

WILLIS BOND

Commercial realities and commercial possibilities:
Private developers face the future

16 February 2021

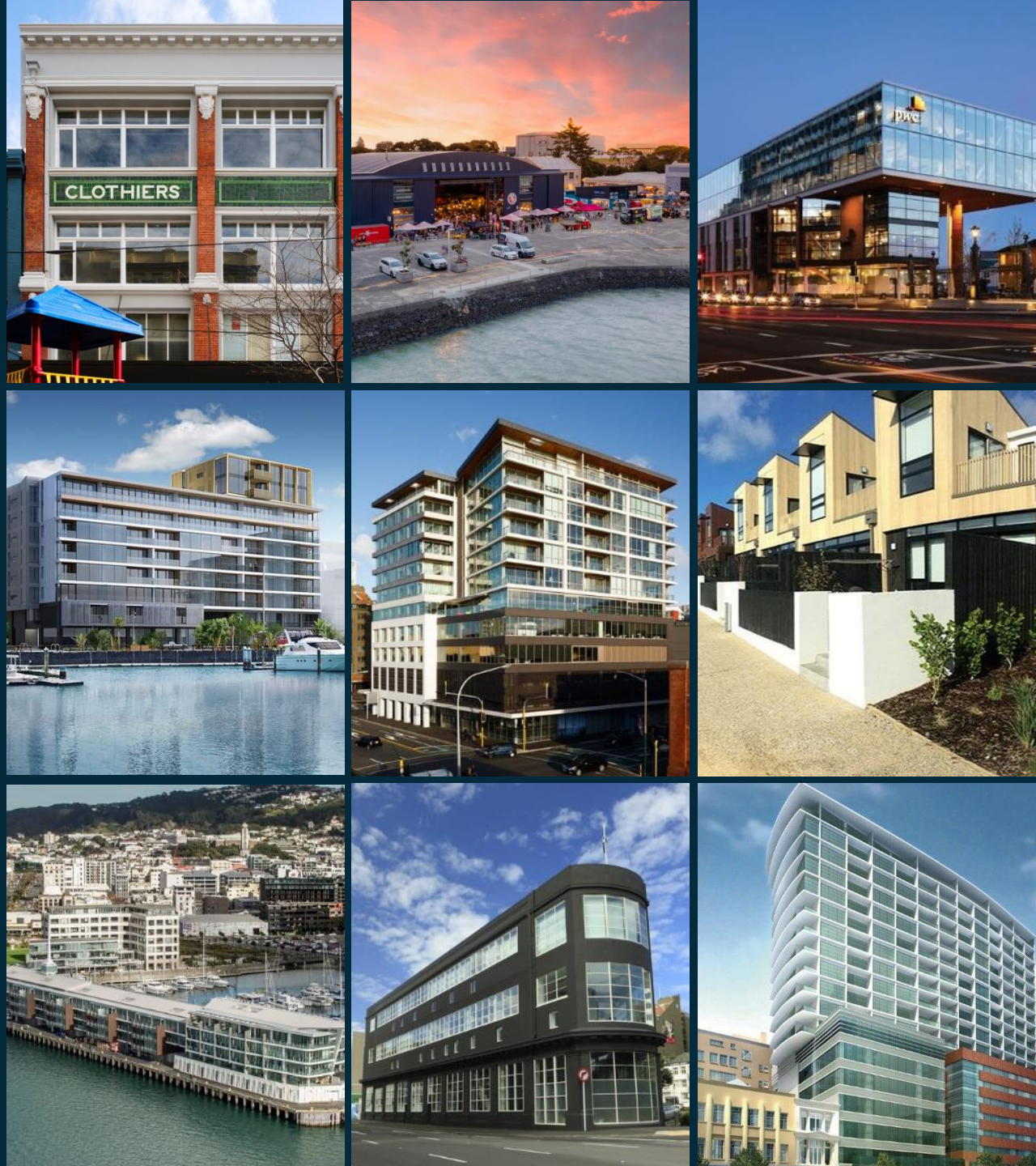
Introduction

Established in 1988, Willis Bond is a New Zealand property development and investment company.

Willis Bond specialises in creating large scale, mixed-use real estate and strives to deliver high quality commercial, residential and mixed-use communities in modern environments.



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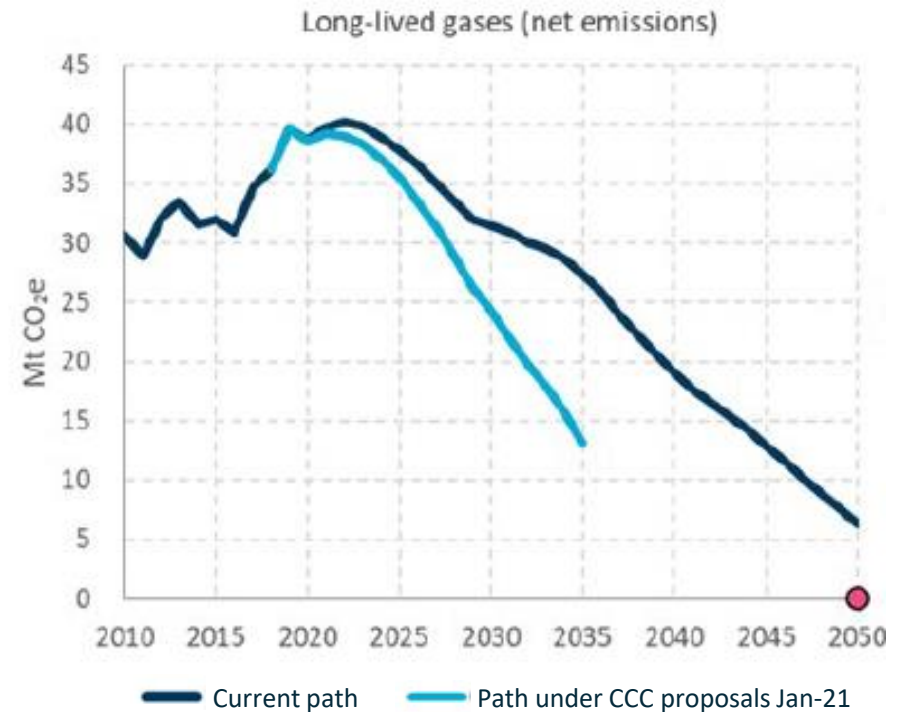


The task at hand

Overview

- Urgent action is required to limit warming to between 1.5 – 2.0°C by 2050
- Construction / building related emissions likely to become a key design parameter and metric for Resource and/or Consent
- New Zealand Climate Change Commission has proposed several policies to accelerate net emission reductions for New Zealand in order to meet our obligations under the Paris Accord

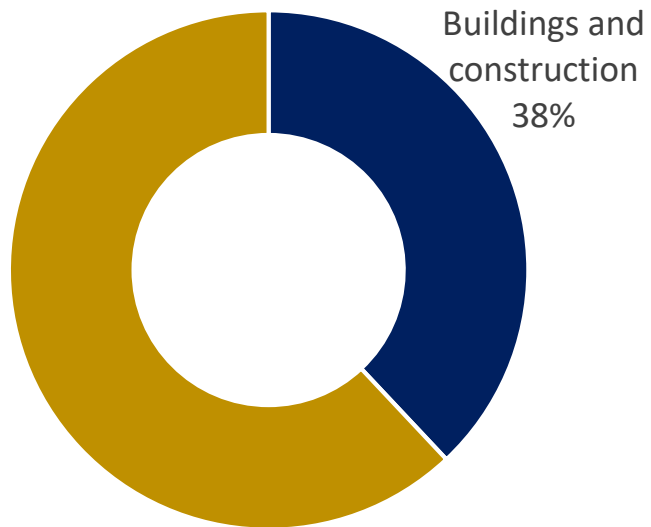
The path to net zero



Source: Climate Change Commission, 2021 Draft Advice for Consultation, January 2021

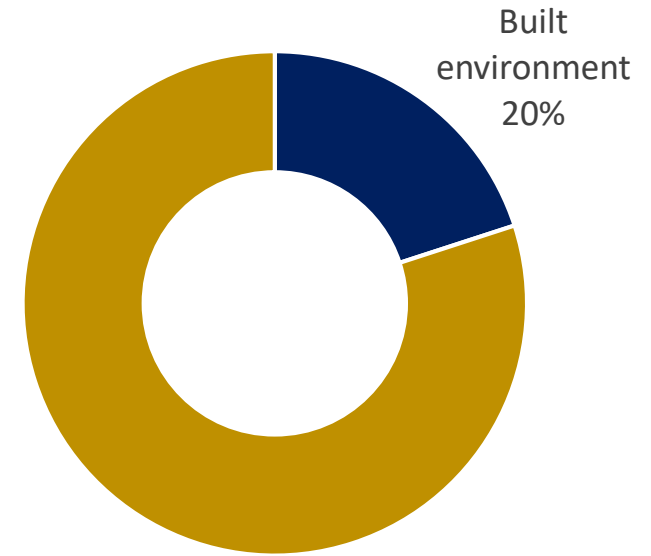
Buildings and construction emissions

Global share of buildings and construction emissions, 2020



Source: 2020 Global Status Report for Buildings and Construction, Global Alliance for Buildings and Construction 2020

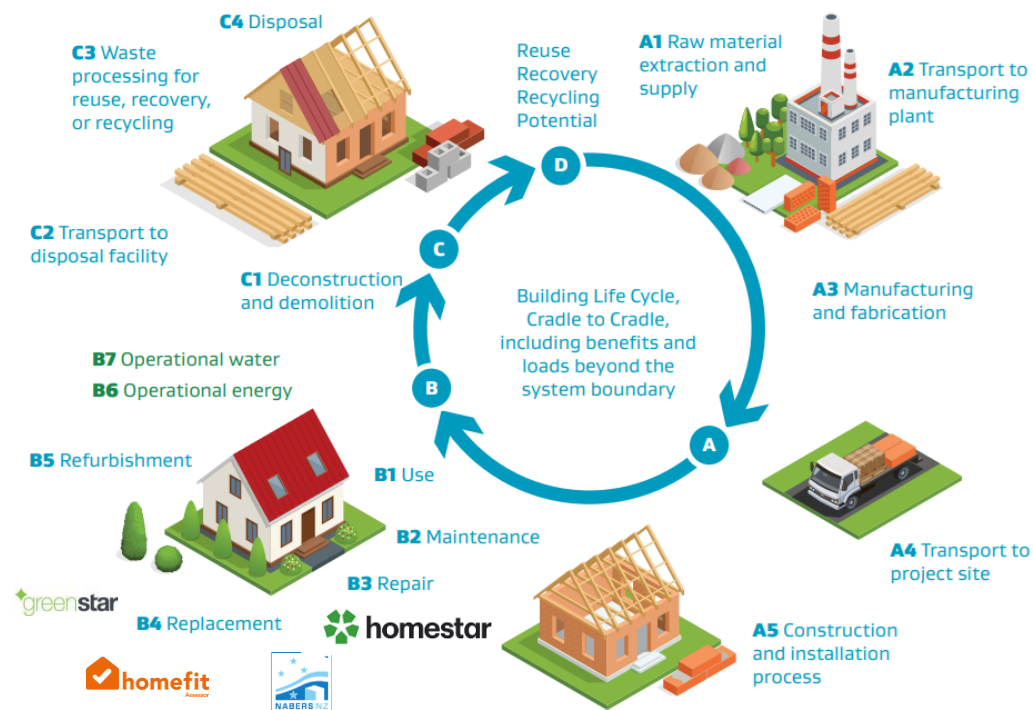
New Zealand share of buildings and construction emissions, 2020



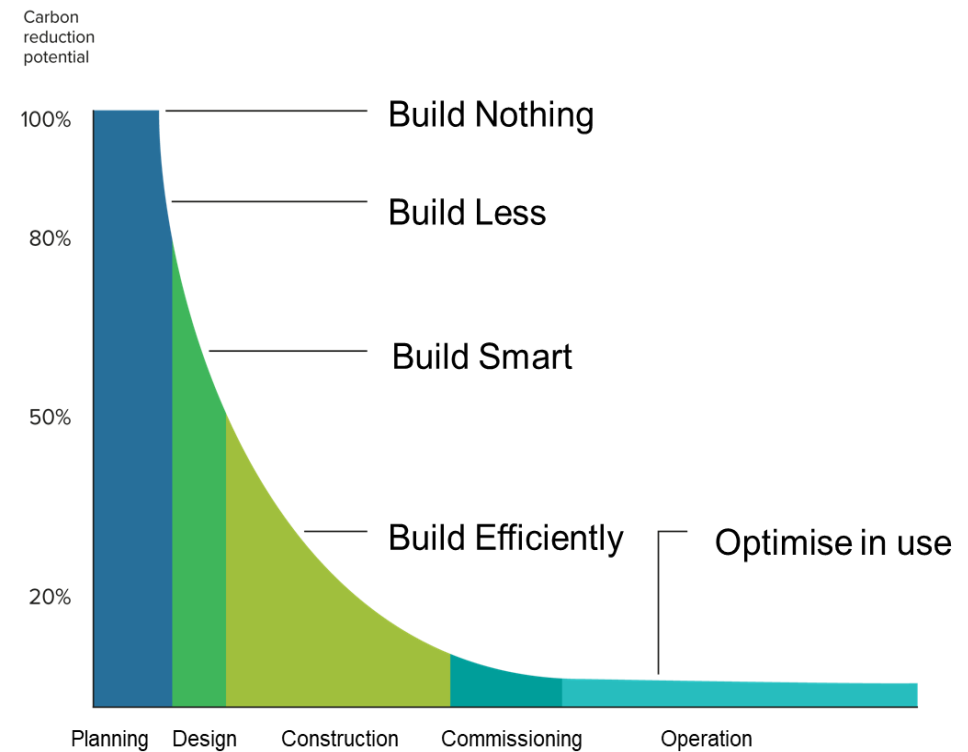
Source: The carbon footprint of New Zealand's built environment, Thinkstep Australasia 2018

Embedded carbon is becoming increasingly important

Life cycle of a building for Life Cycle Assessment (LCA) tool



PAS2080 curve – early knowledge on carbon is crucial



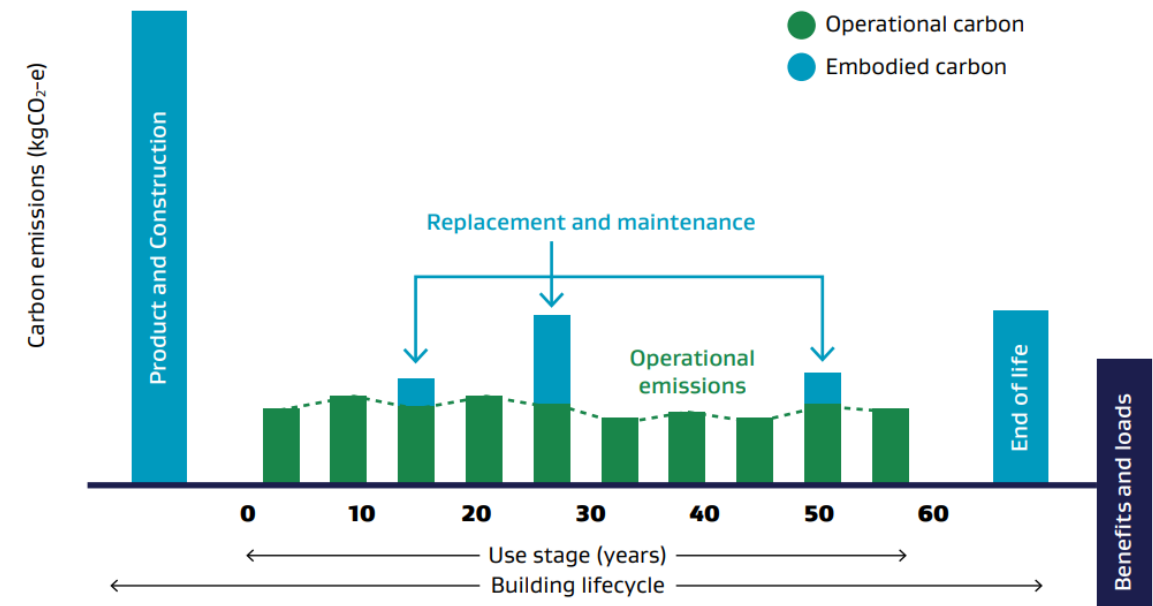
Source: Ministry of Business, Innovation & Employment, *Whole-of-Life Embodied Carbon Emissions Reduction Framework*, August 2020

The evolving understanding of embodied carbon

The current state of play

- A number of key ways for developers to reduce carbon emissions have been proposed:
 1. Find suitable alternatives to high emission materials (concrete, steel etc.)
 2. Where unavoidable / uneconomical, source materials that are produced in a more sustainable manner
 3. Integrate carbon efficiency into the design of a building through passive design etc.
- But how is this measured, implemented and achieved in practice?

Operational and embodied carbon over the life cycle of a building



Source: Ministry of Business, Innovation & Employment, *Whole-of-Life Embodied Carbon Emissions Reduction Framework*, August 2020

Our journey



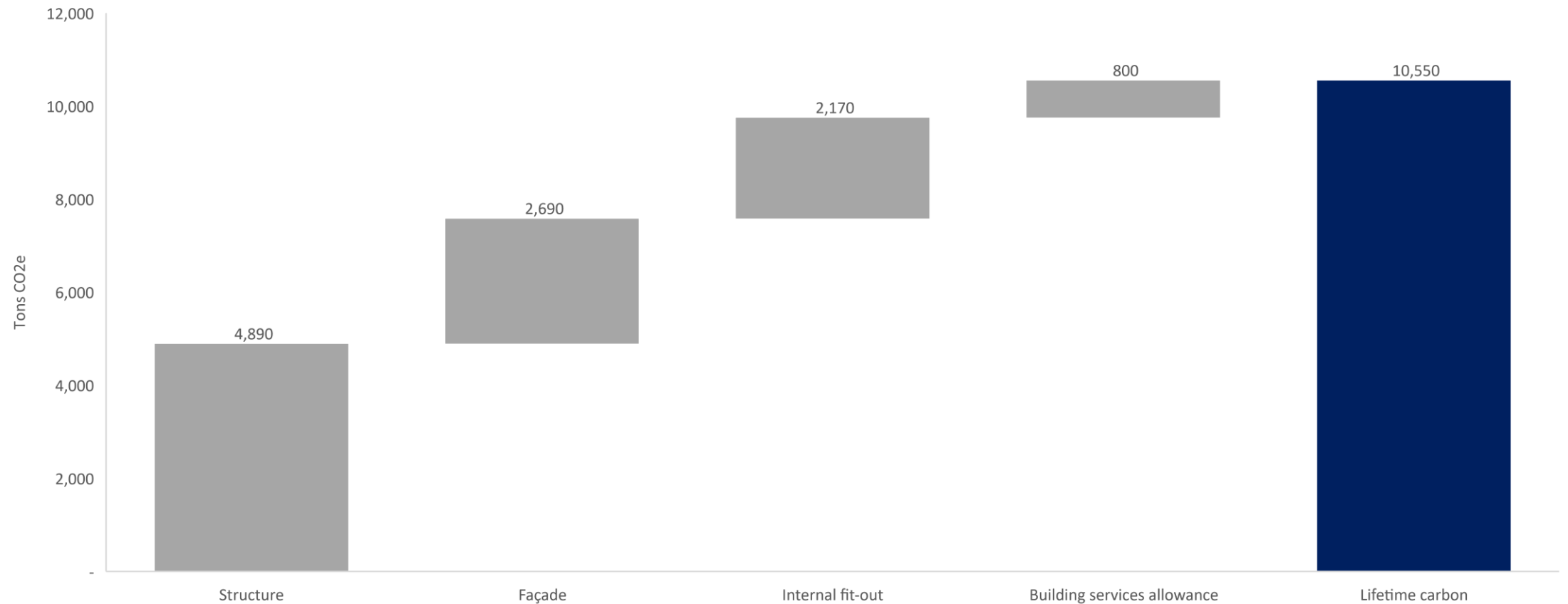
30 Madden - Overview

- Collaboration between Willis Bond, Studio Pacific Architecture and LT McGuinness
- Selected as project developer by Panuku Development Auckland following an international design and tender process
- Mixed use with ground floor retail and hospitality and 150 residences
- Targeting Homestar 7 rating for sustainability and energy efficiency
- Engaged Mott MacDonald to undertake carbon benchmarking to better understand the carbon footprint of the development



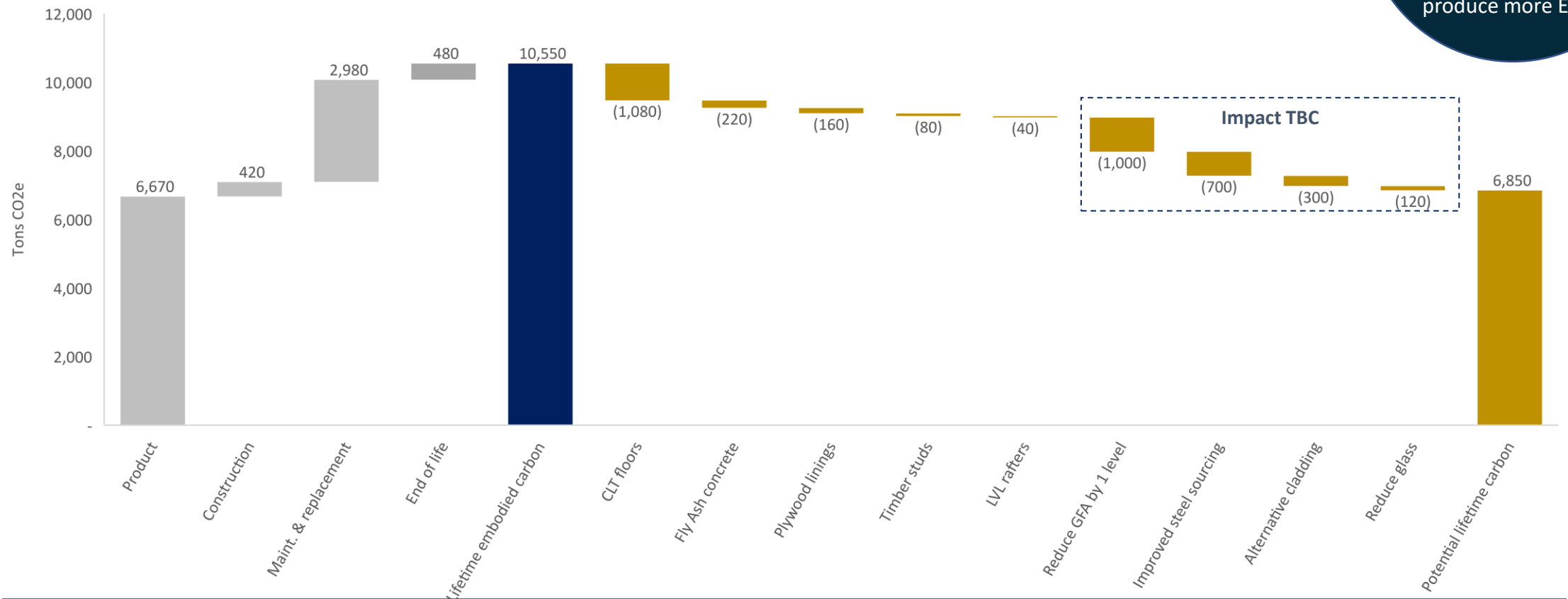
30 Madden - Carbon benchmarking

Lifetime embodied carbon by building element



30 Madden – Potential carbon reduction

Illustrative potential carbon emission savings – 30 Madden

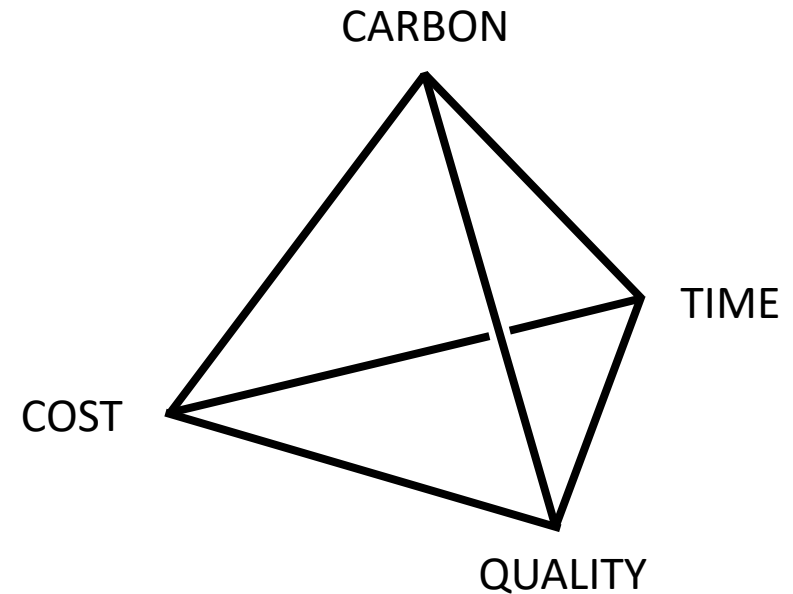


Other potential savings:

- Design for disassembly
- Re-use of timber framework
- Engage suppliers to produce more EPDs

The new paradigm

- Projects can no longer only be viewed on a Time – Cost – Quality basis
- Industry must understand the trade-offs that must occur in order to deliver sustainable outcomes
- Carbon considerations need to be embedded within the design of a building
- Each decision must reflect a balance between these project drivers
- A whole-of-industry approach to embodied carbon, integrated with the public sector is essential to coordinate an approach that is both environmentally and commercially sustainable



Thank you