



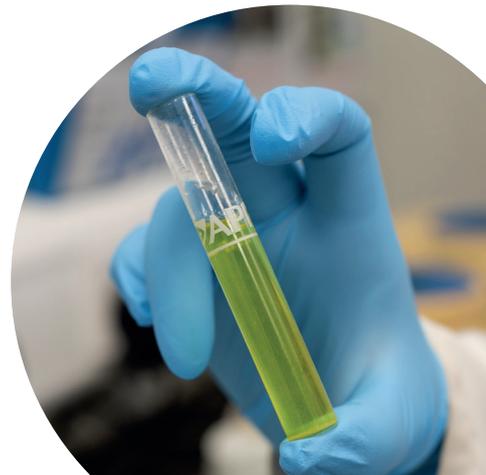
CARBON : CAPTURED

# SUSTAINABILITY REPORT 2019 – 2020



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# Executive Summary

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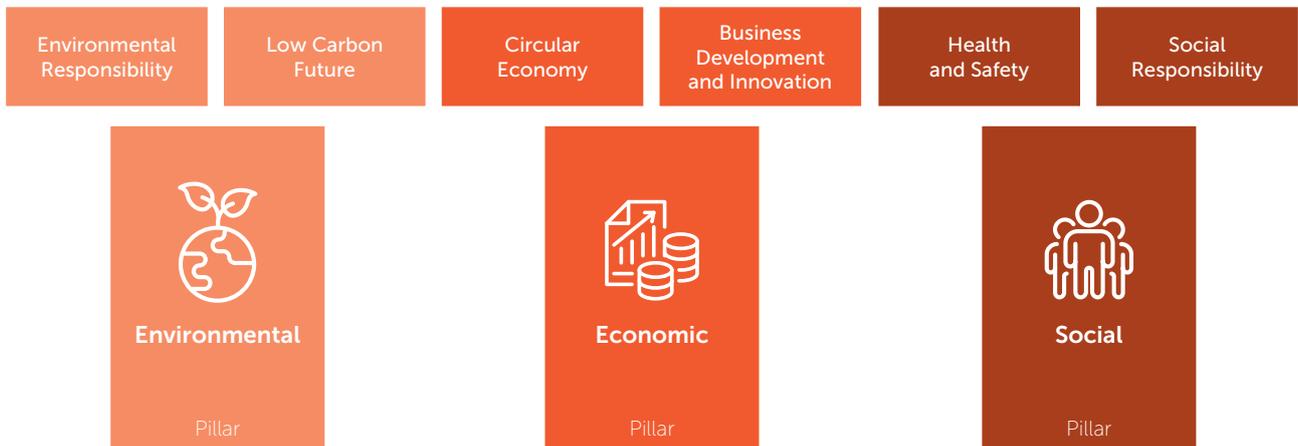


The first sustainability report produced by O.C.O Technology Ltd. (O.C.O) provides an opportunity to demonstrate how sustainability is an integral part of our business. We manufacture a carbon-negative aggregate product (Manufactured LimeStone – M-LS) with exceptional sustainability credentials. M-LS is composed of chemically transformed waste materials as well as recycled secondary construction materials. In use, M-LS replaces virgin aggregate and thereby safeguards natural resources. It is an excellent example of the 'circular economy' in action, with the added benefit the waste treatment process permanently sequesters carbon dioxide.

Although sustainability has always been part of our business ethos, we have developed a sustainability strategy to enable clearer focus and communication of its importance. Our new Sustainability Policy (see link) encompasses the three pillars of sustainability: environmental, social and economic. Within this framework we have identified six key themes to structure our ongoing sustainability action plans and reporting.

These are:

### O.C.O Sustainability Themes



This report establishes verified baseline performance in key performance indicators set across these themes, together with targets for ongoing improvement. Many of these areas have been included in existing work programmes and progress over the last twelve months will be detailed in the following sections. To strengthen our sustainability profile, we are working to gain Responsible Sourcing Certification (BES6001) and developing an Environmental Product Declaration for M-LS.

We have three operational plants and offices in the UK, located at Brandon, Avonmouth and Leeds. This report covers our activities at all three plants and is in respect of our 2019 / 2020 financial year from 1 October 2019 to 30 September 2020. This period is referred to as 'this year' in the report. References to 'next year' mean the period 1 October 2020 to 30 September 2021. Our reporting metrics are by reference to the total tonnes of aggregate produced in the year, calculated from opening and closing stocks and sales.

**Steve Greig** – Managing Director



Objective:

**Protect, develop, and secure the business by exemplary compliance, continual improvement, and innovation**

## Business Development

Our business continued to grow this year with an increase in our customer base and a doubling of our aggregate sales team from two to four. APCr inputs increased by 35% year on year with aggregate production exceeding 310,000 tonnes. It has been a year of planning with projects underway for the expansion of both our Leeds and Avonmouth plants and relocation of our Brandon plant to a bigger site. New projects with partners in Japan, Australia and Europe have also been progressed, which we anticipate will come to fruition in 2021.

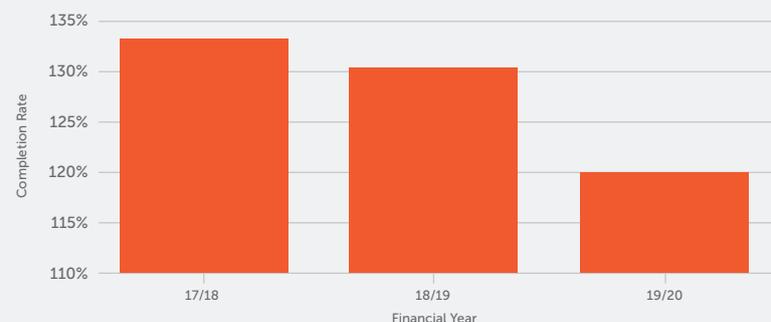
A review of our IT systems across all business functions was commenced in 2019/20 as an IMP action. This project will also continue in 2021, enabling effective data collation, retrieval and reporting systems that will support business progress and ongoing reporting.

## Management Systems

Throughout the year the business operated a PAS 99 management system certified to ISO 9001, ISO 14001, and OHSAS 18001; the certificates from ISOQAR are available on the web site (<https://oco.co.uk/about-us/>). We have been diligently preparing to move our Health and Safety certification to ISO 45001 and underwent a series of rigorous audits across the three sites in November and December 2020, receiving confirmation on 9 December 2020 that the business has passed and attained ISO 45001.

Quality control of our product is a priority for the business; we have laboratories and dedicated quality control technicians at each site to test both the input raw materials and the exported finished product. The local laboratories are supported by the extensively equipped central laboratory at Avonmouth, where high level QA / QC is undertaken as well as a significant programme of Research & Development. Our aggregate product is tested against BS standards for density and grading and in accordance with our End of Waste specification for leaching and strength. The number of tests we carry out exceed those required by the British Standard (see *Figure No.1*) and we have a target of having fewer than 0.5 non-conformances per 1000 tonnes aggregate. The figure this year was 0.3 as shown in *Figure No.2*.

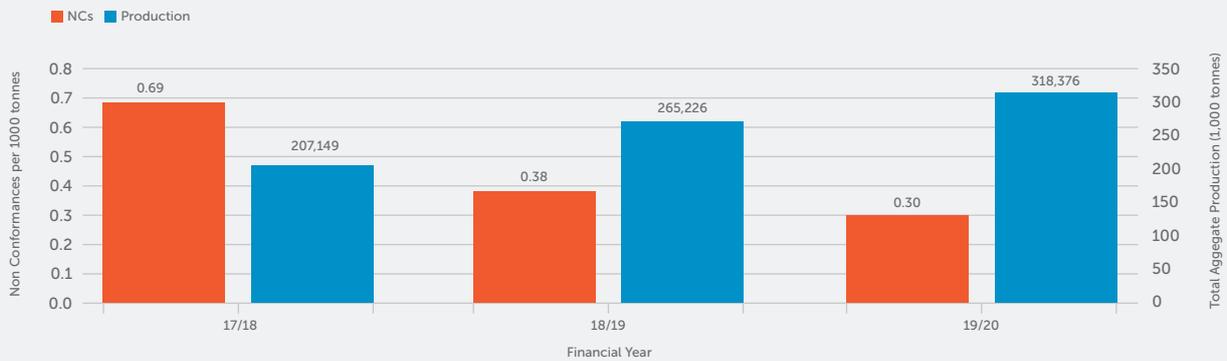
**Figure No.1 Aggregate tests compared to number of tests required by British Standards**



# Business Development and Innovation



Figure No.2 Non-conformances and Aggregate Production



## Innovation and R&D

Our business is built around the innovative ACT process that allows residual materials to be treated to create carbon negative materials. A three-year Research & Development plan was approved by the Board in 2019/20, one element of which will lead to a new laboratory being built at Avonmouth. The project will focus on process enhancements, product development and QMS/QA improvement.

A license agreement with CNPPS was agreed in 2019/20 to develop the use of our M-LS aggregate to create a carbon negative asphalt. Plans are underway to trial this material, initially on cycle routes. We are also carrying out trials using our aggregate in concrete which will continue into 2021, as will Continuous Professional Development training events to Tier 1 and Tier 2 contractors supplying materials to major UK infrastructure projects.

R&D spend has increased every year for the last three financial years and will continue to be monitored and reported annually see *Figure No.3* below.

Collaborative arrangements undertaken this year were:

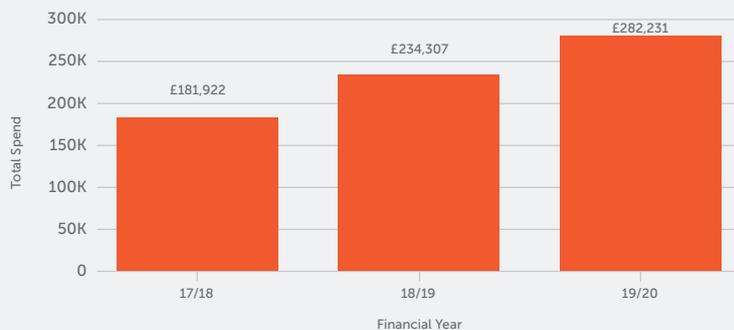
**Confidential – Japanese pilot plant**

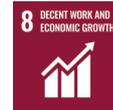
**Mitsubishi Corporation carbon credits research collaboration**

**Mitsubishi Corporation & partners steel slag carbon capture research collaboration**

**Confidential – collaboration with an Australian EfW facility**

Figure No.3 Total R&D Spend





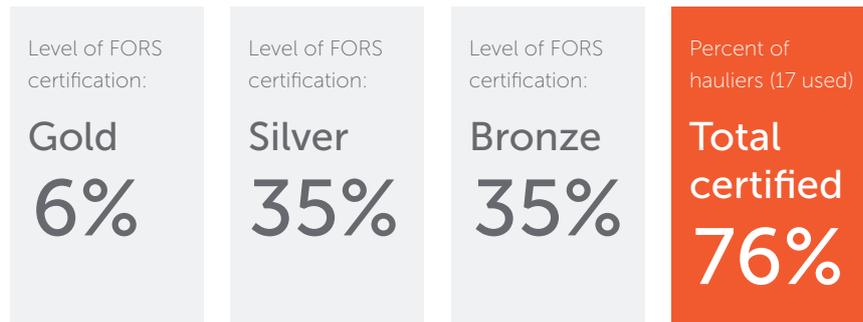
## Transport

Objective:

### Responsible management of transport

We do not operate any freight transport vehicles ourselves. Haulage of raw materials into the business is mostly carried out by the material suppliers themselves together with Grundon Waste Management Ltd., who move APCr using their carbon neutral bulk powder tanker fleet. The haulage of outgoing product is split with approximately 70% being customer collect and 30% being arranged by O.C.O using third party hauliers. A project is underway in 2020/21 to review the haulage arrangements for aggregate exports to improve efficiency. In the meantime, to ensure that hauliers are following best practice in relation to safety, efficiency and environmental protection, hauliers are encouraged to be certified to FORS (the Freight Operator Recognition Scheme).

Current certification levels are :



We have also introduced a target to increase year on year the percentage of contracted outgoing haulage loaded to 90% or above of load capacity to minimise the transport impacts; this year 86.5% of loads met this target as shown in the table below.

	Average truck capacity (tonnes)	90% capacity (tonnes)	No. loads 90% and above	Total no. loads	Percent above 90% capacity
Tipper 4-wheeler	10 tonnes	9	17	20	85.0%
Tipper 6-wheeler	16 tonnes	15.4	58	73	79.5%
Tipper 8-wheeler	19.5 tonnes	17.55	5963	6863	86.9%
Tipper artic	29.5 tonnes	26.55	5841	6778	86.2%
<b>Total</b>			<b>11879</b>	<b>13734</b>	<b>86.5%</b>

The average delivery load size was 23.14 tonnes and delivery distance 46.21 miles.

Employee business mileage has been monitored this year (averaging 257 miles per 1000 tonnes aggregate), although due to COVID-19 restrictions on travel, we do not consider that this mileage forms a realistic baseline for future targets which will seek reduction in miles travelled in non-electric cars. Monitoring will continue in 2020/21 to allow refinement of the target and action plan.



## Resource Use – Efficient Use of Constituent Materials

Objective:

**Protect natural resources by efficient use of constituent materials, maximising recovery, reuse and recycling**

Sixty-five percent of our M-LS aggregate constituent materials are recovered, recycled or by-product. By using these materials, we are safeguarding virgin materials for the future and avoiding the environmental impacts associated with their quarrying and production processes. The APCr that comprises around 50% of our constituent material would almost certainly be sent to landfill if we did not recover it.

Work was undertaken to increase the extent and range of recovered and recycled materials used in our production process this year. The amount of APCr processed and recovered exceeded budget. A number of alternative recycled materials were trialled as fillers or binders but due to slower general trading and delays in securing Environmental Permit variations, in part due to COVID-19, the increases achieved were limited. However, our target for next year is for a 10% increase in the use of alternative, recovered and recycled materials to replace virgin materials.

## Waste Prevention and Waste Management

Objective:

**Minimise waste and avoid landfill**

We are a net user of waste with, as noted above, 65% of our process inputs comprising recovered, recycled and by-product materials.

Total office and manufacturing waste generated was 611 tonnes equating to 1.97kg per tonne of aggregate produced. Our target to recycle all of this waste was not achieved, with 7.3% of it being recycled and the remainder disposed of. In the spring of 2020, a one-off drainage problem at Avonmouth resulted in over 565 tonnes of excavated material having to be disposed of which strongly impacted this year's disposal figure of 1.82kg per tonne aggregate. All sites recycle their general waste when possible and efforts are being made to reduce the amount of paper used in the business. Such recycled general waste volumes are low being 0.14kg per tonne of aggregate this year.

To benchmark this data, the British Precast Association, of which O.C.O is a member, publishes data on factory waste generated by its members (Ref Sustainability Matters, 2019). For the 2018 reporting period, total factory waste was 31.98 kg/tonne of product, factory waste to landfill was 0.25kg/tonne of product and factory waste recycled was 31.73kg/tonne of product.



# Environmental Responsibility



## Environmental Management

Objective:

**Maintain exemplary environmental performance**

We achieved our target of having no environmental complaints from neighbours or interventions from regulatory bodies this year, resulting in us maintaining our OPRA Band A classification from the Environment Agency at Brandon and Avonmouth and the Band B status at Leeds.

The database for recording environmental incidents was improved, together with staff training in its use. During the year, eighteen incidents were reported internally, allowing investigation where necessary and corrective actions to be taken to avoid recurrence. The most common type of incident was minor emissions when tankers were discharging, followed by small spills of hydraulic oil and diesel from vehicles. All incidents were contained in the controlled permitted areas within the sites.

## Water

Objective:

**Minimise overall water consumption using captured water where practicable**

Our biggest use of water is in the manufacturing process for which it is an essential ingredient. Some water is also used for dust suppression and in the offices at each site. We harvest rainwater at all three plants and are working to maximise the use of this and minimise the use of both mains water and abstracted borehole water.

Water plans have been prepared for all three sites this year enabling better understanding of flows, usage and any additional metering required. As a result, meters are to be installed on boreholes at both Leeds and Brandon – installation of these meters is a target for next year. Using estimates from flow rates, consumption of borehole water this year was 474 litres/tonne aggregate produced.

Mains water is already metered. Current overall mains consumption is 6945 litres per tonne of aggregate which compares with total consumption of 147 litres of water per tonne of aggregate, including borehole and harvested rainwater.

A target to reduce mains water consumption by 15 % by 2025 has been set.

## Lifecycle Analysis

Objective:

**Minimise lifecycle environmental impacts**

A PAS 2050 cradle to gate lifecycle assessment of our carbon emissions was carried out and verified by White Young Green in 2013 showing a carbon negative balance of -44 kilogrammes of CO<sub>2</sub> per tonne of aggregate produced. Using this same methodology the figure has been recalculated for the current year to be -45.12 kilogrammes CO<sub>2</sub> per tonne of aggregate produced. This year we have started work on developing a full Environmental Product Declaration (EPD) to provide a detailed lifecycle analysis. This work is due to be completed in Q1 2021.



Objective:

## Continuous Improvement to Health and Safety Performance

Lost time injuries



2

1



Medical treatment cases

First Aid treatment cases



33

TOTAL 36

This year has been unprecedented for O.C.O with the COVID-19 pandemic, which absorbed a lot of time and resources to enable our business to continue working safely throughout 2020. The health and safety of all involved with the business is a high priority and this year's experience with COVID-19 has demonstrated the importance of having everyone in the business engaged with our health and safety systems.

The total number of accidents this year was 36, the majority being first aid treatment cases. This led to an accident frequency rate of 0.29 accidents per 1000 hours worked, slightly higher than the previous year at 0.27.

The Senior Leadership Team continued to promote visible leadership by carrying out safety observations; improvements were made to the safety observation procedure including the creation of a new database enabling observations to be recorded effectively and efficiently. In total, 61 observations were carried out which exceeded the previous year's number of 59, but fell short of the target of 72 – this was due to travel restrictions imposed by COVID-19.

IOSH Managing Safely has been undertaken and completed by 29 employees, to encourage awareness and engagement in health and safety issues.

Improvements were also made to the reporting procedure and database for hazards and incidents. Definitions, reporting instructions and action requirements were all clarified and scene capture and root cause analysis procedures were introduced. All employees received training in the procedures and the result has been much improved reporting during the year. Although this has led to more incidents and hazards being recorded, we believe it has enabled more improvement actions to be taken, thus leading to hazard avoidance for the future. We see the 2019/20 data as our baseline to improve from. The database sits on the Company SharePoint pages, allowing clear visibility for all to see the details of incidents and hazards raised and the actions taken to avoid a recurrence.

Throughout the year it was also apparent that as more hazards were identified, the number of incidents decreased see *Figures No.4 and No.5*.

Figure No.4 Number of Reported Incidents



Figure No.5 Number of Hazards Identified



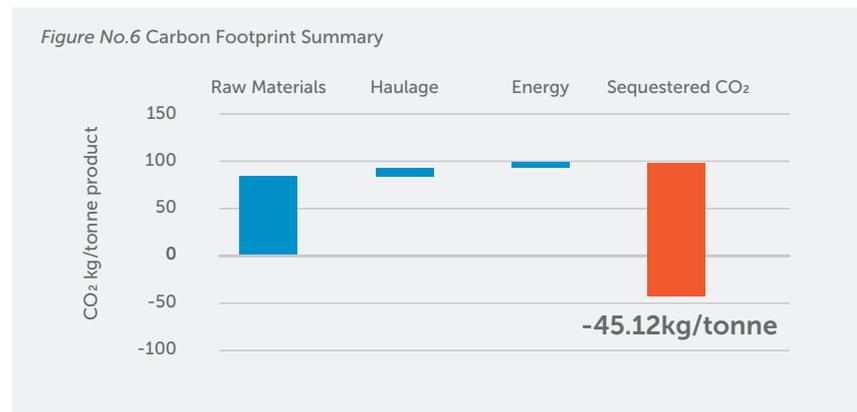


Objective:

## Maximise carbon capture and minimise CO<sub>2</sub> emissions from raw materials and energy

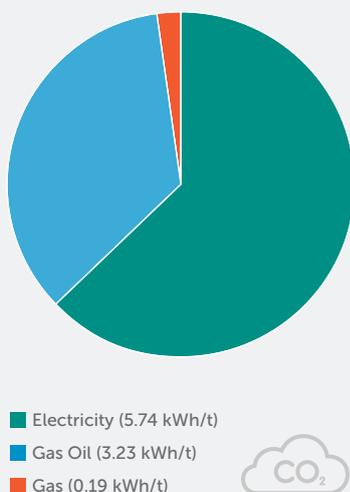
Just over fourteen thousand tonnes (14,015 tonnes) of CO<sub>2</sub> were captured in our aggregate this year, as calculated by using the PAS 2050 validated carbon footprint of -45.12 kilogrammes CO<sub>2</sub> per tonne of aggregate produced and our production of 310,623 tonnes aggregate.

The breakdown of the carbon footprint is shown in *Figure No.6* below, using data for the current reporting period.



CO <sub>2</sub> kg/tonne product	CO <sub>2</sub> Produced				Mean Sequestered CO <sub>2</sub>	CO <sub>2</sub> Footprint
	Raw Materials	Haulage	Energy	Total		
	88.9	7.21	2.27	98.38	-143.51	-45.12

**Figure No.7 Analysis of energy consumption across all three plants**



Raw materials are the main source of embedded CO<sub>2</sub> with the greatest intensity coming from the relatively small amount of cement that is used. Cementitious alternatives with a lower embodied CO<sub>2</sub> have been trialled.

The haulage CO<sub>2</sub> is largely a function of haul distances – wherever possible we minimise the haulage of incoming raw materials by using suppliers who are closest to each of our sites. We apply the same principle to the distribution of our aggregate.

Though energy is a relatively small component of our CO<sub>2</sub> footprint, it is one that we manage and seek to minimise. Our main source of energy is electricity, primarily used for motors and compressors in the production process. Gas oil is our second largest energy source being used for loading shovels and the aggregate screener at Leeds. Gas is used in the office at Leeds. *Figure No.7* shows the analysis of energy consumption.

Energy use is monitored and discussed in monthly team meetings. An IMP target was set last year to reduce electricity costs by 5%. This resulted in savings being made of over 10% electricity consumed per tonne of aggregate. These reductions were achieved by increasing production rates per hour at Brandon, resulting in spreading the base load consumption over greater tonnage, improved efficiency of compressors at Leeds by using one compressor at higher load rather than two at very light loads and varied product mixes at Avonmouth. These latter product-related savings were related to COVID-19 driven market changes and may not be sustained, although it is anticipated that the installation of variable speed drives on water pumps at Avonmouth in November 2020 will lead to energy reductions next year. LED lighting has also been installed at sites.

# Social Responsibility



## Staff Engagement

Objective:  
**Staff to be positively engaged with the business**

A survey was undertaken in 2019 to help understand the views of staff about the Company. The response rate was 56% and valuable feedback was gained, identifying strengths and some areas for improvement. The final questions provided a summary section as below and gave a positive overall average score of 7.55.

Statement	Average score
I am proud to work at O.C.O	7.81
I plan to still be working here in a years' time	7.94
I would recommend O.C.O to a friend	7.23
Overall O.C.O is a great place to work	7.23

**1 POOR – 10 HIGH SATISFACTION**

Targets have been set to improve both the participation rate and satisfaction scores in future years. A separate survey was also carried out in the summer of 2020 relating to the Health and Safety culture in the business, to help understand views held across the business and to strengthen engagement. We have carried out a review of levels of staff turnover this year and feel that current levels are acceptable; we will continue to monitor data and if numbers increase significantly, will revisit, and develop an action plan.

## Employment and Skills

Objective:  
**Training programmes that equip staff to excel in their role and develop their full potential**

Training requirements for each role are identified on a matrix that sits within the IMS – this records what training is needed, by who and by when and also records the date of completion. 1,625 training sessions were completed this year including both internal and external provision. Particular areas of focus, in addition to regular training needs, were training in the reporting of hazards and incidents for all employees and the completion and recording of safety observations for the Senior Leadership Team. Two site managers undertook WAMITAB training, and the loading shovel drivers carried out ITTSAR training.

When asked about skills and development in the employee engagement questionnaire, all respondents agreed to some extent (i.e., 'slightly' to 'strongly') that they had the skills to do their job well. When asked if they received sufficient training to be competent in their role, 81% of respondents agreed that to some extent they had.

Some areas of required training, such as first aid refresher training, had to be postponed due to COVID-19 restrictions. We hope that these postponed courses will be completed next year; we have also established a link with Mentor Training to deliver additional courses.

Equality and Diversity are to be advanced in all business activities. No individual will be unjustifiably discriminated against, including on the basis of gender, race, nationality, ethnic or national origin, religious or political beliefs, disability, marital status, social background, family circumstance, sexual orientation, gender reassignment, spent criminal convictions or age.

# Social Responsibility



## Local Community

Objective:

### Achieve stronger connections with external communities



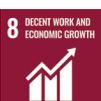
We operate a system within the IMS to record and act upon any complaints from the local community; this year, no complaints were received. Feedback forms are provided to site visitors and these are stored on SharePoint – the average summary score from the 7 recorded site visits this year was 9.57 (on a scale of 1 – 10, with 10 being the highest level of positive feedback). This year the feedback procedure has been extended to specifically include communities around our sites, with the inclusion of a feedback questionnaire for neighbours.

External communications have been increased this year; news stories have been routinely posted on the O.C.O website to improve communication with external stakeholders and several of these stories have been re-published externally. The business also created LinkedIn and Facebook pages for external communications.

A target was set last year for each site and head office to hold at least one community engagement activity; however, these were not able to take place due to COVID-19 restrictions. Towards the end of the year a partnership agreement was established with Trees for Cities, a charity that arranges urban tree planting and creation of green spaces. The agreement will enable us to participate in two site days next year in local communities, COVID-19 permitting – we have also funded the planting of over 80 trees.

Sustainability theme	UN Goals	Action area	Target	Baseline Performance 2019/20 Financial year
Business Development and Innovation	 	Management Systems	Maintain certification at all sites in OHSAS18001, ISO9001, and ISO14001 and gain ISO45001 in 20/21	All sites certified
		Innovation	Maintain a Product Quality (PQ) rate of fewer than 0.5 non-conformancies per 1000 tonnes of aggregate	PQ rate of 0.3
		Transport	Increase total R&D spend year on year and report on non confidential collaborative relationships	£282,231 with four collaborative relationships
			Increase year on year the percentage of contracted outgoing haulage to be loaded to 90% or above of load capacity	86.5% were loaded to 90% and above load capacity
			Increase year on year the percentage of contracted hauliers certified to FORS	76% hauliers are FORS certified
Establish one year's data of car business miles driven using non electric vehicles post Covid as baseline. Then seek to reduce	257 miles per 1000 tonnes aggregate during a Covid year			
Circular Economy	 	Resource use - efficient use of constituent materials	Increase raw input material that is recovered, recycled or by-product by 10% in 20/21	65.3% raw input material has been recovered, recycled or is a by-product
		Waste Prevention and waste management	100 per cent of office and manufacturing waste to be recycled or recovered	7.3% office and manufacturing waste was recycled or recovered
			Increase hazardous waste diverted from landfill by OCO recovery process by 10% in 20/21	131,261 tonnes
Environmental Responsibility	 	Environmental management	Achieve and maintain OPRA Band A at all Permitted facilities	OPRA Band A maintained at Brandon and Avonmouth. Leeds B and B
			20% reduction in internally reported environmental incident rate in 20/21	0.058 incidents per 1000 tonnes aggregate
			Zero environmental complaints and regulatory interventions	Zero
		Water abstraction	Reduce mains water consumption by 15% by 2025	69.45 Cu.m per 1000 tonnes aggregate.
			Establish two years data of abstracted water volume to provide baseline. Install meter at Leeds in 20/21.	Data review commenced
			Establish two years data of total water volume drawn to provide baseline	Data review commenced
Lifecycle assessment (LCA)	Achieve EPD in year 2020/21 and maintain	EPD preparation underway		
Health and Safety		H&S management	Zero Lost Time Injuries (LTIs)	2 Lost time injuries
			Reduce Accident Frequency Rate (including LTI's, Medical Treatment, First Aid) year on year	0.29 accidents per 1000 hours worked
			Six safety observations per member Senior Leadership team in year 20/21	61 safety observations in total by 13 staff
Low Carbon Future		Greenhouse gas emissions	Reduce CO <sub>2</sub> emissions from energy used in manufacture and offices (including electricity, diesel and gas) by 2.5% in 20/21	2.28 tonnes per 1000 tonnes aggregate
			Achieve year on year increased carbon capture in net CO <sub>2</sub> balance (using latest carbon footprint of -45.12 kg per tonne aggregate derived from PAS2050 methodology)	14015 tonnes of carbon were captured by production of aggregate
		Energy management	Reduce total energy used in controlled operations by 2.5% in 20/21	9.11 MWh per 1000 tonnes aggregate
Social Responsibility	   	Employment and skills	Report number of training sessions completed per year and develop record system to include hours spent training in 20/21	1625 training sessions
			Improve staff engagement survey response rate to 80% in 20/21	56% response rate
			Achieve year on year improvement in staff engagement survey - average response score in summary questions (10 = maximum positive score)	Score 7.55
		Local communities	One community engagement project for each site & head office	12 month partnership established with Trees for Cities, including tree funding contribution

## United Nations Sustainable Development Goals

	<b>GOAL 1:</b> NO POVERTY	Economic growth must be inclusive to provide sustainable jobs and promote equality.
	<b>GOAL 3:</b> GOOD HEALTH AND WELL-BEING	Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development.
	<b>GOAL 4:</b> QUALITY EDUCATION	Obtaining a quality education is the foundation to improving people's lives and sustainable development.
	<b>GOAL 5:</b> GENDER EQUALITY	Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.
	<b>GOAL 6:</b> CLEAN WATER AND SANITATION	Clean, accessible water for all is an essential part of the world we want to live in.
	<b>GOAL 8:</b> DECENT WORK AND ECONOMIC GROWTH	Sustainable economic growth will require societies to create the conditions that allow people to have quality jobs.
	<b>GOAL 9:</b> INDUSTRY, INNOVATION, AND INFRASTRUCTURE	Investments in infrastructure are crucial to achieving sustainable development.
	<b>GOAL 10:</b> REDUCED INEQUALITIES	To reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations.
	<b>GOAL 11:</b> SUSTAINABLE CITIES AND COMMUNITIES	There needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing, transportation and more.
	<b>GOAL 12:</b> RESPONSIBLE CONSUMPTION AND PRODUCTION	Responsible Production and Consumption.
	<b>GOAL 13:</b> CLIMATE ACTION	Climate change is a global challenge that affects everyone, everywhere.
	<b>GOAL 15:</b> LIFE ON LAND	Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.