual environmental auditing initiative is offering valuable feedback to both members and the trade association on a wide range of sustainability aspects. We continue to encourage more precast manufacturers to join British Precast and take part in the sector's Sustainability Strategy and KPI initiative.

This year will also mark the publication of eight of our generic Environmental Product Declarations (EPDs) covering all main precast product groups. We now have a better understanding of our sector's environmental profile and environmental impacts: from Cradle to

Grave. Members of British Precast are now able to develop EPDs using our verified tool for a fraction of the price available to competitors outside our sector. British Precast is also involved in a number of other initiatives, including the Sustainable Concrete Forum's strategy and annual performance reports, the Resource Efficiency Action Plans (REAPs) and Green Construction Board's (GCB) Infrastructure Carbon Review.

Andrew Minson
Executive Director
British Precast

ANNUAL SUSTAINABILITY DATA COLLECTION

Data for 2016 covers 143 production units and approximately 15.484 million tonnes of product. Total production output for the industry in 2016 is estimated to be just under 20 million tonnes. It is estimated that data has been reported for approximately 77.5% of the year's production, compared with 76.7% coverage in 2015, 71.1% in 2014 and 51.2% in 2012 (baseline year). This percentage may go up as more member sites submit data over the next few months. The following statistics have been calculated from the data supplied to date.

Note: Some data items can only be estimated due to legal or technical restrictions.

Members of British Precast can use this data capture exercise and the targets set by the industry to help demonstrate conformance to the Responsible Sourcing of Materials standard, BES 6001, with regards to stakeholder engagement etc.

Third party certification auditors are welcome to contact British Precast to gain confirmation that annual KPI data has been supplied.

(Picture right) British Precast is part of the wider concrete industry Sustainable Concrete Forum which publishes an annual performance report. Data reported in this document is input into the wider industry report.



Key Performance Indicators

These indicators provide an overview of the impact of the precast sector on society and environment, and how that impact is managed. The figures reported here relate to the 2016 performance compared to the previous year (2015) and targets baseline year (2012). Notes are included to indicate whether the 2020 targets are being achieved.

PRODUCTIVITY

The companies reporting data employed 8,298 full-time equivalent staff in 2016. This is lower than the 8,936 in 2015, but higher than the 7,281 in 2014 and 6,585 in 2012.

1,866 tonnes of concrete was produced per employee in 2016, compared to 1,696 tonnes in 2015, 1,960 tonnes in 2014 and 1,524 tonnes in 2012.

RESPECT FOR PEOPLE & THEIR LOCAL ENVIRONMENT

42 sites (31.7%) operated formal local liaison schemes during 2016. This is compared to 34 sites (23.28%) in 2015, 42 sites (32.05%) in 2014 and 49 sites (40.5%) in 2012.

RESOURCE USE - WATER

77.81 litres of mains water were used per tonne of precast in 2016. This is compared with 93.15 litres of mains water used per tonne of precast produced in 2015 and 92.6 litres and 84.5 litres of mains water reported in 2014 and 2012 respectively. Ground water use per tonne of precast was around 39.3 litres in 2016, compared to 41.2 litres in 2015, and 41.0 litres and 46.8 litres per tonne in 2014 and 2012 respectively. Water from other sources such as harvesting and recycling is not included in these figures.
Note: The 2020 target for mains water is yet to be achieved.

RESOURCE USE - WASTE

33.09 kg of waste was produced per tonne of concrete in 2016, of which only 0.89 % was disposed to landfill, 50.96% was recycled on site and 48.0% recycled off site. The overall waste figure is lower than waste per tonne in 2012 (39.80%), and lower than in 2014 (33.31%). Waste to landfill was 0.30 kg per tonne in 2016, compared to 0.48 kg/tonne in 2015 and 0.72 kg/tonne in 2014 and 1.76 kg/tonne in 2012.
Note: Waste to landfill has been reduced by 1.4 kg/t since 2012.
The sector is on track to achieve the 2020 target for waste to landfill.

QUALITY & SATISFACTION

13.15 million tonnes, or 84.94% of reported production (84.11% of sites) was covered by an ISO 9001 UKAS accredited quality management system. This is compared with 87.3%, 91% and 90% in 2015, 2014 and 2012 respectively.
Note: The 2020 Target to achieve 95% of production to be covered by a Quality Management System is still to be achieved.

ENERGY, INCLUDING CLIMATE CHANGE

Factory energy consumption increased slightly to 52.87 kWh/tonne of precast, produced in 2016. This is compared to 47.78 kWh/t in 2015, and 48.6 kWh/t and 50.6 kWh/t in 2014 and 2012 respectively. 48.7% of the factories' energy was from gas, 18.37% was from electricity and 27.23% from gas oil / diesel. Factory carbon emissions increased slightly to 12.82 kg CO₂ per tonne, compared to 12.45 kg CO₂/t, 12.9 kg CO₂/t and 14.22 kg CO₂/t reported in 2015, 2014 and 2012 respectively. 35.56 % of production is now covered by ISO 50001 compared to 36.33% in 2015.
Note: The 2020 Target to achieve a 10% reduction in energy use and a 20% reduction in CO₂ emissions is still to be achieved.

POLLUTION/EMISSIONS, INCLUDING TRANSPORT

89.04% of reported production tonnage (around 86.58% of all sites) was covered by an ISO 14001 or EMS UKAS certified environmental management system in 2016. This is compared to 88.06%, 83.4% and 88.3% of reported production in 2015, 2014 and 2012 respectively.
Note: The sector is on track to achieve the 2020 target for 95% of tonnage to be covered by an Environmental Management System.

For the eighth year, no environmental incidents (convictions) were recorded or reported to external regulatory authorities in 2016. Only one single incident was reported in 2008.
Note: The 2020 target to maintain ZERO convictions is being achieved.

Most companies in 2016 supplied transport data. Results show that the average lorry carried 18.83 tonnes of precast per delivery. This is compared with averages of 16.95, 20.6 and 17.45 tonne in 2015, 2014 and 2012 respectively. The average delivery distance in 2016 was 95.51 km.
Note: The 2015 target to improve the capture of transport data was successfully achieved.

10,997 million tonnes, or 71.0 % of reported production, were covered by BES 6001 certified Responsible Sourcing systems in 2016. This is slightly lower than figures reported by the scheme (e.g. 73.3% in 2015 and 75.0% in 2014) and similar to the 71.1% reported in 2012. The percentage of sites covered by BES 6001 is around 62.6% of the total number of sites included.
Note: The 2020 Target to achieve 95% of production to be covered by a Responsible Sourcing scheme is still to be achieved.

RESOURCE USE - MATERIALS

0.146 tonnes of cementitious materials were used per tonne of precast produced in 2016, roughly consisting of 4.08 % fly ash, 4.17 % ground granulated blastfurnace slag and 3.05 % limestone fines. Overall replacement of Portland cement was around 14.4 % in 2016 compared to 15.9%, 16.6% and 23.9% in 2015, 2014 and 2012 respectively.
Note: The 2020 target to increase the use of alternative cement replacement to 25% is still to be achieved.

21.6 % of aggregates used were of recycled or secondary origin compared to 21.6%, 22.3% and 20.3% in 2015, 2014 and 2012 respectively.
Note: The 2020 Target of 25% recycled aggregates is yet to be achieved.

HEALTH & SAFETY

9.08 million tonnes, or 58.67 % of reported production was covered by an OHSAS 18001 UKAS certified health & safety management system in 2016, which is higher than 2015 (52.50%) and lower in percentage than 2012 (64.9%) but higher than in 2014 (54.2%).

The LTIFR rate in 2016 was 6.62 per million hours compared to 7.24 and 6.06 in 2015, 2014 and 9.8 in 2012.

EMPLOYMENT POLICIES INCLUDING TRAINING

98.83 % of reported employees were covered by formal training and development policies in 2016. An average of 17.19 hours of training was provided per employee, which is higher than the 11.9 hours reported in the baseline year (2012), but lower than the 18.6 hours per employee provided in 2015.

The percentage coverage is slightly higher than the 98.12%, 97% and 98.5% reported in 2015, 2014 and 2012 respectively.

Note: The sector is on track to achieve the 2020 target to have 100% employees covered by formal training under ISO 9001, ISO 14001 or any other management system.

Development on ICR, REAP, EPDs and other initiatives

British Precast continues to be a committed and active member of the Infrastructure Carbon Review (ICR) pledge and the current ICR/ Green Construction Board Carbon Practitioners' Network. We are working with a number of contractor, developer and public organisations in the implementation of the first carbon management standard for the construction industry: PAS 2080, The Infrastructure Carbon Management standard.

Following the publication of our Resource Efficiency Action Plan (REAP) Performance Report earlier this year, we began to align it more closely with the concept of the Circular Economy, and to enable further engagement with contractor and supply chain organisations, such as Build UK and the Supply Chain Sustainability School. A copy of the action plan and the first performance report can be found on the British Precast website. An interactive PDF tool is being developed this year to support the understanding of customers and members of the government Balance Scorecard initiative. The interactive pdf is based on a new CPA online document.

British Precast has also been involved in the drafting, development and revision of a number of industry standards and guidance documents, including a number of CEN's TC350 "Sustainability of Construction Works" standards, the GBC's *Embodied Carbon Client Brief*, RICS' new Carbon professional statement and BSI's new Circular Economy standard BS 8001.

Our EPD project is delivering generic declarations covering all main precast product groups. We have developed one of the most comprehensive EPD tools in the industry, which will now enable our member companies to develop the most complicated of verified product EPDs for a very modest price. British Precast also continues to contribute to a number of Building Information Modelling (BIM) committees, enabling the implementation of BIM in industry and continues to seek means to develop industry generic BIM objects and product data templates.



Thinkstep's Jane Anderson (centre) presents British Precast's sustainability team, Matt Butcher (left) and Hafiz Elhag (right), with the first verified generic EPD (150mm Hollowcore Flooring) at EcoBuild 2017.

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British Precast is the trade association for precast concrete manufacturers and members of the supply chain.

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

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(Cover image) Image courtesy of ACME architects.

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