

# Circular Twin

Project	Circular Twin	Value	£m
Client	Scape	Location	Hypothetical Location
Contractor	Morgan Sindall	GIFA	Baseline 2FE
Consultants	HLM, Lungfish Architects + Cundall	Completion	September 2021



Selected as the superstructure of choice **Innovaré** are delighted to have supported Scapes Circular Twin Initiative through it's **i-FAST** panellised superstructure solution.

**SCAPE**, acting as the client, challenged the consultant team to find a better way of delivering projects that achieve the outcomes needed to create a low carbon built environment.

The initiative was led on behalf of Scape Morgan Sindall Construction and working with leading businesses from different disciplines within the built environment.

The project is possibly the first in the construction industry to put into practice the strategies of the Construction Playbook and guidance from the UKGBC.

On an industry-first digital twinning project the team set out to challenge existing design,

procurement and construction practices to deliver low carbon buildings and help address the climate emergency.

This landmark study, known as **Circular Twin**, involved digitally building a school that has already been completed and reworking the scheme from start to finish so that each decision and design choice favoured a lower carbon outcome.

Through this process, the team radically experimented with new working methods, notably adapting who was involved in design work and when, to form an early collaborative alliance of experts, with a shared goal to reduce the building's Whole Life Carbon.

It proves how the ultra-early alliance of designers, clients, contractor, and the supply chain leads to significant reduction in Whole Life Carbon for modest capital cost uplift.

In response, they facilitated decisions that were made by the client based on the modelled lifecycle carbon of the building, not cost.

Capital and operation costs were evaluated and forecast, but carbon was the key driver.

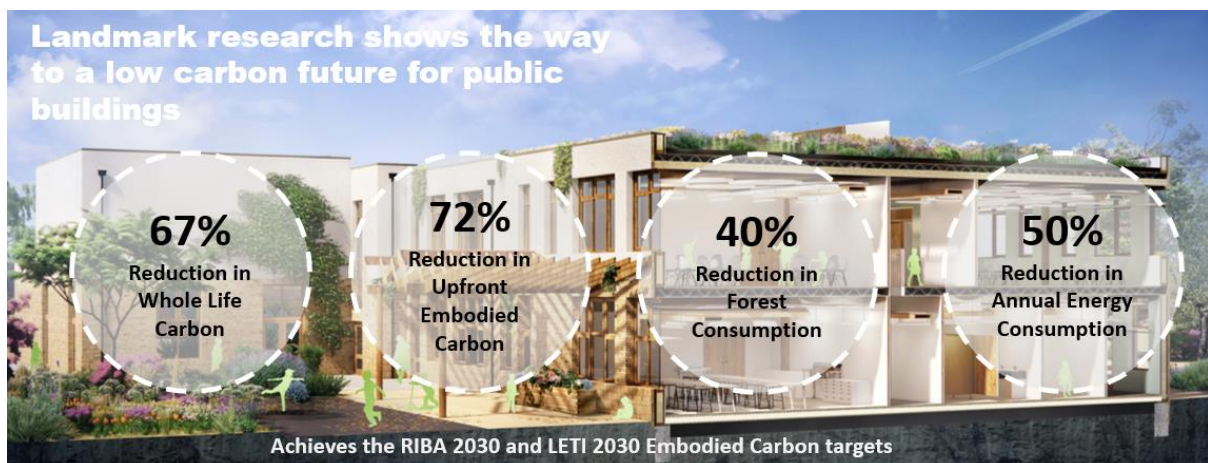
This allowed the traditional paradigms of value defined by cost to be challenged and invited the assembly of the project team, and their behaviours, to change –

ultimately helping to achieve long-term cost savings through operational efficiency.

The project broke the procurement conventions that shackle carbon-reduction innovation, to reap huge benefits. Its key findings highlight how procurement affects

the design decision making process and showcases the value that could be captured through vitally important collaboration with the supply chain.

### In comparison to the original school – built in 2017 - Circular Twin achieved:



**Louise Townsend**, Director of Social Value and Sustainability at Morgan Sindall Construction, said:

*“This initiative has uncovered a revelation - that low carbon construction is inhibited by our industry’s reliance on traditional design and procurement approaches. The outcomes show that achieving low carbon buildings IS possible today.*

*“Our proposition is that by engaging with contractors at the design stage, we can work with customers to design significantly lower carbon buildings, whilst also working within their budget parameters.*

*“Ultimately, Circular Twin represents hard evidence of what can be achieved and is a much needed industry-led response to all the urgent challenges we face that will be highlighted at COP26 and have already been made explicit by the climate emergencies declared by local authorities around the country.”*

**Circular Twin is an industry first, producing hard data, accessible costs and a credible template for a new approach to the built environment.**