



UNIQUE COOLING AND CO² ABSORBING PAINT CRITICAL FOR REDUCING CO₂ EMISSIONS

Mizu Paint
Malaysia



Dr Rozzeta Dolah

Mizu Paint is compatible with surfaces including plastic, cement, ceramic and brick. It works in three ways: through a high reflectance capacity which reduces solar penetration across building exteriors, thereby cooling the inside spaces; by lowering the energy consumption of air conditioning units, minimising unnecessary use, and with it, the emission of greenhouse gases; and by trapping the carbon dioxide molecules present in the air, before deconstructing them into harmless elements.

This antibacterial and anti-rust paint contributes towards the UN Sustainable Development Goals, chiefly supporting climate action through the elimination of harmful CO₂ particles. The key ingredients in Mizu Paint is biomass waste, which holds energy efficiency improvement qualities which reduces the demand for electricity. The SDGs are also targeted towards the achievement of good health – and closely related to improving air quality.

Mizu Paint reduces reliance on air conditioning units which are themselves often dependent on energy from fossil fuel power stations.

This pioneering innovation is inspired by Rozzeta's work researching low carbon emissions using nanotechnology, in her Senior Lecturer role at University Technology Malaysia. She has assembled a team focusing on commercialising Mizu Paint, while maximising its environmental, social and governance (ESG) benefits in terms of carbon offset and corporate tax exemptions. A ten square metre coverage of Mizu Paint can remove 235kg of carbon dioxide from the atmosphere each year – the same amount as could be absorbed by eleven fully grown trees.





Global carbon dioxide levels are presently 20 per cent above the accepted safe ceiling of 350 particles per million (ppm), and rising by one per cent each year. Offering a solution, Malaysian lecturer Dr Rozzeta Dolah has developed Mizu Paint, a pioneering new water-based paint compound that helps to cool buildings through its revolutionary adsorbent technology, mitigating the impact of air conditioning units on global CO2 levels, contributing to better air quality and lower energy bills.

Rozzeta praises LIF for introducing her to other entrepreneurs and innovators: "It's not just about what LIF can provide me with, but what we can do in return. I inform them about interesting things here in Malaysia, and we enter into partnerships." Supported by two mentors from the Academy, Rozzeta has gained the confidence to pitch and present: "As a LIF alumni, I was offered the opportunity to speak at COP26, talking about our green product innovations. It was an amazing time, and it opened up many opportunities afterwards."

Rozzeta plans to market Mizu Paint internationally, with carbon dioxide levels becoming a critical global issue, and companies around the world looking to reduce carbon emissions. Joint ventures with existing paint manufacturers will increase the availability and adoption of this pioneering, carbon-reducing product before manufacturing switches to a proprietary factory owned by Mizu Paint within the next three to five years.

The Royal Academy of Engineering's Leaders in Innovation Fellowships (LIF) programme supports talented entrepreneurs from around the globe to turn their engineering innovations into impactful, sustainable businesses.

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