

Lifestyle/ Interiors & Living

## Glass pioneers bid to increase use of recycled materials

Designers hoping to inspire new uses for waste bottles insist green targets are achievable with just a little imagination



**Peta Tomlinson**

+ FOLLOW

Published: 12:00am, 1 May, 2013 ▾

[Why you can trust SCMP](#)



A green office in Central. Photo: Courtesy of Liquid Interiors

The government wants us to recycle glass - an admirable green initiative, given that the 13 tonnes of waste glass drink bottles currently collected every day in Hong Kong accounts for less than 10 per cent of the total thrown away.

The aim is to recycle much of this for use in construction materials, such as eco-glass pavers. That begs the question of how architects, designers and ordinary householders can do their part by choosing materials made from recycled glass?

Not only that. Realistically, how broad will the product range be for residential buildings and what will be the cost?

National Geographic reports that, from a manufacturing viewpoint, giving second life to recycled glass is preferable to making new products from scratch.

It's kinder on the environment, melts more easily - thus saving energy - and is cheaper than the cost of raw materials. "Finally, uses for recycled glass are endless," it says.

Innovative homewares are one thing, but recycled glass can be so much more than a pretty (and ethically correct) vase. It is so widely used it has spawned a new terminology.

One example is "glassphalt", a material applied to roads, highways and even airport runways to make them less slippery. Another is "greenscaping", referring to garden and landscape products that, by their glass-based nature, reduce the need for watering.

A group of Thai monks from Sisaket province built a Buddhist temple entirely out of beer bottles – a million of them, left in their natural state – just to show what can be done, but there's no need to go that far.

According to Dixon Chan Chun-wan, the director of the Hong Kong recycling company Tiostone Environmental, we are capable of doing much more with our waste glass, if only we had the will. "Glass is being recycled and reused in many ways overseas. In Hong Kong, using equipment already in place, we could produce road kerbs, partition blocks, surface blocks for slopes, water channels and more.

"If the works department was required to purchase local eco products, the government's recycling targets can be achieved."

Rowena Gonzales, creative director of sustainable design firm Liquid Interiors, says there are so many more potential applications than the current process of merely using crushed glass for paving blocks, or mixing it in concrete. It takes a lot of energy to melt down glass to make new glass (although still less energy than making new glass from scratch). In Hong Kong our energy comes from burning coal, which also pollutes the air.

"Until Hong Kong has a cleaner and renewable way of creating energy, crushing glass for construction materials is the most economical way of using it," said Gonzales, whose innovations are already showing results: for an office in Central, frosted glass panels and partitioning were all made from recycled glass; at a bar in Elgin Street, SoHo (since closed), old test tubes were used to make a ceiling feature.

The market wants more, Gonzales believes. "If recycled glass mosaic tiles, terrazzo flooring, countertops and even new windows, glass panels and doors were made from 100 per cent recycled glass in Hong Kong, I am positive that designers and clients would use it, especially with our landfill crisis," she said.

M.K. Leung, director of sustainable design at Ronald Lu and Partners, a Hong Kong-based architecture and interior design practice, would "love to see better and bigger changes" in his hometown.

"Green practices using recycled materials should be progressively tightened and better promoted," he said. "Market demand follows stronger supply – this can only happen when the public better realises the clean and green benefits of recycled products, and increases demand for their use."

Some suppliers are paving the way. Jade Glass, a stain-resistant, bacteria-free interior finishing product made from recycled waste glass collected on the mainland, is already being used in kitchen countertops, bars, floor or wall cladding, stairwells, bathroom vanities, shower stalls and even furniture. The product is artificially strengthened to resist scratching, but contains no glues or chemicals.

According to Ricky Chan Wai Kei, manager of Rahmen (Asia), the local supplier of Jade Glass, environmentally friendly products like this are becoming increasingly important in design and will become a key element of the future.

Says Chan: "The product's ease of fabrication allows us to develop different textures, patterns and finishing. It comes in a wide range of colours, and is a more sustainable choice than stone or marble."