



THOMAS ARMSTRONG
(CONCRETE BLOCKS) LTD



Sustainability Performance Report

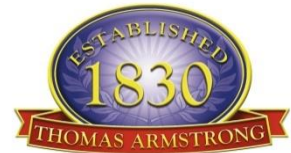
5th Report – June 2019

Sustainability Report 2019

This is our fifth annual Sustainability Report. This report intends to communicate what we are doing to reduce our carbon footprint and to help engage with the communities and other stakeholders affected by our operations. Furthermore, we publish our independently verified Key Performance Indicators (KPI's) in order to compare ourselves with the rest of our industry as well as giving us a basis for setting new objectives and targets for the coming years as we continually improve as a company.

A sustainable company

We can trace our history back to 1830 and throughout these last 189 years we have demonstrated a continual will to expand, move with the times and improve our operations. We have always employed locally, served and supported local communities and remain one of the UK's largest and long-established independent construction sector companies. Sustainability and thinking long-term is in our DNA as an organisation.



Our impact on the environment

We recognise that as we grow and expand our operations, the impact of these operations on the environment will increase. We are taking every possible step to monitor, measure and identify ways of mitigating these impacts and our footprint as a company.

Our commitment

As an organisation we have adopted rigorous policies and integrated management systems to not only help us meet but exceed our environmental and corporate duty of care. To this end we have adopted ISO 9001 Quality and ISO 14001 Environmental Management systems at our plants. These systems are integrated and have been updated to the very latest 2015 versions.

We continue to undergo rigorous independent verification audits of our sustainability credentials, management systems, control of suppliers, business ethics and greenhouse gas emissions.

In 2015 we gained the prestigious and hard-won and respected certification 'BES 6001 Responsible Sourcing' and became the first block producer in the UK to be awarded the top rating of "Excellent" for our Airtec aerated operation. In 2017 our new Stocks Bros. Ltd plant at Cross Green Leeds also gained BES 6001 'Excellent' status.

This certification demonstrates our ongoing commitment to remaining a responsible producer, it gives us as a company invaluable data and guidance how we can make positive changes to our operations and contribute towards securing a healthy future for the masonry industry.



Our integrated ISO 9001 and 14001 systems have been upgraded to the latest 2015 versions



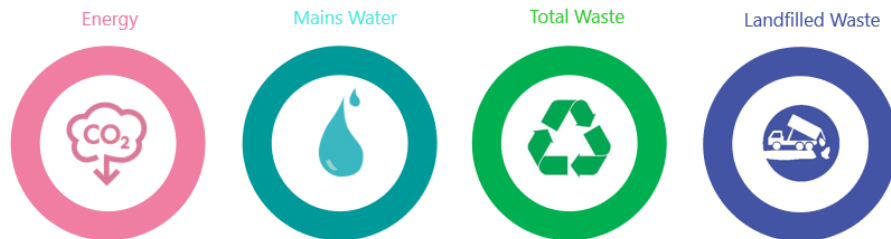
Overall targets for 2020

British Precast Concrete Federation (BPCF) sustainability targets for 2020 are based on industry sector benchmarks set in 2012 and in most cases, we have already met these. In addition to this we have set our own targets for 2020 and continually monitor progress.

Our Key Goals

An overview of our overall performance to date against 2020 targets

Airtec aerated	Total Energy <i>kWhrs/Tonne product</i>	Mains Water <i>Ltrs / Tonne product</i>	Total Waste <i>kg / tonne product</i>	Landfilled Waste <i>kg / tonne product</i>
2015 Benchmark	312.0	12.7	0.61	0.04
Current Data	276.0	8.2	0.08	0.00
2020 Goal	Reduce by 10% on 2015 benchmark	Reduce by 20% on 2015 benchmark	Reduce by 50% on 2015 benchmark	Reduce by 50% on 2015 benchmark
Our 2020 Target	280.8	10.2	0.31	0.02
% of goal reached	Target Achieved!	Target Achieved!	Target Achieved!	Target Achieved!



Percentage of goal reached

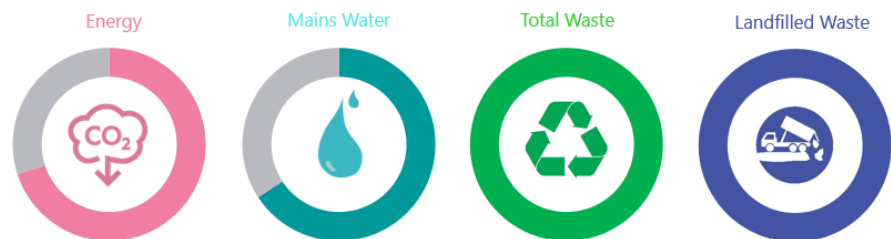
100%



Our Key Goals

An overview of our overall performance to date against 2020 targets

Aggregate Blocks	Total Energy <i>kWhrs/Tonne product</i>	Mains Water <i>Ltrs / Tonne product</i>	Total Waste <i>kg / tonne product</i>	Landfilled Waste <i>kg / tonne product</i>
2015 Benchmark	9.0	57.0	0.68	0.02
Current Data	9.6	49.5	0.08	0.00
2020 Goal	Reduce by 10% on 2015 benchmark	Reduce by 20% on 2015 benchmark	Reduce by 50% on 2015 benchmark	Reduce by 50% on 2015 benchmark
Our 2020 Target	8.1	45.6	0.34	0.01
% of goal reached	70%	66%	Target Achieved!	Target Achieved!



Percentage of goal reached

84%



Key Performance Indicators – group data

Waste Management

The manufacture of concrete block products generates very little waste and no by-products. We aim for zero waste to landfill and to this end are on target across our block plants.

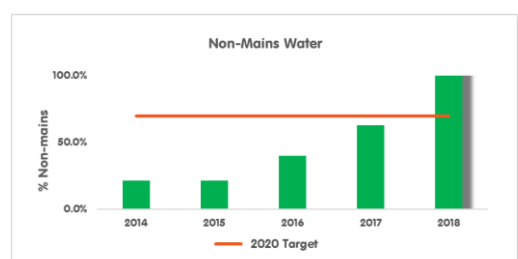
In 2018 our waste to landfill total was less than 0.01% and will be zero % by 2020.



Water management

Concrete block production produces no effluent and nearly all process water is automatically consumed in the process. Any excess steam, in the case of Airtec production, is re-condensed and used back in the process. Our largest plants are now using predominantly non-mains water and we continue to reduce the use of mains water.

In 2018 our % use of borehole and recovered water increased by 17% and we envisage a continual increase next year.

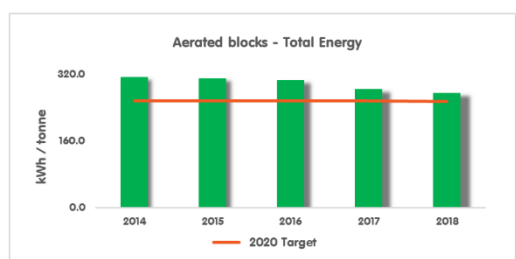


Energy management

The elimination of steam curing across our non-aerated block plants saves significant amounts of energy whereby gas or oil-fired boilers are no longer required.

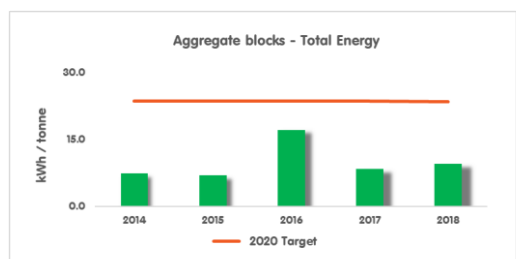
Furthermore, whenever plant or equipment requires replacing, we select modern, low energy consuming technology wherever possible. We are introducing renewable energy technologies at our plants.

The total energy in our aerated block manufacturing continues to fall to 2020 targets and in aggregate block manufacturing is well below industry targets.



Greenhouse gases

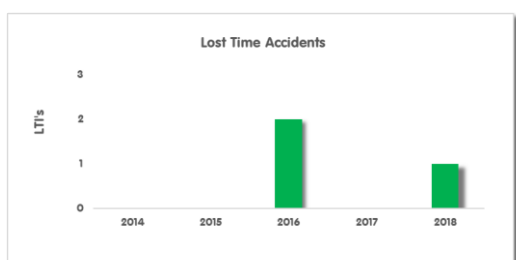
Detailed analysis of data including productivity and energy usage enables us to determine our greenhouse gas emissions; this data is independently verified. This data enables us to compare our figures with those of our industry sector benchmarks and allows us to generate targets for further reductions.



Health & safety

We operate a health & safety management system throughout our group. It is our goal to extend the scope of our management systems to include certification to ISO 45001 by 2020.

We had 1 x LTI in 2018 and our target remains zero Lost Time Incidents.



Raw materials

Raw materials are sourced as locally as possible to the manufacturing plant usually within a 30-mile radius. The quality, safety and environmental credentials of our suppliers are monitored and used in our assessment of potentially new suppliers. We maximise the use of secondary, recycled and reclaimed materials in our products which has clear environmental benefits from the reduction of quarried aggregates and is commercially sustainable.



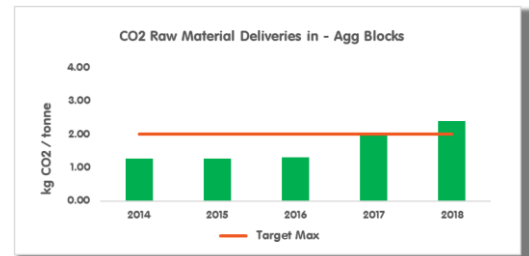
We have achieved the highest possible rating of 'Excellent' for our BES 6001 certifications

Transportation – Incoming raw materials

We monitor and measure our carbon footprint for deliveries of raw material to our site. Our policy objective and target to mitigate the impact of our transportation is by maximising fuel efficiency by sourcing as locally to our manufacturing sites as possible.

Raw materials in (2017 data):

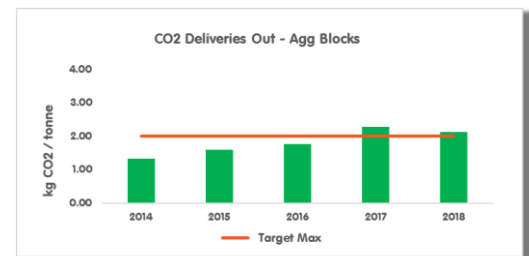
Airtec blocks = 2.63 kgCO₂ / tonne [2017 = 3.80]
 Aggregate Blocks = 2.40 kgCO₂ / tonne [2017 = 2.05]



Target was breached in 2018 due to the significant increase in consumption of our Cross Green plant. This figure is now reducing as the plant settles down.

Transportation – Outgoing finished product

We monitor and measure our carbon footprint for deliveries of finished product from our site. Our policy objective and target to mitigate the impact of our transportation is to maximise fuel efficiency by optimising vehicle carrying capacity, maintaining a regional customer base and replacing old vehicles with new every 4 years.



Maintaining around our target in 2018 and expect to meet target in 2019

Deliveries out (2017 data):

Airtec blocks = 1.70 kgCO₂ / tonne [2017 = 3.19]
 Aggregate blocks = 2.13 kgCO₂ / tonne [2017 = 2.28]

We continue our policy to replace vehicles on a 4-yearly basis and have replaced more vehicles on top of the 19 vehicles replaced in 2017.

Local communities

With 188 years' worth of engaging local communities, we recognise the benefits of good relationships with our neighbours which is mutually beneficial. Wherever we have development plans at our sites we actively engage with local communities and keep them informed. Our preferred method of communication is face to face and via our employees most of whom are from the local community. At many of our sites we contribute to local events and fundraising activities.

Environmental incidents and complaints

We record and analyse the number of environmental incidents and complaints across our sites. Regular inspections by local authorities ensure that all of our activities are in compliance to our pollution prevention permits which is reinforced by our stringent environmental management systems. Target is 0 incidents & complaints.

In 2018 we had 1 incident of dust escaping a site as a consequence of construction work next to the site.



AGGREGATE CONCRETE BLOCKS (Cross Green factory)

Metric	Unit		2014	2015	2016 ⁽¹⁾	2017 ⁽¹⁾	2018 Target	2018 ⁽¹⁾	Target Met?
Quality	Sites operating to ISO 9001 (%)	KPI	100	100	100	100	Maintain systems	100	
		Industry Benchmark	69.6	62.6	66.0	66.7		89.8	
Water	Total mains water / tonne product (litres/tonne)	KPI	57.0	32.1	82.9	87	Reduce mains water usage to < 50ltrs/tonne	49.51	
		Industry Benchmark	40.45	40.45	61.95	37.81		34.73	
	Non-mains water / tonne product (litres/tonne)	KPI	0.0	0.0	0.0	8.7	Increase non-mains water to > 10ltrs/tonne	56.98	
		Industry Benchmark	18.19	29.36	15.72	14.72		19.57	
Energy	Total energy use per tonne of product (kWh/tonne)	KPI	7.45	7.03	17.25	8.46	Maintain low energy usage	9.63	
		Industry Benchmark	20.22	18.22	18.22	19.31		25.48	
CO ₂	Total CO ₂ per tonne product (kgCO ₂ /tonne)	KPI	2.89	2.81	5.42	2.68	Maintain low greenhouse gas generation	2.68	
		Industry Benchmark	5.47	5.43	4.87	4.96		5.84	
Packaging	Total packaging/tonne product (kg/tonne)	KPI	0.34	0.35	0.34	0.26	Continue to use minimal packaging	0.34	
		Industry Benchmark	7.75	1.03	0.65	0.71		2.20	
Waste	Total waste/tonne product (kg/tonne)	KPI	0.12	0.15	0.015	0.46	Aim towards zero waste to landfill by 2018	0.07	
		Industry Benchmark	10.11	14.49	17.04	15.68		13.95	
	Waste to landfill (kg/tonne)	KPI	0.01	0.01	0.63	0.01		0.00	
		Industry Benchmark	0.28	0.31	0.38	0.17		0.09	
Environmental	Sites operating to ISO 14001 (%)	KPI	100	100	100	100	Maintain systems	100	
		Industry Benchmark	77.09	80.22	87.00	85.10		91.88	
Responsible Sourcing	Sites operating to BES 6001 (%)	KPI	0	100	100	100	Gain BES 6001	100	
		Industry Benchmark	54.72	71.74	66.00	58.82		77.55	
Health & Safety	Sites operating to OHSAS 18001 (%)	KPI	0	0	0	0	Gain OHSAS 18001 by 2020	0.00	
		Industry Benchmark	16.98	19.78	30.00	30.00		51.02	
Transport	Average delivery distance (km/delivery)	KPI	23.4	23.4	40.00	50.6	Maintain < than benchmark distances	50	
		Industry Benchmark	82	83	86	60		95	
	Average delivery lorry load (tonne/delivery)	KPI	26	26	26	28	Maintain figures	26	
		Industry Benchmark	23.4	25.3	17.8	25.0		24.4	
Training	Average time spent on training (hrs/employee/year)	KPI	4.0	7.0	3.0	9.2	Increase training hours to > 7 hours	2.3	
		Industry Benchmark	9.0	23	19.9	16.0		37.6	
Local Communities	Sites operating stewardship & local community liaison schemes (%)	KPI	0	0	0	0	Introduce local community liaison initiatives	0.0	
		Industry Benchmark	7.6	13.2	4.2	5.9		2.0	

(1) Independently verified figures by Richards Associates Limited

AIRTEC AERATED BLOCKS

Metric	Unit		2014	2015	2016 ⁽¹⁾	2017 ⁽¹⁾	2018 Target	2018 ⁽¹⁾	Target Met?
Quality	Sites operating to ISO 9001 (%)	KPI	100	100	100	100	Maintain systems	100	
		Industry Benchmark	87.5	87.5	87.5	87.5		87.5	
Water	Total mains water / tonne product (litres/tonne)	KPI	12.7	10.2	12.84	10.9	Maintain low figures	8.09	
		Industry Benchmark	356.34	258.42	379.17	323.47		338.58	
	Non-mains water / tonne product (litres/tonne)	KPI	1127.2	1014.2	1000.3	1056.8	Maintain > industry benchmark	903.22	
		Industry Benchmark	269.9	143.19	290.96	284.19		301.97	
Energy	Total energy use per tonne of product (kWh/tonne)	KPI	313.80	311.95	306.41	285.34	Reduce energy consumption to < 265	276.03	
		Industry Benchmark	256.62	154.83	227.96	240.24		239.10	
CO ₂	Total CO ₂ per tonne product (kgCO ₂ /tonne)	KPI	65.77	63.46	62.09	57.16	Reduce greenhouse gas generation	53.51	
		Industry Benchmark	56.14	35.14	50.21	50.88		49.21	
Packaging	Total packaging/tonne product (kg/tonne)	KPI	7.14	6.84	7.00	4.15	Continue to use minimal packaging	6.61	
		Industry Benchmark	10.74	11.04	10.43	10.92		12.64	
Waste	Total waste/tonne product (kg/tonne)	KPI	0.08	0.61	0.07	0.19	Aim towards zero waste to landfill by 2018	0.08	
		Industry Benchmark	51.28	67.96	46.34	38.41		68.18	
	Waste to landfill (kg/tonne)	KPI	0.03	0.04	0.02	0.03		0.00	
		Industry Benchmark	0.07	0.05	0.16	0.12		0.09	
Environmental	Sites operating to ISO 14001 (%)	KPI	100	100	100	100	Maintain systems	100	
		Industry Benchmark	100	100	100	100		100	
Responsible Sourcing	Sites operating to BES 6001 (%)	KPI	0	100	100	100	Gain BES 6001	100	
		Industry Benchmark	75.0	87.5	87.5	87.5		87.5	
Health & Safety	Sites operating to OHSAS 18001 (%)	KPI	0	0	0	0	Gain OHSAS 18001 by 2020	0	
		Industry Benchmark	50	50	75	75		75	
Transport	Average delivery distance (km/delivery)	KPI	40	64	101.6	101.3	Maintain lower than benchmark delivery distances	40	
		Industry Benchmark	130	107	107	111		111	
	Average delivery lorry load (tonne/delivery)	KPI	22.0	22.0	22.0	22.0	Maintain low figures	22	
		Industry Benchmark	21.2	21.0	21.3	23.1		23.1	
Training	Average time spent on training (hrs/employee/year)	KPI	3.0	6.0	4.0	6.5	Increase training hours to > 7 hours	3.0	
		Industry Benchmark	11.1	15.8	21.5	11.3		7.6	
Local Communities	Sites operating stewardship & local community liaison schemes (%)	KPI	0	0	0	0	Introduce local community liaison initiatives	0	
		Industry Benchmark	12.5	0.0	12.5	12.5		0.0	

(1) Independently verified figures by Richards Associates Limited. ND = No data was gathered by the industry for this period



Our Concrete Block Plants

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