



# PRESS RELEASE

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## **Next Level Tyre Recycling Turning Roads Green**

In what may be a world first, recovered carbon black (rCB) from end-of-life recycled tyres has been used as a substitute for hydrated lime in a new range of asphalt products.

In a collaboration between the National Transport Research Organisation (NTRO), Alex Fraser Group, the Victorian Department of Transport, Tyre Stewardship Australia, Ecologiq and Entyr - a new, environmentally sustainable range of asphalt mix will be tested and trialled in a 2-year infrastructure program.

High quality recovered carbon black (rCB), produced by Entyr Limited from recycled tyres, will be used to replace virgin resources and as an alternative to crumbed rubber improving road safety and durability.

"We are always looking for innovative ways to make roads safer and more sustainable. Using Entyr's rCB in asphalt not only improves road safety but also lower emissions from the point of manufacturing through to the laying of the asphalt," said Materials and Performance Portfolio Leader for the National Transport Research Organisation (NTRO) Petar Davcev.

"We have assessed and tested Entyr's recovered carbon black in both the laboratory and on surfaced roads over the past two years with all results showing superior sustainability. To use rCB as a potential substitute for hydrated lime in asphalt - takes the use of recycled tyres to the next level and is a win for environment and community," said Mr Davcev.

Hydrated lime (calcium hydroxide) is commonly used as a modifier in creating high performance asphalt pavements, but the mining and manufacturing process has negative environmental consequences.

"We know that hydrated lime manufacturing produces considerable CO<sub>2</sub> emissions so to be able to replace it in asphalt manufacturing with our rCB - which is actually proven to lower emissions throughout the asphalt production - the potential to substitute and impact on lowering emissions is incredibly exciting," said CEO of Entyr David Wheeley.



“Our assessment shows that for every tonne of tyres we process, we save ~0.5 tonnes of CO<sub>2</sub> emissions. For every tonne of hydrated lime made there is a negative CO<sub>2</sub> impact,” said Mr Wheeley.

Research cites that the production of one tonne of calcium hydroxide generates around 1.2 tonnes of CO<sub>2</sub>, contributing to about 1% to the global anthropogenic CO<sub>2</sub>.<sup>1</sup>

“While we are yet to verify if this is world’s first, we are not aware of anyone through our patent networks that has successfully replaced the use of lime in asphalt without compromising on quality and actually improving superiority of their products,” said Mr Wheeley.

“Our collaboration with Entyr allows us to research and test improved road products which lower emissions and leave virgin resources in the earth - contributing to improvements on industry best practice.

We anticipate that the results of a planned laboratory validation will support incorporating recovered carbon for use on all major arterials, big builds and other roads “ said Mr Davcev.

Asphalt mix using Entyr’s rCB as an alternative to hydrated lime has also received conditional approval by the Queensland Department of Transport and Main Roads. While rCB is currently used in roads in Southeast Queensland it is anticipated that this new mix will be another option for use in Queensland roads soon.

<sup>1</sup>Laveglia, A. Sambataro, L. Ukrainczyk, N. De Belie, N. Koenders, E. (2022, July 30) *Journal of Cleaner Production*. Vol 369, 1 October 2022, 133224.

<https://www.sciencedirect.com/science/article/abs/pii/S0959652622028116>

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