



COLLABORATION FOR CHANGE

Case Study: Low Carbon Concrete

Embodied CO2e reduction
(tCO2e)

TBC

CATEGORY

PRODUCT	SYSTEM	PROJECT	CONCEPT
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SUPPLY CHAIN

MANUFACTURING	PROCESSING	TRANSPORTATION	CONSTRUCTION
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REGION

WA	NT	SA	QLD
NSW	ACT	VIC	TAS

Profile

Organisation: City of Sydney

Website:

<https://www.cityofsydney.nsw.gov.au/>

About: The City of Sydney is the local government authority responsible for the City of Sydney local area.



Section 1: Opportunity

The City of Sydney uses substantial volumes of concrete in delivering its services including new and upgraded roadways, footpaths, cycleways, kerb and gutter. There is a ready opportunity to substitute Portland cement based products with commercially available low carbon concrete alternatives.

Section 2: Solution

The approach to this solution was firstly to identify what low carbon products are commercially available to reduce the City's use of conventional Portland cement and to review technical specifications and Environmental Product Disclosures (EPD) to ensure products are fit for purpose. The solution is founded on successful collaboration between the City's sustainability and infrastructure units; and a proactive contractor, Sydney Civil.



Section 3: Lessons

Identify and engage with key people early - the City's Infrastructure Manager, Infrastructure Coordinator, and Design and Specification Engineer have been key to supporting this initiative. Early engagement should resolve concerns around cost, warranty, and confidence in products. Select trial locations to test supply, handling, and performance firsthand. Inclusion of a contract clause that requires contractors to be proactive on environmental initiatives has acted as a driver.

Section 4 : Impact measurement

Based on the assessment of available products it is considered that embodied emissions can be reduced by around 40 per cent at low additional cost. Following successful trials, the City would look to specify emissions intensities when procuring supply which could substantially reduce the embodied emissions of its infrastructure works program consistently over time.

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