

The Redland Environmental Protection Programme

“ We installed our first wind turbine at our Rassau factory and now we are installing more in other plants. It’s just one example of our Environmental Protection Programme in action. ”

Nick Payne - Rassau Plant Manager
Monier Redland Ltd

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Introduction

As part of the worldwide Monier Group, our aim is to build a better business. This requires our business to be sustainable on an economic, environmental and social level, so that we do not compromise the ability of future generations to meet their own needs.

This principle of sustainability lies at the heart of the plans we make, the decisions we take and our day-to-day activities, and our aim is always to go far beyond simply complying with current legislations and guidelines. Sustainability also forms the basis of our approach to environmental protection matters - The Redland Environmental Protection Programme.

www.monier.co.uk/sustainability/environmental-responsibility

The Redland Environmental Protection Programme

The programme is based on two core values – Responsible Manufacturing and Responsible Products. These values have helped us achieve recognition for our efforts, as illustrated by the Queen's Award we received for the high recycled waste content of our pioneering Cambrian Slates, and by our success in 1997 when we became the first UK roof tile manufacturer to launch a roof-integrated photovoltaic solar panel.

Environmental Targets

- 1: Achieve zero waste to landfill by 2015
- 2: Reduce overall consumption of energy and thus reduce our production of greenhouse gasses by 3% year upon year
- 3: Reduce water consumption in our manufacturing processes by 4% by 2015
- 4: Obtain 20% of our energy from on-site renewable sources such as wind turbines or bio-mass boilers by 2020
- 5: By working closely with our transport company reduce our mileage per tonne delivered by 2% by 2015



Responsible Manufacturing

Our approach to Responsible Manufacturing incorporates many different elements, including:

Responsibly sourced raw materials

- 1: We work consistently to optimise our raw material extraction practices. Our own quarries and sand pits are subject to strict environmental rules, and other materials are sourced via responsible supply links which have verifiable chains of custody.
- 2: The labour used to supply those raw materials is another key consideration for us. We research each of our providers in detail to ensure that their labour forces are not being treated in an exploitative or unethical manner.
- 3: Site stewardship is a key activity for Redland as we recognise the impact of our activities both during and after our involvement with a community. We always aim to become part of that community, and work with others involved to protect local environments and wildlife.
- 4: We also work closely with local authorities and the Environment Agency to find the best possible new uses for our extraction sites once they have reached the end of their productive life.

Effective Management

- 1: We see people as a key part of our environmental manufacturing activities, so we treat everyone with respect, at all times.
- 2: Effective environmental management demands a very high level of safety, and so we make this a key priority. We ensure that no employees, suppliers, contractors or visitors are ever put at risk, and we also undertake regular behavioural and process safety audits which have helped us reduce the number of safety incidents that occur, year after year.
- 3: Working to ISO 14001 standards, our environmental management systems ensure that we minimise waste and use raw materials as efficiently as possible.
- 4: We work to not only comply with all relevant legislation and guidelines, but to exceed them. We have established our own comprehensive set of policies and procedures to help us achieve this aim.
- 5: We employ many measures to limit our impact, such as the use of biologically degradable substances – rather than oil-based alternatives – as parting agents for our tile moulds.
- 6: We integrate our plants into their local environments and landscapes, and equip them with dust collectors and flue gas treatment processes to preserve air quality.



Reducing Energy Consumption

- 1: We recognise the pressing need for everyone to reduce fossil fuel consumption and CO₂ emissions. We have worked with industry experts Ove Arup & Partners to analyse the embodied carbon aspects of our operations and this has helped us understand our carbon footprint and take steps to reduce it.
- 2: We continually monitor our energy consumption and measure the reductions we make, so that we can clearly demonstrate our progress.
- 3: We constantly optimise our clay blends to reduce CO₂ emissions during the production process, and we use state-of-the-art manufacturing equipment plus the very latest technologies to reduce energy consumption.
- 4: We use gas instead of fossil oils to fire our kilns, plus well-insulated curing chambers which capture and reuse the heat given off by concrete products.
- 5: We are also exploring alternative sources of power, such as biomass fuels and the expanding network of wind turbines which we use to power our operations.
- 6: Our factory locations are chosen to reduce road transport requirements and we work closely with our transport provider to optimise vehicle movements. We require them to operate the most efficient vehicles with the lowest emissions, and we are also examining the use of biofuels.
- 7: We work with local suppliers where possible, and liaise with them regularly to optimise delivery schedules and minimise vehicles movements.

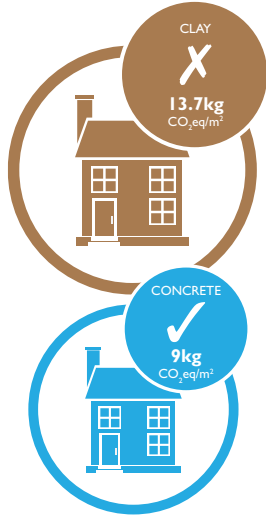


Recycling resources

- 1: Because water is a precious resource, we take many steps to reduce the amount we use, such as the recycling of wet waste from clay product manufacturing for re-use in other manufacturing operations.
- 2: We ensure that all water runoff is correctly treated and checked before it enters any water courses. At some locations we also have water treatment plants and/or settlement lagoons to further improve the water quality.
- 3: This approach is mirrored in our policy on waste, where we work towards a target of zero waste being sent to landfill. We liaise closely with our waste contractors to find alternative outlets where our waste materials can be recycled, rather than being disposed of.
- 4: In some cases, such as our Cambrian Slate production facility, rejection rates have been repeatedly lowered to the point where only 1% of the Welsh slate raw material is sent to landfill.
- 5: We are careful to recycle packaging used by our suppliers wherever possible.
- 6: Our pallet returns system allows us to reuse over 100,000 pallets per year.
- 7: Our clay tiles can usually be reused once a building reaches the end of its life, while our concrete tiles can be recycled for use as building aggregate. Most of our plastic components are fully recyclable.

Sustainable quality

- 1: Our ISO 9001-compliant Quality system ensures that we work continuously in pursuit of operational excellence. Our policy of continuous improvement combines with our knowledge and expertise and allows us to deliver products and services that are proven to be fit for purpose. We are also able to act quickly and effectively when the need for change or improvement is identified.
- 2: We operate a 'Right First Time' policy which is designed to reduce waste and optimise our product quality.
- 3: Our manufacturing activities conform to various ISO 9001, British Board of Agreement or Kitemark standards, and are audited, both internally and externally, to ensure that these standards are maintained at all times.



Total Emissions

	13.7kg	Clay Tile
	9kg	Concrete Tile



Responsible Products

The natural extension of our Responsible Manufacturing approach is the production of Responsible Products. This includes products which are designed to help maximise our use of natural resources, and created with the aim of minimising their own impact on the environment.

The Blue Tile - Concrete V's Clay

Extensive research has proved that a typical clay tile has a CO₂ footprint 1.5 times higher than its concrete counterpart. That's why our extensive range of Blue Tile concrete products offer a genuinely environmentally friendly option. Combine these with the many aspects of the Redland Environmental Protection Programme and you can relax and enjoy your beautiful new home in the knowledge that it has been made with minimal impact on our environment.

Protecting our environment

We recognise that the rooftop offers tremendous potential to increase the efficiency of today's buildings and our aim is to help our customers maximise that potential. Our ongoing design and development activities work towards achieving that aim, whether that involves creating products which harmonise visually with their surroundings, offer improved performance, or help rooftops operate in a more environmentally efficient manner.

Research and Testing

Each of our products is the result of a detailed and lengthy process of research, testing and development. We begin by analysing the needs and expectations of our customers and then seeking the most efficient and environmentally friendly ways to meet and exceed those requirements, testing the results and evaluating our progress as we go.

An Innovative Approach

Since becoming the first UK roof tile manufacturer to launch a roof-integrated photovoltaic solar panel in 1997, our innovative approach to creating Responsible Products has led us into different areas, such as the creation of our second generation of PV tiles which includes five systems that match our most popular tile ranges.

We've even developed our Loft Board and Rapid Rafter insulation ranges which help reduce heat loss and fuel consumption. Yet our aim has never wavered, as we look to develop the most efficient, practical and environmentally friendly roofing solutions possible.

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Proven Solutions and Standards

Our products are designed from day one to help our customers achieve their objectives. So no matter whether that means meeting BREEAM guidelines or reaching Code for Sustainable Homes requirements, our products are more than equal to the task. We have supplied data to various industry organisations of which we are members, and this has helped the current BRE Green Guide to Specification award an A+ rating (lowest environmental impact) for standard roof constructions covered with our Concrete Interlocking Tiles, Concrete Plain Tiles and Clay Plain Tiles. Similarly, our Redland Cambrian Slates are the most eco-friendly resin slates available, with the 2008 Green Guide to Specification awarding generic resin slates an A rating when part of standard roof constructions.

We are also proud of our ability to demonstrate independent confirmation of our operating standards. As a Federation Member of British Precast - the trade body for the UK concrete products industry - we are committed to meeting and complying with 14 separate sustainability target indicators. These include reducing our kWh/tonne energy usage and carbon emissions, increasing the amount of recycled material in our products, and reducing the quantity of mains water consumption in our day-to-day operations.

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