



THOMAS ARMSTRONG
(CONCRETE BLOCKS) LTD



Sustainability Performance Report

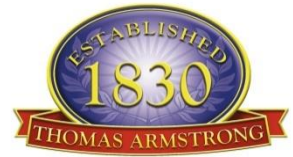
8th Report – 2022 Data

Sustainability Report 2022

This is our eighth annual Sustainability Report based on verified data for Jan – Dec 2022. 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 193 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. We have implemented a Carbon Reduction plan across our group as a means of achieving 2050 net zero carbon targets.

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 hold 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.

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.

Cover photo: State of the art recycled aggregate facility under construction June 2023



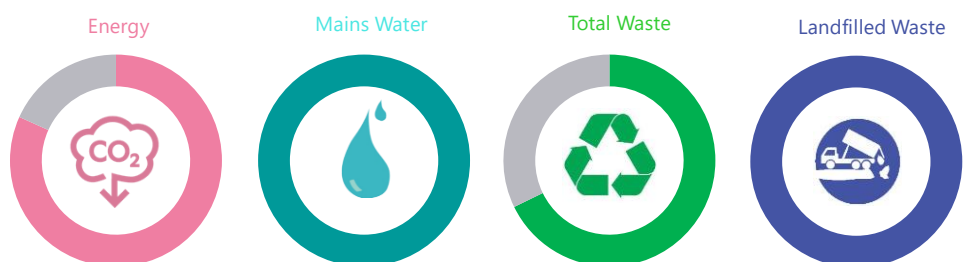
Overall targets for 2025

We achieved the Mineral Products Association (MPA) sustainability targets for 2022 which were based on industry sector benchmarks set in 2012. We have now significantly tightened these targets for 2025 and are now aiming to achieve complete compliance with these.

Our Key Goals

An overview of our overall performance to date against 2025 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
2022 Data	324.4	6.6	0.18	0.000
2025 Goal	Reduce by 15% on 2015 benchmark	Reduce by 30% on 2015 benchmark	Reduce by 80% on 2015 benchmark	Reduce by 90% on 2015 benchmark
Our 2020 Target	265.2	8.9	0.12	0.004
% of goal reached	82%	Target Achieved!	68%	Target Achieved!



Percentage of goal reached

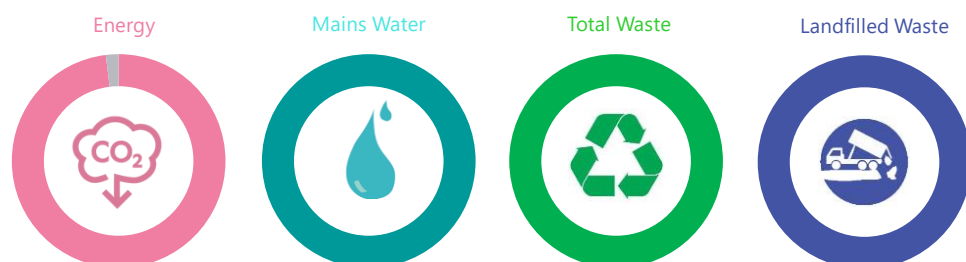
87%



Our Key Goals

An overview of our overall performance to date against 2025 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
2022 Data	7.5	1.2	0.04	0.00
2025 Goal	Reduce by 15% on 2015 benchmark	Reduce by 30% on 2015 benchmark	Reduce by 80% on 2015 benchmark	Reduce by 90% on 2015 benchmark
Our 2025 Target	7.7	39.9	0.14	0.002
% of goal reached	102%	Target Achieved!	Target Achieved!	Target Achieved!



Percentage of goal reached

101%



Key Performance Indicators – group data

Waste Management

The manufacture of concrete block products generates very little waste and no by-products. We have achieved zero waste to landfill at our plants.

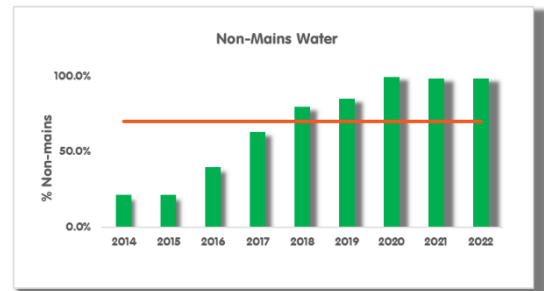
In 2022 we maintained zero waste to landfill.



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.

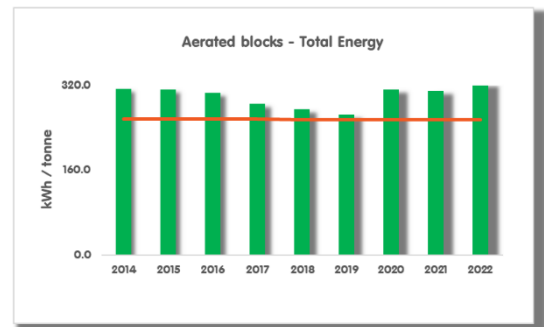
In 2022 our % use of borehole and recovered water achieved over 99% of all water used.



Energy management

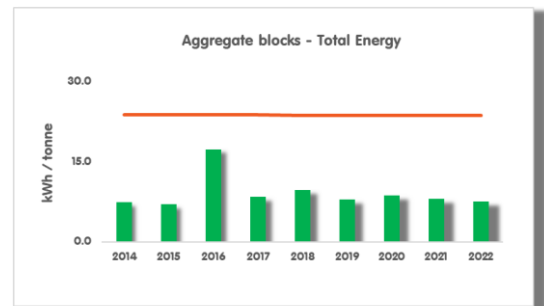
Where possible, we use natural curing for block production without the use of energy or fossil fuels. We continue an ongoing process of replacing equipment with energy-efficient technology. We continue to introduce renewable energy technologies at our plants.

The total energy in our aerated block manufacturing rose in 2022. This was due to a reduction in output which we expect to be corrected in 2023. Aggregate block production remains well below industry benchmarks on energy intensity.



Greenhouse gases

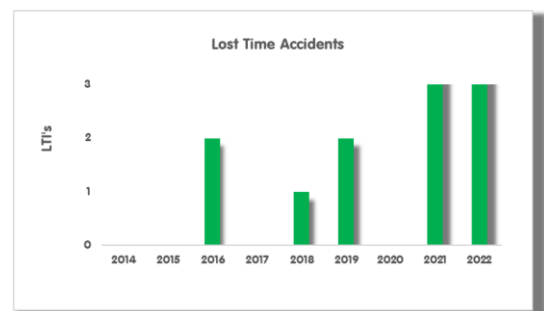
Detailed analysis of data including productivity and energy usage enables us to determine our greenhouse gas emissions; this data is independently verified. This data enables us to compare our figures with those of our industry sector benchmarks and allows us to generate targets for further reductions.



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 the end of 2025.

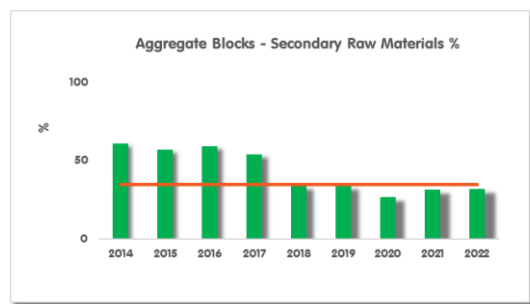
We had 3 x LTI's in 2022 and our target remains zero Lost Time Incidents.



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 are currently constructing a lightweight aggregate facility which will produce a high quality aggregate from 100% recycled raw material.



We are taking significant steps to utilise a higher % of alternative recycled, quality lightweight aggregates over the next 2 years.

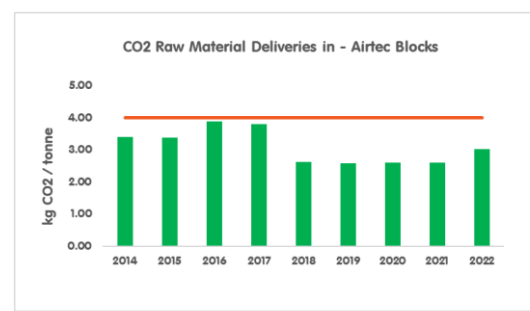
Transportation – Incoming raw materials

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 (2022 data):

Airtec blocks = 3.04 kgCO₂ / tonne

Aggregate Blocks = 2.65 kgCO₂ / tonne



Reductions in kgCO₂ / tonne are expected to continue into next year

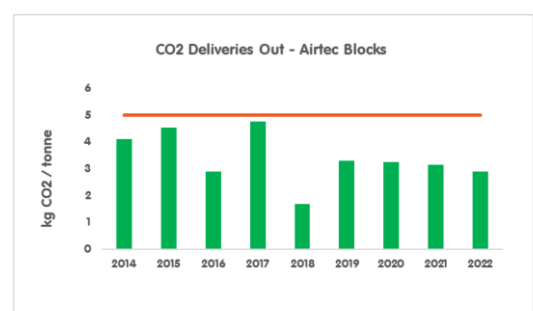
Transportation – Outgoing finished product

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.

Deliveries out (2020 data):

Airtec blocks = 2.91 kgCO₂ / tonne

Aggregate blocks = 2.31 kgCO₂ / tonne



Maintaining better than target figures

Local communities

With 190 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 2022 we had 0 environmental incidents or complaints.



AGGREGATE CONCRETE BLOCKS (Cross Green factory)

Metric	Unit		2017 ⁽¹⁾	2018 ⁽¹⁾	2019 ⁽¹⁾	2020 ⁽¹⁾	2021 ⁽¹⁾	2022 Target	2022 ⁽¹⁾	Target Met?
Quality	Sites operating to ISO 9001 (%)	KPI	100	100	100	100	100	Maintain ISO systems	100	✓
		Industry Benchmark	66.7	89.8	91.3	92.7	92.7		89.7	
Water	Total mains water / tonne product (litres/tonne)	KPI	87.0	49.5	24.5	1.0	3.1	Reduce mains water usage to < 3 ltrs/tonne	1.15	✓
		Industry Benchmark	37.81	34.73	36.97	35.36	34.42		29.86	
	Non-mains water / tonne product (litres/tonne)	KPI	8.7	57.0	62.3	115.2	120.5	Maintain non-mains water to > benchmark	49.6	✓
		Industry Benchmark	14.72	19.57	18.11	52.44	31.52		29.06	
Energy	Total energy use per tonne of product (kWh/tonne)	KPI	8.4	9.6	7.9	8.6	8.0	Maintain low energy usage	7.5	✓
		Industry Benchmark	19.31	25.48	22.34	25.52	25.91		23.50	
CO ₂	Total CO ₂ per tonne product (kgCO ₂ /tonne)	KPI	2.68	2.68	2.09	2.17	1.94	Maintain low greenhouse gas generation	1.73	✓
		Industry Benchmark	4.96	5.84	5.10	5.08	5.03		4.71	
Packaging	Total packaging/tonne product (kg/tonne)	KPI	0.26	0.34	0.38	0.24	0.37	Continue to reduce packaging	0.19	✓
		Industry Benchmark	0.71	2.20	2.61	3.25	3.56		2.16	
Waste	Total waste/tonne product (kg/tonne)	KPI	0.46	0.07	0.05	0.05	0.99	Aim towards zero waste to landfill by 2025	0.02	✓
		Industry Benchmark	15.68	13.95	19.09	24.46	20.97		17.08	
	Waste to landfill (kg/tonne)	KPI	0.01	0.00	0.00	0.00	0.00		0.00	✓
		Industry Benchmark	0.17	0.09	0.06	0.33	0.03		1.34	
Secondary aggregate use (excl cement)	% Secondary aggregate use / recycled aggregate	KPI	54.3	34.4	34.1	26.9	35.6	Maintain higher % than sector, raise to > 30%	40.6	✓
		Industry Benchmark	21.3	16.0	13.8	10.4	10.3		9.5	
Environmental	Sites operating to ISO 14001 (%)	KPI	100	100	100	100	100	Maintain ISO systems	100	✓
		Industry Benchmark	85.10	91.88	94.37	96.69	98.08		96.92	
Responsible Sourcing	Sites operating to BES 6001 (%)	KPI	100	100	100	100	100	Maintain BES 6001	100	✓
		Industry Benchmark	58.82	77.55	75.78	78.95	80.49		79.49	
Health & Safety	Sites operating to ISO 45001 (%)	KPI	0	0	0	0	0	Gain ISO 45001 by 2025	0	✗
		Industry Benchmark	30.00	51.02	50.00	43.86	60.98		48.72	
Transport	Average delivery distance (km/delivery)	KPI	50.6	50.0	52.1	54.0	54.5	Maintain < than benchmark distances	55.0	✓
		Industry Benchmark	60	95	88	115	81		92	
	Average delivery lorry load (tonne/delivery)	KPI	28	26	22	22	22	Maintain figures in line with benchmarks	22	✓
		Industry Benchmark	25.0	24.4	23.1	23.9	20.0		23.2	
Training	Average time spent on training (hrs/employee/year)	KPI	9.2	2.3	9.2	2.3	5.6	Increase training hours to > 7 hours	3.7	✗
		Industry Benchmark	16.0	37.6	39.7	26.5	32.7		21.9	
Local Communities	Sites operating stewardship & local community liaison schemes (%)	KPI	0	0	0	0	0	Introduce local community liaison initiatives	0	✗
		Industry Benchmark	5.9	2.0	0.0	0.0	0.0		0.0	

(1) Independently verified figures by Richards Associates Limited

AIRTEC AERATED BLOCKS

Metric	Unit		2017 ⁽¹⁾	2018 ⁽¹⁾	2019 ⁽¹⁾	2020 ⁽¹⁾	2021 ⁽¹⁾	2022 Target	2022 ⁽¹⁾	Target Met?	
Quality	Sites operating to ISO 9001 (%)	KPI	100	100	100	100	100	Maintain ISO systems	100	✓	
		Industry Benchmark	87.5	87.5	88.9	86.0	83.3		100		
Water	Total mains water / tonne product (litres/tonne)	KPI	10.9	8.1	17.6	5.8	6.1	Maintain low figures	6.6	✓	
		Industry Benchmark	323.47	338.58	375.06	299.62	317.30		323.50		
	Non-mains water / tonne product (litres/tonne)	KPI	1056.8	903.2	1139.5	999.0	1193	Maintain > industry benchmark	1117	✓	
		Industry Benchmark	284.19	301.97	306.03	208.21	207.60		192.60		
Energy	Total energy use per tonne of product (kWh/tonne)	KPI	285.3	276.0	265.8	312.7	309.5	Reduce energy consumption to < 300	324.4	✗	
		Industry Benchmark	240.24	239.10	248.52	199.77	206.12		195.73		
CO ₂	Total CO ₂ per tonne product (kgCO ₂ /tonne)	KPI	57.16	53.51	51.10	62.68	57.93	Reduce greenhouse gas generation	59.98	✗	
		Industry Benchmark	50.88	49.21	46.46	36.51	37.08		34.76		
Packaging	Total packaging/tonne product (kg/tonne)	KPI	4.15	6.61	6.46	6.99	7.22	Continue to use minimal packaging	7.46	✓	
		Industry Benchmark	10.92	12.64	15.02	7.10	5.51		4.62		
Waste	Total waste/tonne product (kg/tonne)	KPI	0.19	0.08	0.09	0.14	0.01	Aim towards zero waste to landfill by 2025	0.04	✓	
		Industry Benchmark	38.41	68.18	68.18	8.73	30.69		45.66		
	Waste to landfill (kg/tonne)	KPI	0.03	0.00	0.00	0.00	0.00		0.00	0.00	✓
		Industry Benchmark	0.12	0.09	0.07	0.04	0.01		0.01		
Secondary aggregate use (excl cement)	% Secondary aggregate use / recycled aggregate	KPI	100	100	100	100	100	Maintain > 90%	100	✓	
		Industry Benchmark	99.2	100	85.0	79.4	79.0		83.3		
Environmental	Sites operating to ISO 14001 (%)	KPI	100	100	100	100	100	Maintain ISO systems	100	✓	
		Industry Benchmark	100	100	100	100	100		100		
Responsible Sourcing	Sites operating to BES 6001 (%)	KPI	100	100	100	100	100	Maintain BES 6001	100	✓	
		Industry Benchmark	87.5	87.5	88.9	83.3	83.3		91.7		
Health & Safety	Sites operating to ISO 45001 (%)	KPI	0	0	0	0	0	Gain ISO 45001 by 2025	0	✗	
		Industry Benchmark	75.0	75.0	77.8	66.7	66.7		91.67		
Transport	Average delivery distance (km/delivery)	KPI	101.3	40	94.0	94.0	91.2	Maintain < than benchmark distances	84.8	✓	
		Industry Benchmark	111	111	127	132	140		150		
	Average delivery lorry load (tonne/delivery)	KPI	22.0	22.0	26.7	27.2	27.1	Maintain figures in line with benchmarks	27.4	✓	
		Industry Benchmark	23.1	23.1	24.4	20.4	23.4		24.2		
Training	Average time spent on training (hrs/employee/year)	KPI	6.5	3.0	6.5	2.9	1.0	Increase training hours to > 7 hours	8.1	✓	
		Industry Benchmark	11.3	7.6	10.4	23.5	20.1		10.2		
Local Communities	Sites operating stewardship & local community liaison schemes (%)	KPI	0	0	0	0	0	Introduce local community liaison initiatives	0	✗	
		Industry Benchmark	12.5	0.0	0.0	0.0	0.0		8.3		

(1) Independently verified figures by Richards Associates Limited



Our Concrete Block Plants

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