



WT

# EMBODIED CARBON COST MANAGEMENT

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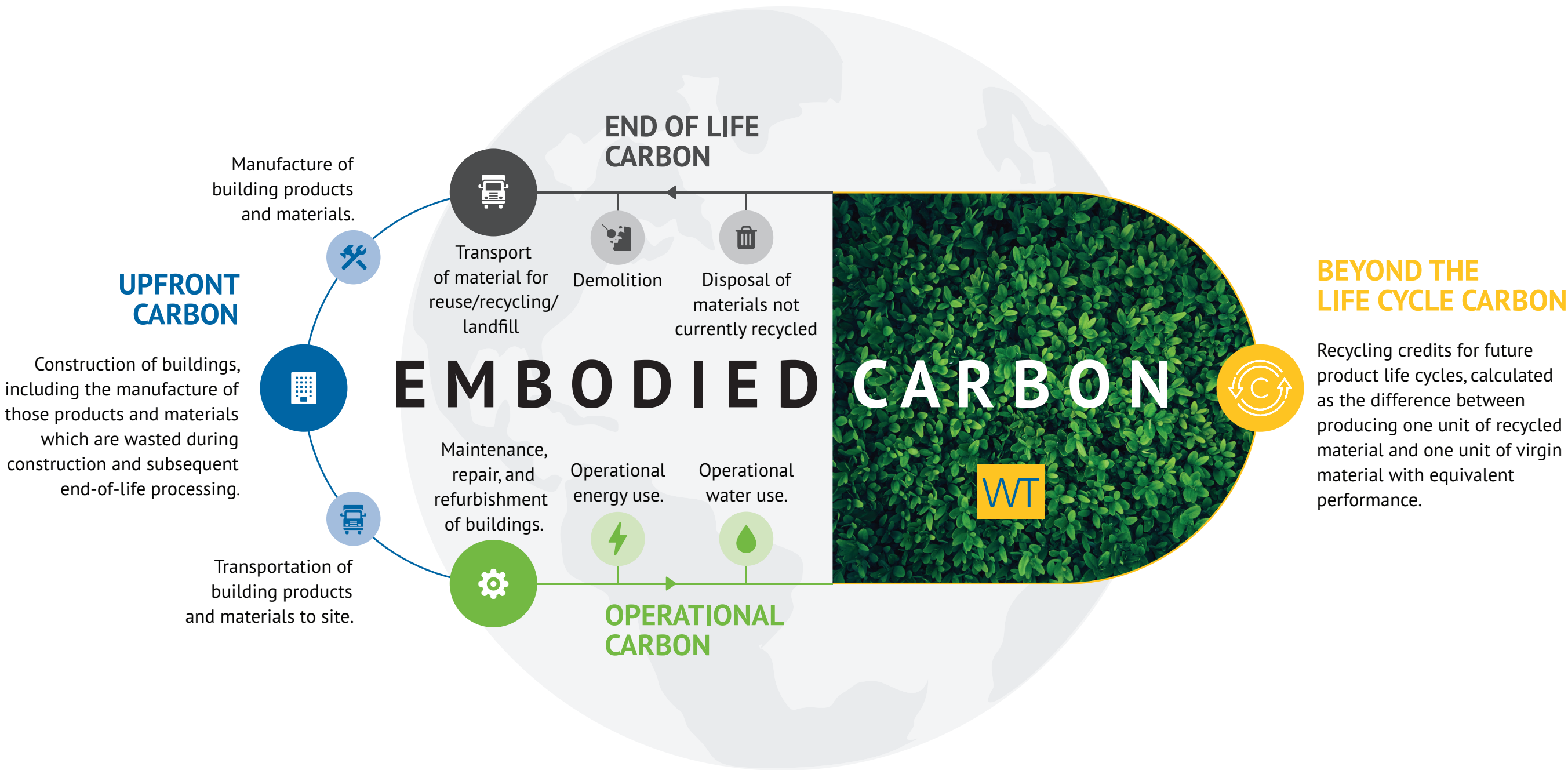


# EMBODIED CARBON

THE BUILDING AND CONSTRUCTION SECTOR ACCOUNTS FOR 39% OF GLOBAL EMISSIONS AND REPRESENTS A GREAT OPPORTUNITY TO HELP AUSTRALIA TRANSITION TO A LOW EMISSIONS ECONOMY.

Embodied carbon in the production of building materials is responsible for 28% of emissions from the building and construction sector globally. Edge Environment estimate the embodied carbon emissions of materials used in Australia is 30 to 50 million tonnes of carbon dioxide equivalent (CO2-e) per year (for domestic production), which is approximately five to ten per cent of national greenhouse gas emissions. 5-10% is the estimated proportion of Australia's annual emissions linked to embodied carbon of building materials.

As Cost Managers our key expertise is cost planning and quantification of materials for buildings, construction, and infrastructure projects. This skillset lends itself directly to the calculation of Upfront Carbon emissions and more importantly, the process of "Embodied Carbon Cost Management".

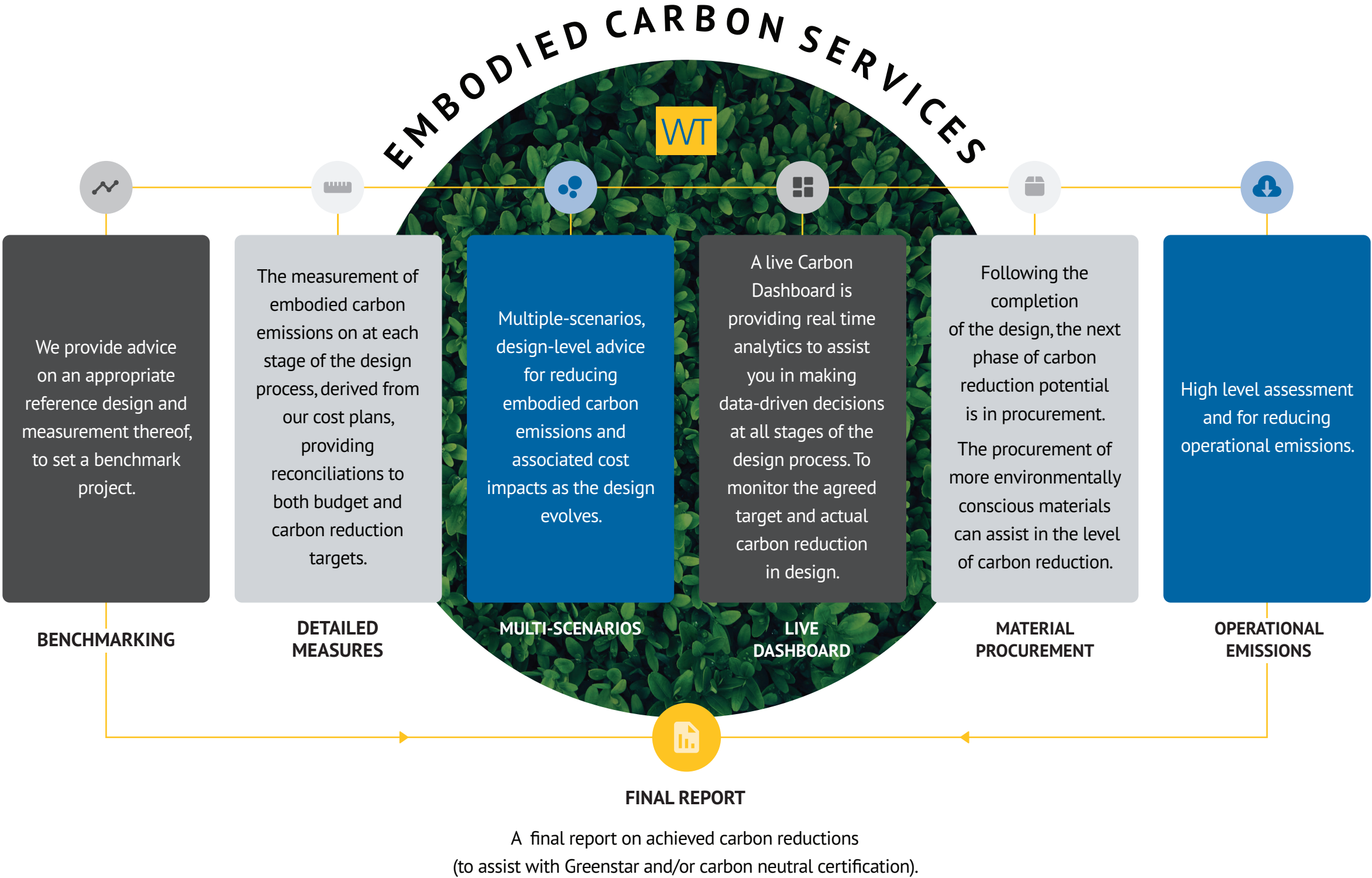


# WT SERVICES

THE KEY TO OUR SERVICES IS ENSURING YOU UNDERSTAND YOUR OPTIONS IN REAL TIME. WE PROVIDE DIGITAL ANALYTICS AND INSIGHTS ALLOWING YOU TO MAKE DATA-DRIVEN DECISIONS WHICH IMPROVE YOUR PROJECT OUTCOMES.

We will help establish a reference design benchmark for the project from which we can determine the potential cost impact of achieving the defined target. On previous projects we have achieved from 20% up to 50% embodied carbon reductions, however more aggressive reductions could be possible for some projects.

Setting ambitious carbon reduction targets is certainly constructive, however maintaining budget is one of the key pillars to a successful project. As Quantity Surveyors we are uniquely qualified to provide the cost implications of your carbon reduction decisions.

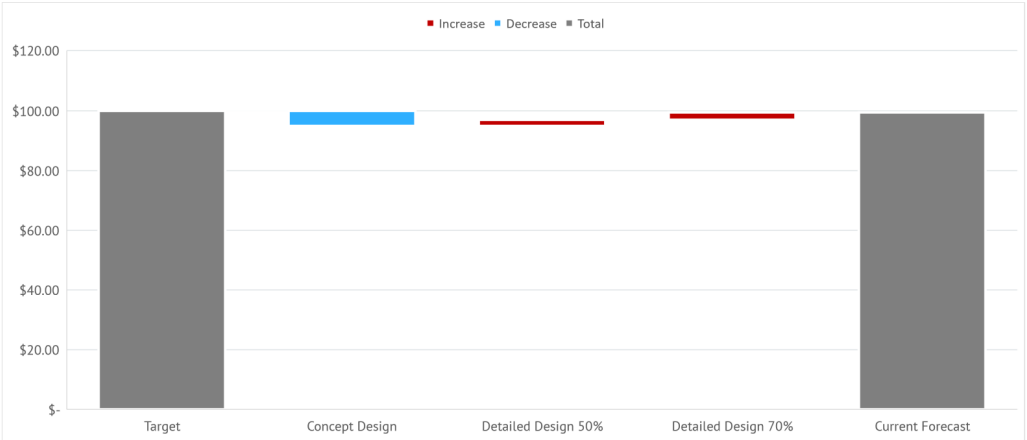


A live Carbon Dashboard provides real time analytics to assist you in making data-driven decisions at all stages of the design process. To monitor the agreed target and actual carbon reduction in design.

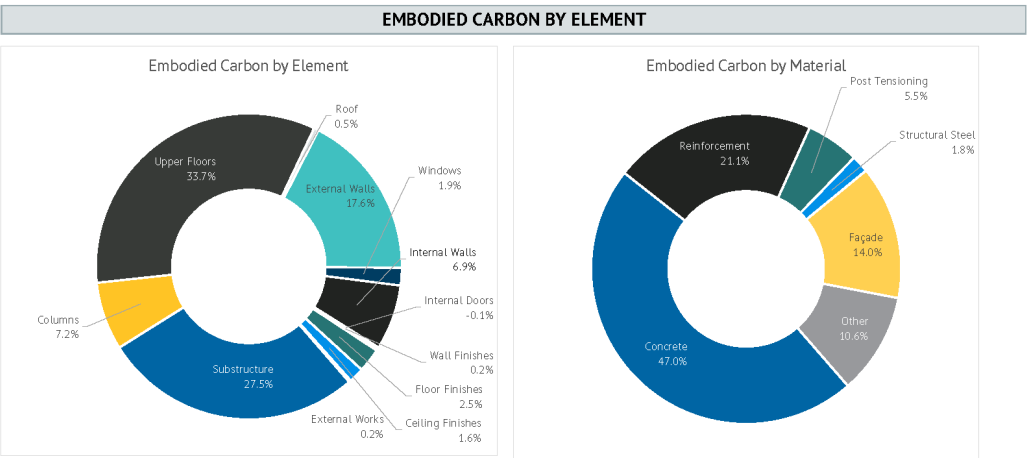
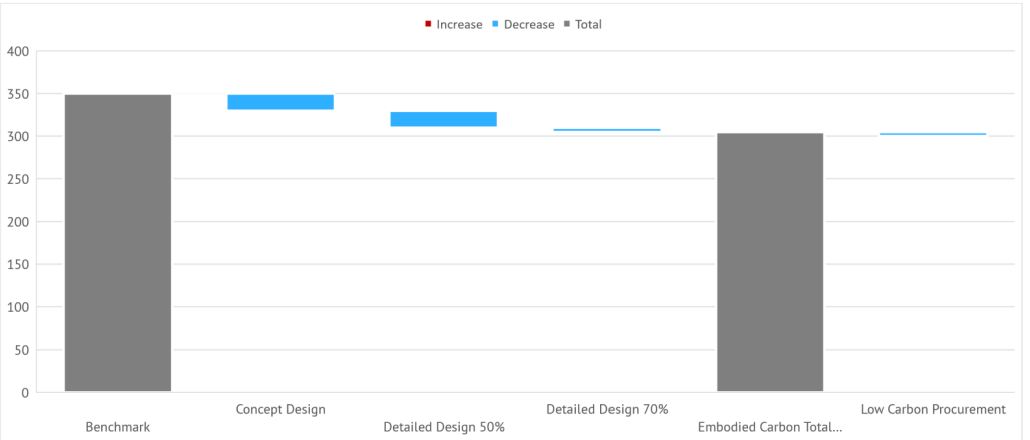
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PROJECT A EMBODIED CARBON TRACKER

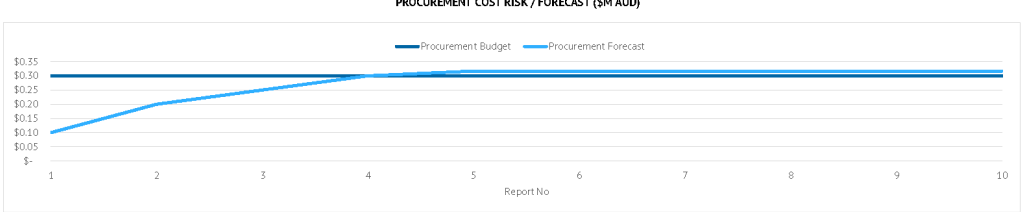
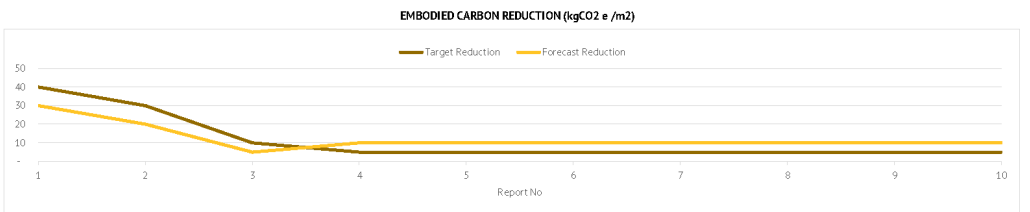
COST TRACKER				
CONSTRUCTION COST (\$M AUD)				
Target	Concept Design	Detailed Design 50%	Tender Design 70%	Variance
\$100.00	\$95.00	\$97.00	\$99.50	\$0.50



EMBODIED CARBON TRACKER (DESIGN)						
EMBODIED CARBON REDUCTION - DESIGN (kgCO <sub>2</sub> e /m <sup>2</sup> )						
Benchmark	Target	Concept Design	Detailed Design 50%	Tender Design 70%	Variance to Target	
350	300	330	310	305	-5	-1%



EMBODIED CARBON TRACKER (PROCUREMENT)				
EMBODIED CARBON REDUCTION - PROCUREMENT (kgCO <sub>2</sub> e /m <sup>2</sup> ) & COST (\$M AUD)				
Target Reduction (kgCO <sub>2</sub> e/m <sup>2</sup> )	Forecast Reduction	Procurement Budget (\$M)	Procurement Forecast (\$M)	Shortfall / Saving (\$M)
5	45	\$0.30	\$0.32	-\$0.02



Note: Gross Floor Area (GFA) measured in accordance with the AQS Standard Method of Measurement.



# EXPERIENCE

## ATLASSIAN - SYDNEY

### CLIENT

Atlassian

### PROJECT SCOPE

A landmark development for Sydney and the world as the world's tallest hybrid timber building in the new tech precinct at Central Station. The ground-breaking design of timber with a glass and steel facade will include a mix of outdoor and indoor spaces using an energy-efficient approach that features natural ventilation and large planted terraces giving access to nature. The building will be approximately 40 storeys high and comprise some 58,000m2 of Commercial NLA with the lower levels incorporating the existing YHA.

### CONSULTANCY SCOPE

We are currently commissioned to provide full Quantity Surveying and Cost Management Services on this project

- Design Competition Assessment
- Cost Planning & Cost Management
- ECI Assessment & Evaluation and QS roles relative to Atlassian's Fitout
- Atlassian's has a target of achieving a 50% reduction in Embodied Carbon in construction compared with a conventional building.

1 Atlassian, Sydney



# EXPERIENCE

## 19 NATIONAL CIRCUIT - CANBERRA

### CLIENT

Cromwell Property Group

### DESIGNER

Nettelton Tribe

### PROJECT SCOPE

19 National Circuit is a new development of new 5 storey c. 18,100+m2 commercial building in Canberra, ACT.

### CONSULTANCY SCOPE

We were engaged as project Quantity Surveyors to provide cost consultancy services through the design process. Additionally we provided Embodied Carbon management services whereby an Embodied Carbon measure was undertaken to establish a baseline, and to develop a framework for alternate design options to reduce Embodied Carbon with the goal of achieving PCA A, 6 star Greenstar and 6 Star NABERS.

- Concept / 50% Design & Pre-Tender Cost Estimates & Advice.
- Embodied Carbon Benchmarking & Modelling through the design process.

2 19 National Circuit, Canberra





# EXPERIENCE

## SCAPE SWANSTON - MELBOURNE

### PROJECT SCOPE

The Scape Student Living project comprises the construction of 740 student beds along with 146 'city living' units in Melbourne's CBD. The units include various layouts, each including kitchenette, prefabricated ensuites and space for a study area. The building includes landscaped terrace areas, a ground floor lobby, retail tenancies, and common amenities.

Completed in 2018, the development delivers an Australian leading benchmark for student living.

### CONSULTANCY SCOPE

Our scope of services included measurement of upfront embodied carbon for the building structure, facade and internal walls which Scape intend to use as benchmarking moving forward.

## SCAPE FRANKLIN STREET - MELBOURNE

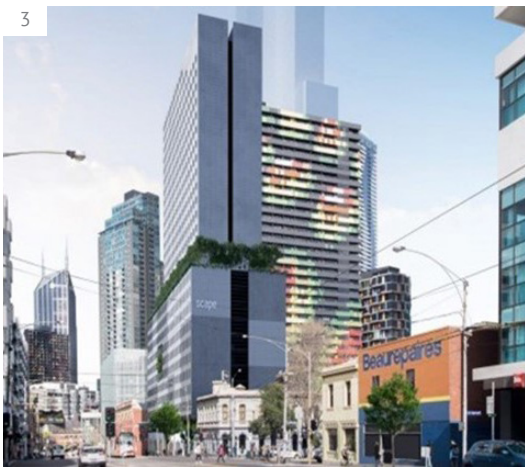
### PROJECT SCOPE

Scape Student Living, Franklin Street is located in the Melbourne CBD overlooking RMIT University. It will be the world's tallest student accommodation building comprising 615 student beds and 142 city living units.

### CONSULTANCY SCOPE

Our scope of services included measurement of upfront embodied carbon for the building structure, facade and internal walls which Scape intend to use as benchmarking moving forward.

3 Scape Swanston, Melbourne  
4 Scape Franklin Street, Melbourne



# EXPERIENCE

## ROUSE HILL TOWN CENTRE - SYDNEY

### CLIENT

GPT Group

### DESIGNER

Cox Architecture

### PROJECT SCOPE

Based on the outskirts of the Sydney metropolitan area, the Town Centre expansion comprises of c. 11,500m2 of retail space, and residential developments of approximately 222 apartments over 3 buildings.

### CONSULTANCY SCOPE

We have been engaged to undertake an Embodied Carbon assessment based on a Preliminary Reference Design Scheme to establish a benchmark of embodied carbon (kg CO2 e/m2) for the project. This enables tracking of Embodied Carbon through the design process/amendments, in which we can provide advice as to the relative (potential) cost increase.

5 Rouse Hill Town Centre, Sydney





OUR GLOBAL EMBODIED CARBON TEAM



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WT IS AN AWARD-WINNING INTERNATIONAL  
COST CONSULTANCY PRACTICE.

Our expertise covers the building, construction and infrastructure sectors, as well as consultancy services that assist with the acquisition, operation and divestment of assets.

We draw on the collective experience, knowledge and capability of our professional staff in locations throughout Oceania, Asia, UK & Europe, North America and India/Middle East to provide our clients with the right advice on all aspects of cost, value and risk to assist in achieving optimum commercial outcomes.

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