A Mexican scientist has developed cement that glows in the dark for up to 12 hours, potentially revolutionising the way we light our cities.

Developments that make construction materials more eco-friendly are becoming more and more common. In New Jersey, researchers have developed a new form of concrete that uses CO2 gas in its manufacture. In the UK, scientists have created a cement that contains absorbent minerals, making nuclear waste disposal easier. Now, a scientist in Mexico has created a material that could reduce electricity consumption in urban areas: glow in the dark cement.

After nine years of research, Dr. José Carlos Rubio, a scientist at Mexico’s University of San Nicolas Hidalgo, has created a new type of cement that glows in the dark. When fully ‘charged’ the glow lasts for up to 12 hours. Rubio claims the material will retain this ability for about a century. What is more, the light intensity can be regulated to avoid dazzling drivers or cyclist. Normally, cement is opaque. It can’t capture and store light energy because of the crystalline flakes, formed as unwanted by-product when the cement powder is mixed with water. By altering the micro-structure of cement itself, the scientist has managed to eliminate the opaque crystalline byproduct that would have blocked the phosphorescence from showing.

Rubio has now patented his technology and is exploring its commercial applications. With global cement production amounting to about 4 billion tons in 2015, the market for glowing cement has huge potential. It could directly impact the way we light urban environments. How will we see this discovery being applied?

16th November 2016