

Impact from our Operations

OUR APPROACH

RAK Ceramics is committed to continuously improving its environmental stewardship throughout its value chain, sourcing of raw materials and operating its manufacturing processes efficiently, with less environmental impact.

We have a comprehensive Environmental Policy in place and are ISO 14001:2015 certified. Our manufacturing processes use a significant amount of natural resources (minerals, energy and water) and therefore we work hard at ensuring our operations run in a responsible and sustainable manner. We aim to conserve natural resources through progressively reducing emissions, discharges and wastes each year.

Our Environmental Team undertakes regular environmental impact assessments, to ensure appropriate steps are in place to minimize and mitigate such environmental impacts (where possible).

We have adopted a waste segregation scheme and recycling programme to minimize the disposal of waste materials. We are proud to recycle and reuse all water, industrial wastewater and effluents through our onsite desalination plant, three effluent treatment plants and sewage treatment plant (Plants). We also have monitoring equipment installed within our premises, which monitors air quality in our plants, on a daily basis.

Annually, an environmental management review is completed with set targets and goals outlined for the preceding year. In 2020, we aim to continue our conservation efforts by procuring equipment, which requires less consumption of water, ensure all our packaging is made from recycled materials and reduce our waste disposed.

MATERIALS & RECYCLING

1,483,253 Tons of raw materials (nonrenewable) was used in the production process in 2019, producing 1,257,549 Tons of product (we currently do not use any renewable raw materials).

Percentage of Recycled Input Materials

Effluent Treatment Sludge	25-30%
Fired Tiles	45-50%
Polishing Sludge	15%
Squaring Waste Material	30-35%

70% of corrugated boxes recovered and recycled by a third party.

51,388 damaged wooden pallets were refurbished and reused.

767.94 Tons of waste cartons were collected and sent to a third party for recycling

A third party recycled approximately 270kg of paper, cardboard and plastic bottles from our premises.

Blue Bins are located in our corporate office to recycle plastic bottles.

Green Bins are located in our corporate office to recycle paper waste.

*Calculations are approximate only and based on our central store records and data provided by RAK Waste Management Authority

WATER, EFFLUENTS & WASTE

In 2019, all water and effluent discharge from our factories, employee’s accommodation and corporate office was treated, recycled and reused.

We withdraw all our water from the sea and any water not consumed by our operations; we discharge back into the sea (see Desalination Plant Flow Diagram).

No water is withdrawn from water stress areas and our water is treated in accordance with the World Health Organisation Standards.

Water withdrawn from the sea	2,280ML
Water supplied by third party	657ML
Total amount of water withdrawn	2,937ML

1,623ML of water is discharged back into the sea. Through our desalination process, we are able to desalinate 30% of the water that is withdrawn, with the remaining brine/rejected water discharged back to sea. There is no treatment of the water going back into the sea, as it is still in its withdrawn state.

Total water consumption	1,314ML
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WASTE

2,480kg of hazardous waste. RAK Waste Management Authority transported the waste to a special domestic landfill. No waste was shipped internationally.

147,230 Tonnes of non-hazardous waste was taken to landfill by RAK Waste Management Authority.

Note: Calculations are approximate only and based on our central store records and data provided by RAK Waste Management Authority

70%

Total corrugated boxes recovered and recycled by a third party

In 2019, all water and effluent discharge from our factories, employee’s accommodation and corporate office was treated, recycled and reused.



Emissions and Efficiency

OUR APPROACH

RAK Ceramics' manufacturing processes use a significant amount of energy and therefore we recognize the importance of running our operations in a responsible and sustainable manner.

We strive to replace old equipment and machineries with new technology that ensures our methods of production are energy efficient.

In 2019, we installed a new Kiln Waste Heat Recovery System that allowed us to reuse heat in the production process, that would otherwise not be used again.

In 2019, we did not have a specific target set for reduction of energy; however, we are pleased to report that our energy consumption did reduce compared with the consumption in 2018.

In 2020, our target is to reduce our energy consumption by 5%. We undertake regular energy and emission assessments to enable us to put appropriate steps in place to minimize and mitigate our impacts. We do not currently monitor the emissions from our transport fleet and we are looking into implementing some form of monitoring for this in the coming years.

ENERGY

1,840,205MWH Total Fuel Consumption (Non Renewable): 775,235 Gallons of Diesel & 6,190,669 MMBTU of Natural Gas

4,526KWH Total Fuel Consumption (Renewable): through Solar Panels on Lamp Posts

270,676,718 KWH Electricity Consumption

We currently do not collect data for our heating, cooling and steam consumption and we do not sell any electricity, heating, cooling or steam.

211,087MWH Total energy consumption

Energy Intensity Ratio per M2 of Tiles Produced

3.644KWhr of electricity used per M²

0.0615MMBTU of natural gas used per M²

1.739 Gallons of Diesel used per M²

Energy Reductions (Scope 1)

27,821,100 KWhr reduction in electricity consumption for tile manufacturing

1,142,055 MMBTU reduction in natural gas consumption for tile manufacturing

23,812,001 Gallon reduction in water usage compared with 2018 for tile manufacturing

Waste heat reused 255,000Nm³ per month (waste heat from Kiln reused in dryers) – see in the spotlight for further details

87,125 KW per month reduction in electricity usage across the Organisation (replacement of all halogen lights to LED lighting)

Note: All data has been obtained from our various invoices from the Federal Electricity and Water Authority and monitoring equipment on our premises and converted into KWH or MWH to provide transparency.

We have not reported on the energy intensity ratio for sanitary ware as production is measured on a per piece basis, rather than M², however we are looking at ways to report on this in future, with different conversions used. Where reductions are reported, we have used 2018 figures to provide a comparison.

EMISSIONS

Our main source of emissions comes from our smoke stack, spray driers and kilns. In 2019, we planted approximately 4000 trees within the perimeter of our premises to offset our emissions and installed feeder rubber curtains on our raw material boxes to reduce dust emission during transfer and loading of raw materials.

144,262 CO²e Tons Gross Direct (Scope 1) GHG Emissions

(Calculation includes CO², HFCs, NOX and TSP)

10,490 CO²e Tons Energy Indirect (Scope 2) GHG Emissions (Calculation includes CO₂ from flights, and transportation)

Notes: Third party emission are tests used to calculate emission figures, as well as our own monitoring equipment, which we review on a monthly basis. Consolidation approach for emissions = operational control. We do not have any Biogenic CO₂ emissions and we do not currently calculate GWP, although we may look to do so in the future. 2018 is used as a comparison year for any reductions in emissions noted.

GHG EMISSIONS INTENSITY

3.09 CO²e kg per m² Total GHG emissions (scope 1) per production (m²) of Ceramic Tiles Manufacturing

18.050 CO²e kg per piece Total GHG emissions (Scope 1) per piece of Sanitary ware

Gross Direct (Scope 1) GHG Emission Reduction: 32,803MT of CO² compared with 2018 figures.

AIR EMISSIONS

NOX	75mg/Nm ³ per stack (on average)
POP	0mg
VOC	0 mg
SOX	5-10mg/Nm ³ per stack (on average)
PM/TSP	0.25kg/hr per stack (on average)
CO	10-20mg/Nm ³ per stack (on average)

USPA Standard Parameters are used to calculate the above figures based on site-specific data.

We undertake regular energy and emission assessments to enable us to put appropriate steps in place to minimize and mitigate our impacts.



In the Spotlight

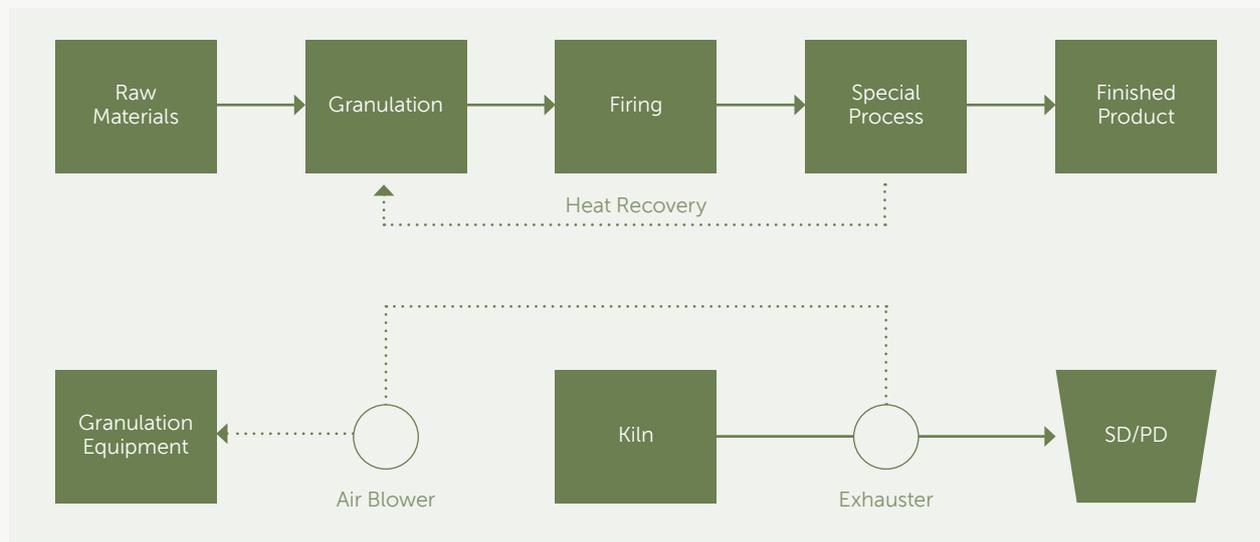
Kiln Waste Heat Recovery System

OUR APPROACH

The objective of this initiative was to recover waste heat from our kilns and use it as a heat source for granulation equipment, which would lead to a reduction in the consumption of energy and reduction of heat emissions. Prior to the introduction of the Waste Heat Recovery System (System), the heating in the granulation

equipment was carried out by heating external air, but with the introduction of the System, the recovered heat is now the main heat source for the granulation equipment. This System has been applied to 18 Kilns.

DETAILED PROCESS OF THE HEAT RECOVERY SYSTEM



DATA AS PER CENTRALISE GAS CONSUMPTION MONITORING SYSTEM

Factory	Source of Waste Heat (Kilns)	Fuel Used in Kilns	Ave. Natural Gas Consumption	Recovered Kiln Waste Gas°C/Day	Recovered Waste Heat Recipient	Reduction of Natural Gas Consumption
MC-3	2	NG	680	120	Press Drier & Kiln	5%
MC-4	2	NG	700	120	Press Drier & Kiln	5%
MC-5	2	NG	600	150~160	Press Drier, Kiln & Spray Drier	5%
MC-7	3	NG	1290	165~175	Press Drier	5%
MC-8	3	NG	1500	145~155	Press Drier & Kiln	5%
MC-9	3	NG	1700	145~155	Press Drier, Kiln & Spray Drier	5%
SWD-1 & 2	3	NG	1580	130~155	Press Drier	5%
Total	18		8,050*	120~155		5%

*MMBTU/Day

Approximate Average Natural Gas Reduction Monthly = 241500 – 95% into 24hrs/day multiply to 30 days = 12,075 MMBTU/Month



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18 KILNS

Total number of kilns the system has been applied.

12,075
MMBTU

Approximate Average Natural Gas Reduction per month.



Sustainable Production and Innovation

OUR APPROACH

We are dedicated to 'being better' than yesterday and going forward we are committed to designing innovative environmentally friendly products.

Our customers are also demanding more recyclability in regards to the packaging of their goods and we are looking at implementing packaging that is made with 100% recycled material in the future.

We currently have a handful of innovative solutions available in our ceramic and sanitary ware ranges that use less raw materials to manufacture, as well as a range of products produced using sustainably sourced raw materials.

When developing new products our product development team ensures that the products are made from durable and long lasting raw materials. The technical team then also ensures that our methods of production for a particular product are energy efficient and less wasteful in terms of water usage.

PRODUCTS

RAK Slim is ceramic tile product that has the same finishes as our standard tiles but uses 50% less raw materials to make.

RAK Antimicrobial a ceramic tile that reduces microbial contamination, contributing to a healthier environment particularly in schools and healthcare facilities.

RAK Joy a wooden furniture collection that respects the environment and the life of the furniture itself. All particleboard and MDF used in the construction of this striking furniture collection come from responsible FSC certified sources, respecting the forests, the people and wildlife who call them home.

FURTHER INFORMATION

For more information regarding the FSC certification visit www.fsc.org.

AWARDS & ACCREDITATIONS

We hold a number of accreditations and certificates in relation to our products and manufacturing processes including:

FloorScore is an independent certification program that test and certifies hard surface flooring and the materials they are made with, to ensure they are in compliance with stringent indoor air quality emissions.

ISO 9001:2015 by internationally recognized UK certification body Ceramic Research Institute Certification Scheme for ceramic tiles and sanitary ware. This certification verifies that we have a quality management system in place that is compliance with the requirements of the standard, which covering design, development, production and supply of ceramics and sanitary ware.

ISO 13006, EN 1441 and ANSI A137.1 we manufacture ceramic tiles in accordance with these standard specifications from the UK, Europe and USA.

Our testing laboratory operates in accordance with ISO/IEC 17025 accredited by the National Association of Testing Authorities, Australia.

We also hold numerous compliance certificates for countries around the world, ensuring that our tiles meet specific country standards.

We have won numerous awards in 2019 including Acquisition International 2019 Global Excellence Awards (World Leader in Ceramics Production 2019) and BKU (Bathroom and Kitchen Update (Best Tiling Brand 2019).

