

A small Welsh company that has developed world-beating technology to produce ultra-low carbon cement from industrial by-products is attracting interest from around the world. Cenin Ltd is the company behind the technology. It has established an R&D centre on Stormy Down, near Bridgend, where it has also opened a small production plant.

Cement production is responsible for up to 5% of all CO₂ emissions worldwide and is greater than the entire aviation industry. On average 1,000kg of CO

² is emitted with every tonne of cement produced – by contrast Cenin’s cement replacement produces less than 250kg and the intention is to reduce that to below 30kg by powering the plant from renewable energy.

Gary Hunt the inventor of the technology, spent many years developing his initial idea and was helped considerably by Cardiff University, where he was an Honorary Research Fellow. He is now technical director at Cenin and an acknowledged expert in the field of cement chemistry.

His fellow director Martyn Popham explained that the aim at Cenin is to create a truly environmentally friendly product that doesn’t cost the earth.

“Our cement is made from industry by-products that eliminate the need to quarry raw materials, which is another environmental saving,” he said. “Many of these by-products contain the main chemical elements found in Portland cement or cement substitutes.

“Technology developed in Wales by Cenin can chemically modify these materials to provide a low-carbon, high-strength durable cement substitute for the concrete industry. The product has undergone extensive customer trials over the past three years and in many circumstances is deemed to add technical properties to that of traditional Portland cement.

“It has been technologically verified by accredited independent laboratories in the UK and, unlike anything else on the market, our process can change the properties of the material to suit the needs of end users. This could involve faster or slower setting times to suit seasonal variations in temperature, as well as different strengths.”

“Demand for Cenin’s products – and interest in the technology – is huge. We have presented at a number of international conferences and our product has created tremendous interest worldwide,” said Martyn.

In recognition of its high growth potential, Cenin is a member of the Welsh Assembly Government’s Knowledge Bank for Business programme. Ieuan Wyn Jones, Minister for the Economy and Transport, described it as excellent news that a Welsh company was leading the technological development to produce ultra low-carbon cement.

“Given the size of the global construction market and the drive for the industry to radically reduce its carbon footprint, there is huge potential for this product,” he declared. “This success also illustrates the benefits of industry and academia collaborating and the importance of investing in R&D to develop innovative new products that meet a very real need.”