‘Over 40% of carbon emissions come from construction — that’s a huge negative footprint’

Property Weekly speaks to David Rosenberg, CEO of Hycrete Inc

David Rosenberg is looking to green the world, one building at a time. While it may be in vogue to promote self-powered skyscrapers or energy-efficient lighting, hen is talking rocks, cement, sand and water. Taking on the most widely in the construction industry — concrete — Rosenberg hopes to encourage greener construction with a revolutionary technology that waterproofs concrete.

What’s more, he is a dynamic advocate for sustainable construction, most recently seen at the World Economic Forum’s regional meeting in Egypt where he moderated a panel discussion on Greening our Cities.

A pioneer, an innovator, and even a US fencing champion, David Rosenberg, CEO of Hycrete Inc, speaks to *Property Weekly* about his plans to change the world.

You recently moderated a panel at the World Economic Forum’s regional meeting in Egypt. What were the main discussion points — and how did these relate to the Middle East?

One of the main themes was the need to standardise green construction regulations so that they can easily be communicated and understood. That’s so important for progress. Everybody wants to do it but they need somebody to guide them towards it.

Dubai and Abu Dhabi have this vision at a very high level, and Dubai is going to be a green destination and use green construction. But, that standard still has to be easily communicated and open so that people know how to perform to that standard.

I’d like to see a Cradle to Cradle standard in this society that goes beyond construction.

Why has green construction in the Middle East become such an important issue at the Regional Economic Forum?

There’s been under investment in infrastructure here for so long, but now there’s this fantastic construction boom going on in the Middle East, and there’s a big catch-up. In Cairo, for example, there’s a huge growing middle class and, although there’s not the Class A buildings we’re seeing in Abu Dhabi and Dubai, there’s a great building boom here, as there is in China.

Over 40 per cent of carbon emissions come from construction — that’s a huge negative footprint. Everyone talks about cars, but those numbers are in the low

Photo: Asghar Khan

According to Rosenberg, Dubai has a vision of standardising green construction regulations and will soon be a green destination

tenth, and we need to focus on the construction industry.

There's a huge amount of construction going on in the Middle East, so we need to address how we get our leaders and developers to design and build in an intelligent way.

How have developers in the UAE responded to the issues raised at the forum?

There's a tremendous amount of interest from the UAE. Construction is such a major part of our every day life and it takes up so much of our natural resources, so it's very appropriate that it has a key position within the political landscape

How does the UAE compare to the US in terms of green construction?

In terms of quality, it's leading the way. Dubai and Abu Dhabi have this wonderful attitude of 'we can take on these great challenges and lead the way'.

They're doing it with Masdar by trying to build this zero carbon footprint city, and that's what our world needs — someone to raise the bar.

Is there the need for standard regulations to monitor green construction methods in the UAE?

If you're hurting the environment now, what will happen in 20 to 30 years' time, and what will that do to the net present value? Capital markets don't often factor in the environmental effects, and that's where you need some government control.

"Hycrete has Cradle to Cradle certified material, meaning it can be reused and recycled, and it's extremely safe"

You need a government to put a net present value on doing the right thing from an environmental standpoint.

Abu Dhabi and Dubai have is a very strong government that can act swiftly and make decisions, and a very vocal and intelligent leadership that can set that benchmark high.

The technology is often there, it just needs some stimulation. For example, the manufacturing of cement contributes to between 6 and 9 per cent of our carbon dioxide, and there are technologies out there to make zero carbon footprint concrete but these technologies aren't often used because developers are not being motivated to use them. The lowest carbon footprint concrete in the world is coming out of the Middle East, it's not zero or

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Hycrete has corrected the most fundamental flaw in concrete by developing technology to waterproof it

Concrete is the most widely used building material in the world. There 's a huge amount of construction going on in the Middle East, so we need to address how we get our leaders and developers to design and build in an intelligent way, says Rosenberg

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even close to zero, but it's lower than everywhere else and the main reason for this is the intelligent leadership here.

Hycrete has developed a chemical to waterproof concrete. How will this technology benefit the construction industry?

Concrete is the most widely used building material in the world and Hycrete has corrected the most fundamental flaw in concrete by developing technology to waterproof it. It's extremely unique.

We fix the waterproofing problem; our technology is better and faster as it eliminates that speciality contractor; and, it's typically 30 per cent less expensive that membranes and coatings.

It's that triple win that gets people to turn their heads our way. The green benefits are then the icing on the cake. We're trying to take waterproofing and own it, so that the customer no longer has to deal with the issue.

But how is Hycrete encouraging green construction?

This is a third generation family business. My grandfather invented worked with NASA to develop solid rocket fuel and the heat shield for the Apollo series, so there's a long history of innovation.

The lowest carbon footprint concrete in the world is coming out of the Middle East, it's not zero or even close to zero, but it's lower than everywhere else

Concrete is sand, water, cement, and rock and everything about that should be reused but, once you put high toxicity things in it or on it, it makes it harder to reuse. Traditional membranes and coatings are often petroleum-based and they have high CO2 emissions, which makes it significantly harder to reuse concrete.

But Hycrete has Cradle to Cradle certified material, meaning it can be reused and recycled, and it's extremely safe.

I actually drank it once and my kids still have ten fingers, ten toes! In most of the world, over 10 per cent of our landfill is concrete related and we should be able to stop that, and that's why Hycrete uses a very low toxicity material to waterproof concrete.

Why are you looking to expand to the Middle East?

Right now we're going into projects in Eastern Europe, Asia and the Middle East. We're going after growth sectors and the Middle East is the one we'll focus on the most because of the type of the environment.

There's an extremely high water table here and the water has a very high salt content, which is very problematic.

The area is perfect for our technology. It's also extremely humid here, which can cause mould growth, and if we can eliminate moisture then we can eliminate mould.

What progress have you made in made in bringing this technology to the UAE?

In the US we have just gone into our 90th structure, and it's being used across the country in a wide canvas of projects — big commercial buildings, bridges, marine terminals, and train terminals.

We've done some local testing in locations across the Middle East and we have a demonstration project starting in Abu Dhabi in September. Also, we plan to have a manufacturing facility in Abu Dhabi, and in the next 12 months we'll be breaking ground on this facility. We're building the manufacturing facility here not only to meet demand, but to communicate to the industry our willingness to invest in the community.

Do you anticipate a lot of interest from the construction industry in this technology?

The preliminary interest has been fantastic. The construction in the Middle East is of the best quality that I've seen anywhere in the world.

People have an extraordinary eye for being forward-thinking here, and they want the best quality structures and the best technology.

There's a big need for speed in the Middle East and projects go up very fast, especially in the UAE.

Typically, you pour the concrete and then you bring in another contractor to come in and provide the waterproofing. Here, the waterproofing is done as soon as the concrete is poured as it's in the concrete, so you're not doing anything extra.

You're eliminating a whole step in construction. I can't think of another product in our industry that eliminates a whole step in construction.

As told to Carli Smithers, Freelance Writer