MECLA

Case Studies

CITY OF VINCENT

Cerclos

Empowering Sustainable Housing

Local Council partners with leading Software Provider to drive low carbon designs of single and grouped Dwellings

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Whole of Life carbon reduction total tCO2e removed*:

~20,742 tCO2e

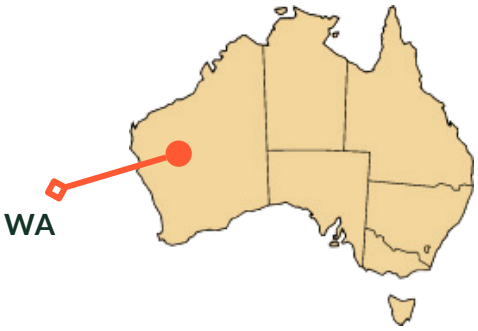
Category:

Product	System	**Project**	Concept

Supply Chain:

Manufacturing	Transportation
Processing	Construction

Region:



Cerclos, a global life cycle assessment software provider, collaborated with The City of Vincent in Western Australia to integrate life cycle assessment for advancing sustainable housing.

Opportunity:

The City of Vincent's Built Form Policy prioritises reducing the whole of life environmental impact of building development. In 2017, it sought improvements in sustainable design for large developments and included LCA to assist in achieving these outcomes.
In 2020, environmental performance targets were set for single houses and grouped dwellings, aiming for 50% reduction in life cycle carbon emissions and life cycle net fresh water use, from raw materials to construction methods, building maintenance and beyond. However, LCA proved costly and time-intensive, seeking certified assessors who were also reluctant to handle small residential projects.

Solution:

To achieve this, The City collaborated with global LCA software company, Cerclos, to pilot their newly developed, net zero home app, RapidLCA, for fast, intuitive and affordable life cycle assessment of low to medium density housing, accessible to non-LCA professionals. The outcomes of this trial exceeded expectations and incurred no direct financial cost to the City.
Subsequently, The City integrated RapidLCA into the development assessment process for applicants to demonstrate compliance with environmental performance standards of the developments of new single and grouped dwellings.

Lessons:

- Early integration of whole-of-life environmental considerations at Development Assessment stages drives genuine, long-term impact and cost reduction, enabling building practices from inception, minimising the need for future retrofitting or maintenance expenses.
- Adopting a flexible and non-prescriptive approach to decarbonisation fosters innovative sustainable designs, meeting international standards.
- Training the Planning team on RapidLCA and report interpretation is essential, alongside outlining acceptable forms of documentation for applicants. This collaboration led to efficiency improvements and cost savings, streamlining the planning process while shaping sustainable homes.

Impact:

61 dwellings were assessed during the trial, revealing a 70% average reduction in life cycle carbon emissions, exceeding the 50% target. This resulted in 20,742 tonnes of CO2e saved, equivalent to planting 127,266 trees. Subsequent assessments of 17 dwellings showed a 68.26% reduction and 7,432 tonnes of CO2e savings. Our City's initiative can be replicated by other WA Local Governments, supported by educational materials provided online.

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*The tCO2e estimate for the project is provided through the case study submission and not verified by MECLA. To interogate the carbon reduction figures please contact the organisation making the claim.