



RETHINKING CONCRETE FOR A **GREENER** TOMORROW

Concrete's Embodied Carbon Problem Has a Solution

Concrete is the second most consumed substance on earth after water — but it's also one of the most carbon-intensive. Every year, concrete production accounts for approximately 8% of global CO₂ emissions, primarily due to the use of cement and virgin raw materials like river sand.

To meet global net-zero targets, addressing the **embodied carbon** in construction materials — the emissions locked in before a building is even operational — is critical. Yet despite the urgency, scalable, proven solutions have been hard to come by.

Until now.

Recycled Glass Sand: A Circular Breakthrough

We've unlocked a high-performance alternative to traditional sand using something the world already throws away in bulk: **glass**.

Our unique equipment & process transforms recycled glass into **engineered sand particles** that can replace natural sand in concrete. The process doesn't just crush glass — it activates it, altering the particle structure to enhance its performance in concrete mixes. Unlike traditional crushed glass, our **SCG-SAND** doesn't require any chemical binders or reactivity agents.

The result? A clean, consistent, reactive material that can substitute for virgin sand — and cut embodied carbon in the process.

Why It Matters

- **Saves Natural Resources:** Reduces the demand for river sand, which is increasingly scarce and environmentally damaging to extract.
- **Reduces Landfill Waste:** Diverts significant volumes of glass from landfills.
- **Lowers Embodied Carbon:** Replaces an energy-intensive raw material with a circular input.
- **No Special Additives:** Performs without the need for chemicals or binders.

But most importantly — **it works.**

Validated by Industry Leaders: Holcim, Metro Tunnel Project & More

In a **groundbreaking industry trial**, our sand has been validated by **Holcim Australia, Cement Australia**, and several leading institutions as part of the **Victorian Government's Metro Tunnel Project** — one of Australia's most significant infrastructure builds.

This real-world test involves using our engineered recycled glass sand in **structural concrete slabs** as a direct replacement for river sand. The project is led in partnership with:

- **Holcim Australia**
- **Cement Australia**
- **University of Melbourne**
- **Royal Melbourne Institute of Technology (RMIT)**
- **Cross Yarra Partnership**
- **Rail Projects Victoria**

Test slabs are being poured using **20% to 80% replacement ratios**, with the **25% and 40% mixes already successfully completed**. These slabs were laid without any specialised chemicals — just SCG-Sand produced by our equipment + process — and are achieving **performance results not previously thought possible** with recycled glass in concrete.

"This recycled glass (SCG-SAND) is achieving results not thought possible with glass as a sand replacement," the project team reported.

This isn't a lab trial — it's **an on-site application in a multi-billion-dollar tunnel project**, using **actual construction-grade concrete** from one of the world's biggest suppliers.

A Scalable, Sustainable Future

With **Holcim Australia** and the Victorian Government now validating our solution in one of the most watched infrastructure projects in the country, the credibility and scalability of SCG'S SAND are beyond question.

Glass is one of the most underutilised waste streams in construction. We're proving that when processed correctly, it's not just a filler — **it's a fundamental ingredient for the future of sustainable concrete.**