

9.5%

CO2 emissions were **reduced** by 9.5% compared to 2012.



97%

of **waste** recycled



# Sustainability Matters 2015

# Sustainability Matters Update May 2015

This is the 10th report published by British Precast as part of our Sustainability Charter and 'Raising the Bar' programme to build a more sustainable precast concrete sector.

Since our first KPI report in 2008, our member companies were able to reduce their factories' energy and carbon emissions by 26%, their factory water consumption by 27%, and their factory waste to landfill by well over 80%. Despite challenging and difficult times, our sector continued to report and lead on sustainability. This year we have seen the highest level of participation from members and our figures represent approximately 75% of the whole UK precast sector.

As our reporting systems improve and more companies take part and submit further detailed data, our numbers are becoming more accurate and this has led to an increase in a few of our indicators compared to last year. Changes to definitions, guidelines and indicators also contributed to the rise in some of the KPIs (e.g. carbon emissions, materials resource use). However, we are still managing to report improvements over our 2012 baseline and are on course to achieve our 2020 targets.

I am also pleased to announce that British Precast has now signed up to the Infrastructure Carbon Review (ICR) pledge. We committed to meeting the same 2020 targets we have on carbon emissions, energy consumption, waste to landfill and low carbon cements. However, we hope that this step enables us to work more closely with contractors and developers to enable further carbon reductions throughout the industry's supply chain. We are also expecting the first of our Environmental Product Declarations (EPDs) and our First Year Resource Efficiency Action Plan (REAP) report to be published later this year.

**Andrew Minson**  
Executive Director  
British Precast

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 at liberty to make contact with British Precast to gain confirmation that annual KPI data has been supplied.



# 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 2008 to 2014. Notes are included to indicate how performance has changed since 2008 and whether the 2020 targets are being achieved.*

## COVERAGE

Data for 2014 cover 45 companies and are related to 139 production units and approximately 14.95 million tonnes of product. There are believed to be over 600 precast production units in the UK and the total production output for the industry in 2014 is estimated to be over 20M tonnes. It is estimated that data has been reported for 75% of the year's production, compared with only 48% in 2008 and 51.2% in 2012 (baseline year). The following statistics have been calculated from the data supplied.

## PRODUCTIVITY

The companies reporting data employed 7,281 full-time equivalent staff in 2014. This was higher compared to 6,585 in 2012. But it is still lower than the number employed in 2008 when member companies reported 8,681 full-time members of staff. 1,960 tonnes of concrete was produced per employee in 2014, compared to 1,524 tonnes per employee in 2012 and 1,589 tonnes per employee in 2008.

## RESPECT FOR PEOPLE & THEIR LOCAL ENVIRONMENT

42 sites (32.05%) operated formal local liaison schemes during 2014. This is compared to 49 sites (40.5%) in 2012 and only eight sites in 2008.

## RESOURCE USE - WATER

92.6 litres of mains water were used per tonne of precast produced in 2014. This is compared with 108.5 litres and 84.5 litres of mains water reported in 2008 and 2012 respectively. Ground water use per tonne of precast was around 41 litres compared to 46.8 litres/t in 2012 and 69.5 litres/t in 2008. Water from other sources such as harvesting and recycling is not included in these figures.

*Note: More accurate numbers are expected by the end of the year. But the 2020 target for mains water reduction is yet to be achieved.*

## RESOURCE USE - WASTE

33.78 kg of waste was produced per tonne of concrete in 2014, of which 2.13 % was disposed of to landfill, 46% was recycled on site and 51.4% recycled off site. The overall waste figure is 15% and 19% lower than waste per tonne in 2012 and 2008, which were 39.7 kg and 42 kg of waste per tonne (respectively). Waste to landfill was no more than 0.72 kg per tonne in 2014, compared to 1.76 kg/t in 2012 and 5.6 kg/t in 2008.

*Note: Waste to landfill was reduced by 1.04 kg/t since 2012. The 2020 target for waste to landfill is yet to be achieved.*

## QUALITY & SATISFACTION

13.45M tonnes, or 90% of reported production (80.6% of sites covered) was covered by an ISO 9001 UKAS accredited quality management system. This is compared with 80% and 90.7% in 2008 and 2012 respectively. *Note: Targets for Quality Management Systems to 2020 is yet to be achieved.*

## ENERGY, INCLUDING CLIMATE CHANGE

49 kWh of energy was used per tonne of precast produced in 2014, of which 57.1% was gas, 20.4% was electricity and 17.1% was gas oil/ diesel. Despite an increase to Defra's electricity grid carbon intensity factor by 10% compared to the previous year, factory carbon emissions stayed at 12.87 kg CO<sub>2</sub> per tonne of precast produced, compared to 14.22 kg CO<sub>2</sub>/t reported in 2012. *Note: CO<sub>2</sub> emissions and energy usage per tonne were reduced by 9.5% and 3.2% respectively. 2020 Targets for energy usage and CO<sub>2</sub> emissions are yet to be achieved.*

## POLLUTION/EMISSIONS, INCLUDING TRANSPORT

83.4% of reported production (around 74% of all sites) was covered by an ISO 14001 or EMAS UKAS certified environmental management system in 2014. This is compared to 88.3% of reported production in 2012. However, the tonnage covered (12.46M tonnes) is the highest to be reported under an environmental management system since KPI data collection started.

*Note: The 2020 target on levels of Environmental Management Systems coverage is yet to be achieved.*

For the sixth year, no environmental incidents (convictions) were recorded or reported to external regulatory authorities in 2014. Only one single incident was reported in 2008. *Note: The 2020 target to maintain ZERO convictions is being achieved.*

Almost all companies in 2014 supplied transport data. Results show that the average lorry carried 20.6 tonnes of precast product per delivery. This is compared with averages of 17.45 and 18.6 tonnes in 2012 and 2008 respectively. The average delivery distance in 2014 was 107 km, compared with 148 and 203 km reported in 2012 and 2008 respectively. *Note: The 2015 target to improve the capture of transport data was successfully achieved.*

10.96 M tonnes, or 73.3% of reported production, was covered by BES 6001 certified Responsible Sourcing systems in 2014. This is the highest tonnage ever to be covered by Responsible Sourcing systems and compares favourably with 69.6% and 39.8% of reported production in 2012 and 2009 respectively. The percentage of sites covered by BES 6001 is around 62.6% of the total number of sites included. *Note: The 2020 target for Responsible Sourcing is 95% of coverage and is yet to be achieved.*

## RESOURCE USE - MATERIALS

0.145 tonnes of cementitious materials were used per tonne of precast produced in 2014, roughly consisting of 8.15% fly ash, 4.23% ground granulated blast-furnace slag, 10.4% quicklime and 3.86% limestone fines. Overall replacement of Portland cement was around 16.6% in 2014 compared to 23.9% and 20.2% in 2012 and 2008 respectively. The main reason for the significant drop is due to an amendment to the definition of low carbon cementitious elements as quicklime was excluded.

Otherwise the Portland cement replacement rate would have been 21.2%. *Note: The 2020 Target of 25% alternative cement replacement is currently not being achieved.*

Aggregates usage went down slightly in 2014, at 0.820 tonnes per tonne. 22.3% of aggregates used were of recycled or secondary origin.

*Note: The 2020 Target of 25% recycled aggregates is yet to be achieved.*

## HEALTH & SAFETY

7.92 M tonnes, or 53%, of reported production was covered by an OHSAS 18001 UKAS certified health & safety management system in 2014, which is lower in percentage than 2012 (56.7%) but much higher in terms of actual tonnage.

A maximum of 8583 employees in the industry were covered by the Health & Safety Charter Scheme in 2014. The estimated RIDDOR rate was 622 per 100,000 employees compared to 720 in 2013, 792 in 2012, 1,343 in 2008 and 3,920 in 2000, the scheme's original baseline year.

## EMPLOYMENT POLICIES INCLUDING TRAINING

7,058 (or 97%) of reported employees were covered by formal training and development policies in 2014. An average of 18.7 hours of training was provided per employee, which is higher than the 11.9 hours reported in baseline year 2012. The percentage coverage is slightly lower than the 98.5% reported in 2012 though the number of employees covered was higher. The percentage of employees covered by training was also higher than the 89.7% rate reported in 2008.

## BRITISH PRECAST TARGETS 2020

A new set of Sustainability Charter targets were approved by our Council in August 2013. All British Precast members are now committed to supporting the industry in achieving the following targets by 2020 based on 2012 as the baseline year:

- Reducing overall kWh/ tonne of energy used in production by 10%.
  - Reducing CO2 emissions for production by 20%.
  - Reducing overall factory waste by 10%.
  - Reducing factory waste to landfill to < 0.5 kg/ tonne.
  - Increasing the proportion of alternative cement additions (as a % of total cement) to 25%.
  - Increasing the proportion of recycled/ secondary aggregates (as a % of total aggregates) to 25%.
  - Reducing mains water consumption by 20%.
  - Reduction in accident frequency of 65% between 2014 and 2018.
  - Increasing the tonnage, as well as production sites, covered by an EMS (e.g. ISO 14001) to 95%.
  - Increasing the tonnage, as well as production sites, covered by a quality system (e.g. ISO 9001) to 95%.
  - Increasing the tonnage, as well as production sites, covered by a Responsible Sourcing standard (e.g. BES 6001) to 95%.
  - Reducing the convictions for air and water emissions to zero.
  - Improving the capture of transport data up to 2015 (a target will be set for 2016).
  - Increasing the % of employees covered by a certified management system (e.g. ISO 9001/ ISO 14001/ OHSAS 18001) to 100%.
  - Increasing the % of employees covered by MPA Safer by Competence training and qualifications to 100%.
  - Maintaining the % of relevant production sites that have community liaison activities at 100%.
- + Targets for OHSAS 18001/ Achilles production coverage, transport, and Lost Time Injury (LTI) to be set in 2015/ 2016.
- + The 2020 targets will be subject for a review and update in 2016.

## PRECAST SUSTAINABILITY CHARTER

The Sustainability Charter was launched on the 29th November 2007. Members are committed to the following:

- Develop products that improve the quality and sustainability of the built environment.
- Liaise effectively with local communities to foster mutual understanding and respect.
- Manage all waste streams effectively and minimise waste disposal to landfill.
- Measure, report and improve performance on sustainability issues.
- Minimise pollution and emissions associated with production and transportation.
- Operate in a responsible manner to protect employees, contractors and visitors.
- Operate in an efficient and financially sustainable manner without compromising legal, quality or sustainability principles.
- Operate to the highest ethical standards necessary to develop a skilled and competent workforce.
- Operate to the highest quality standards necessary to satisfy customers and consumers.
- Protect and enhance the natural environment adjacent to or affected by precast production.
- Recognise that competition encourages the development of more sustainable products and practices.
- Use energy more effectively and reduce carbon footprints.
- Use primary materials more efficiently and promote the use of secondary materials.
- Use water more efficiently and minimise demands on mains water supplies.
- Work constructively with other organisations to deliver sustainable policies and practices.

## INFRASTRUCTURE CARBON REVIEW, REAP, EPDS & BIM

British Precast became the first construction product trade body to sign up to the Infrastructure Carbon Review (ICR) pledge in 2015. Through the ICR Carbon Practitioners' Network, British Precast will work with the Green Construction Board, contractors and developers to address the infrastructure sector's embodied and operational carbon emissions and find ways to link the precast sector's 'Raising the Bar' scheme to the indicators, measures and methodologies used by contractors and developers in the

sector. British Precast is also establishing similar links with other stakeholder and supply chain partner groups through the Resource Efficiency Action Plan (REAP) programme. A copy of the REAP can be found at the Sustainability Charter website [www.bpcfcharter.com](http://www.bpcfcharter.com).

The precast sector continues to contribute to the concrete industry Sustainability Strategy and Roadmap to 2020. More information on the industry sustainability strategy can be found at [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk).

In 2015, we will launch the first of our precast

products' Environmental Product Declarations (EPDs) in accordance with EN 15804. This will be followed by another seven precast concrete products declarations. British Precast 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.

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