

Kia Ora, Hello

**“We do not inherit the earth  
from our ancestors, we borrow it  
from our children.”**

Native American Proverb

## Our Climate Commitment

We have been a certified Toitū carbonzero business since 2007. Over the past 10 years we have reduced the carbon intensity of our operations by more than 40%. Over the next 10 years, we are committed to maintaining our carbon-neutral status and reducing the carbon intensity of our operations by a further 50%.

By 2030, our goal—with our clients—is that all new projects designed by Warren and Mahoney will be net-zero carbon in operation, be 50% more energy efficient and have 40% less embodied carbon.



**“What you do makes a difference,  
and you have to decide what kind  
of difference you want to make.”**

Dr Jane Goodall, Scientist & Activist

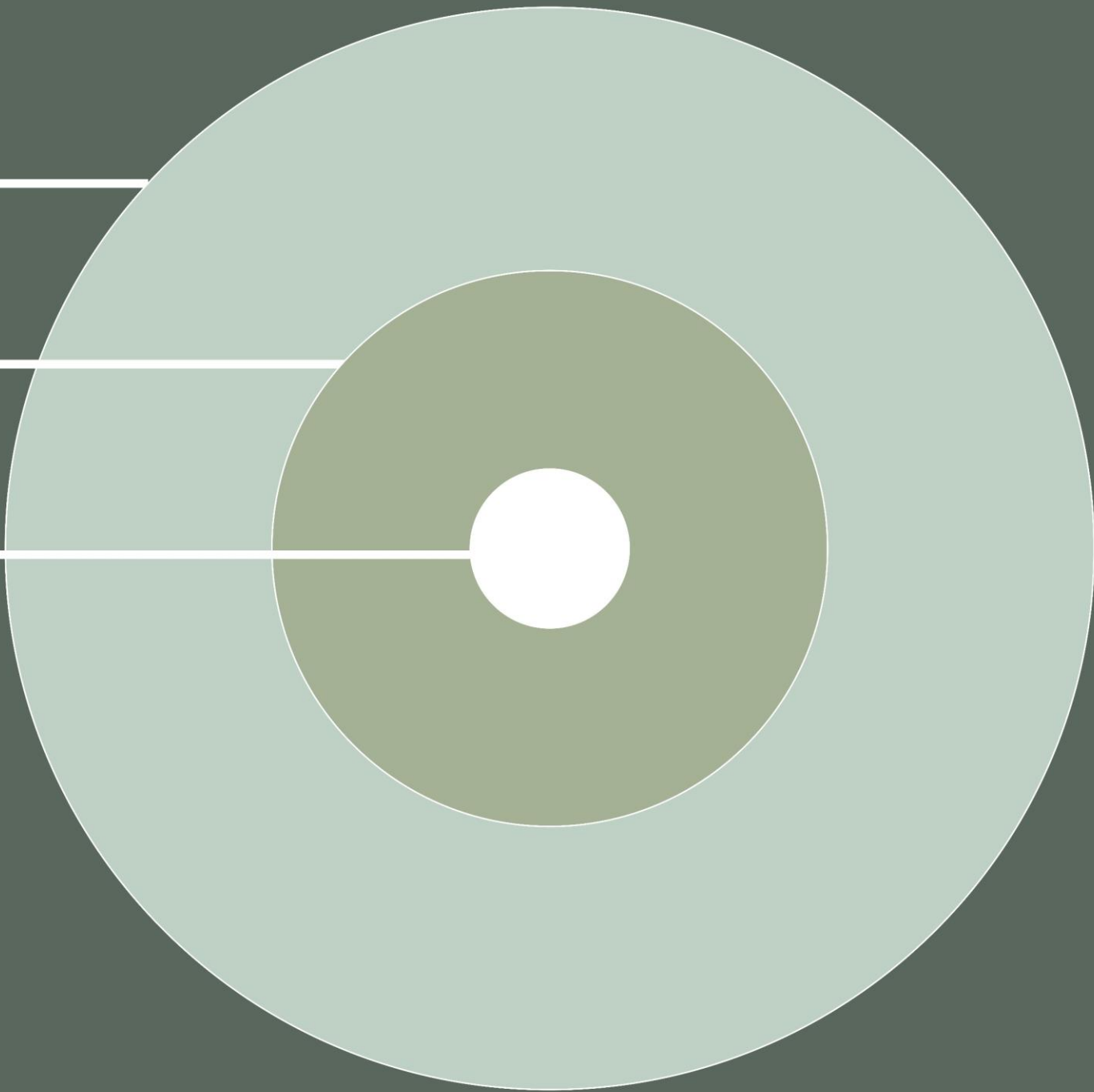
**Our Influence**



**Our Designs**

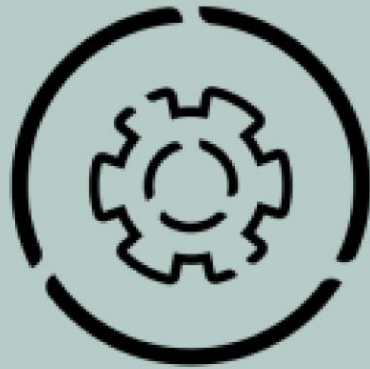


**Our Operations**

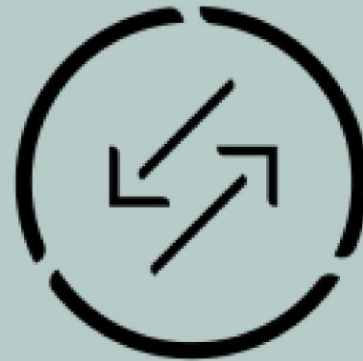




MEASURE



REDUCE

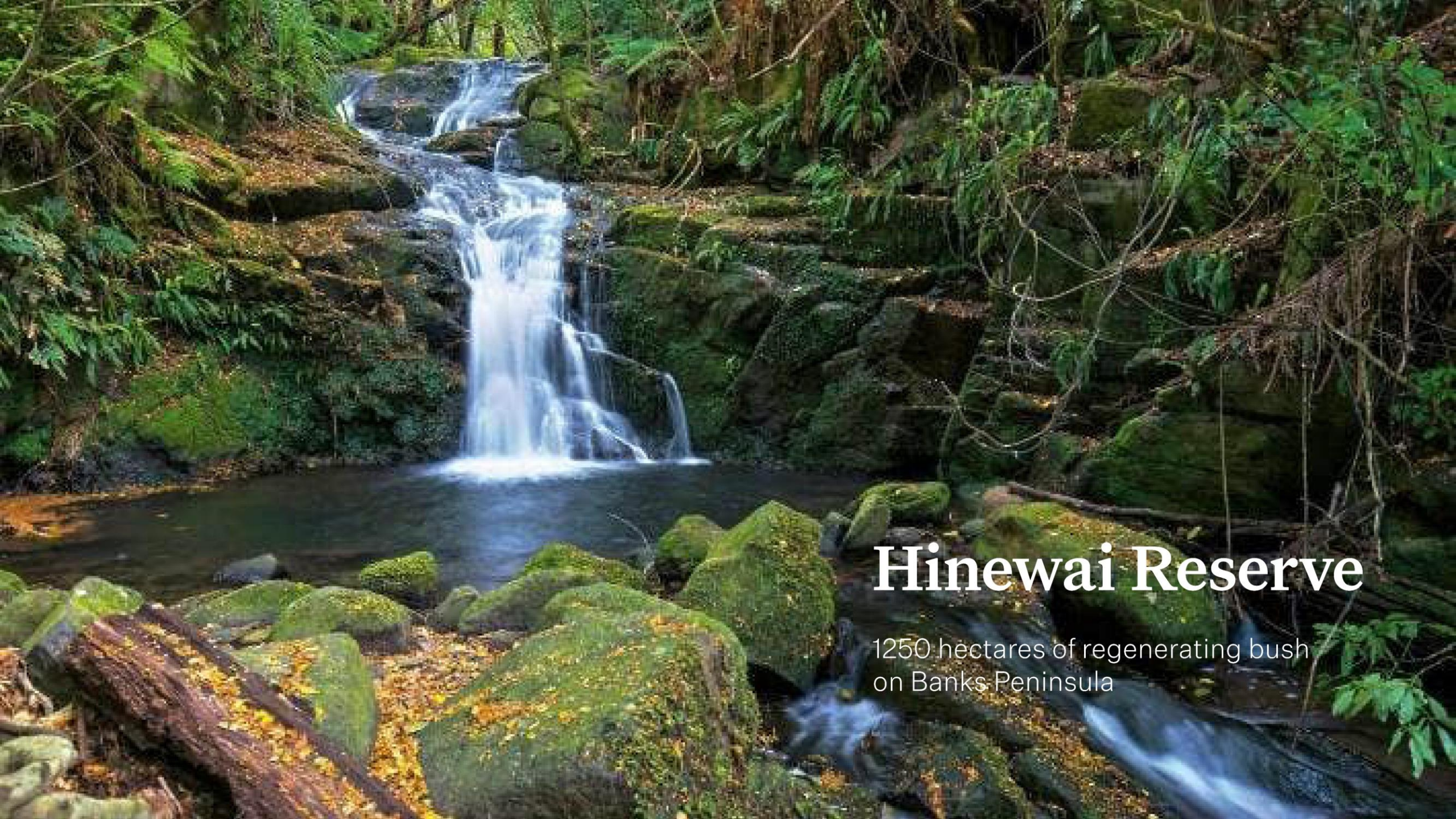


OFFSET



AUDIT



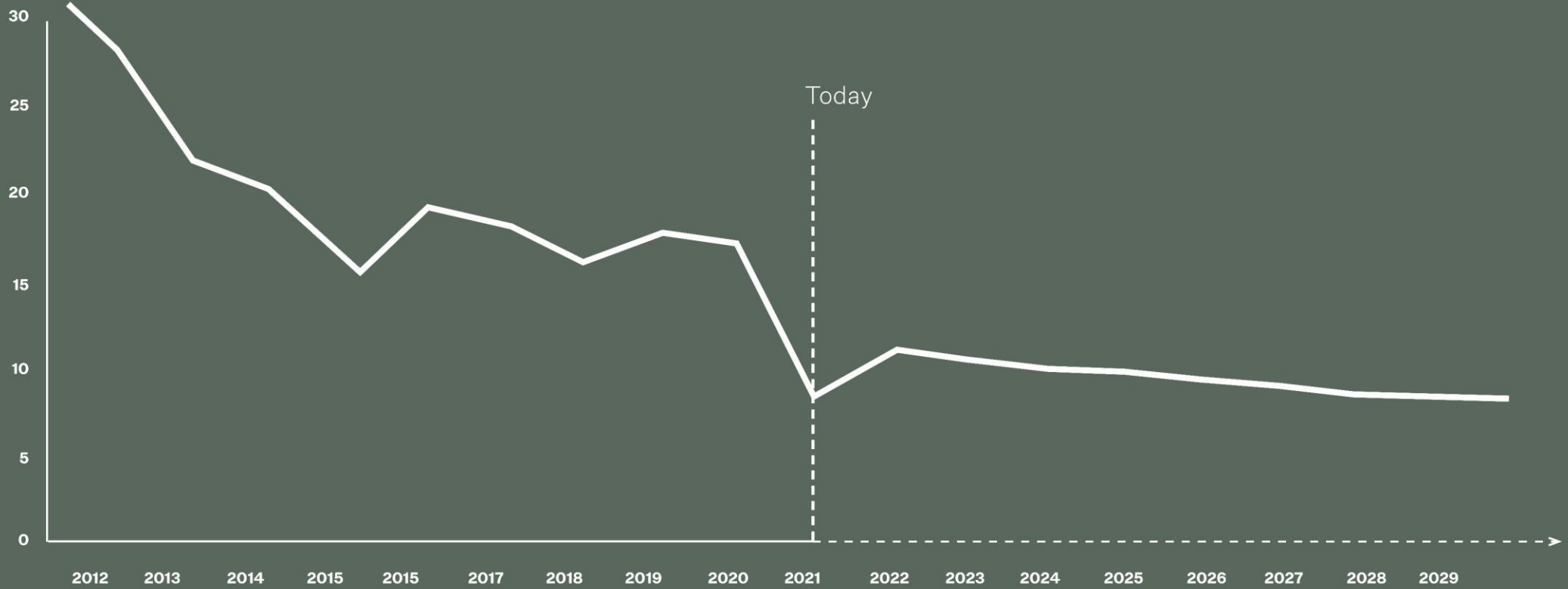


# Hinewai Reserve

1250 hectares of regenerating bush  
on Banks Peninsula

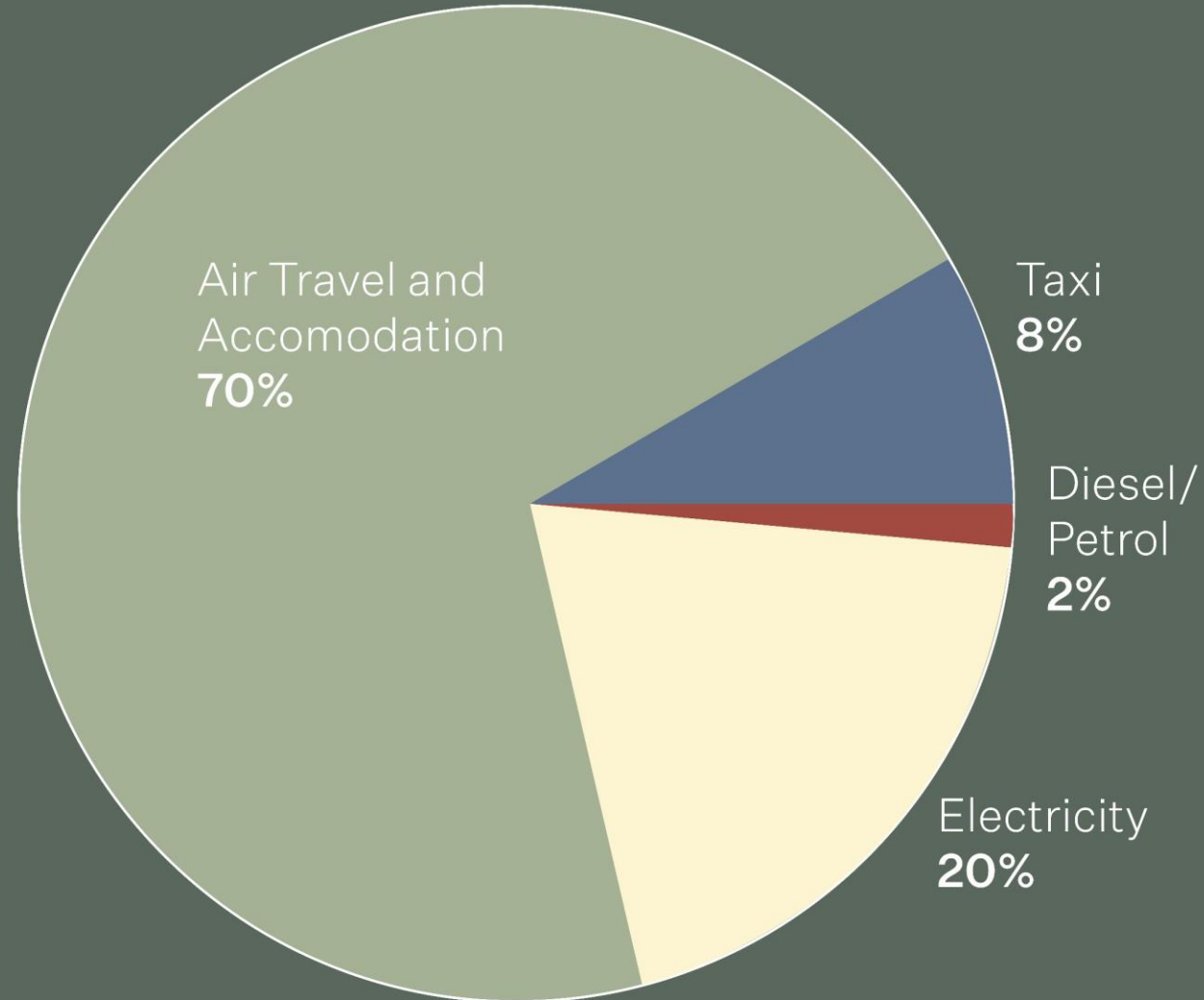


# Reduction in Operation Energy Efficiency





# Carbon Emissions 2019 (pre-Covid)



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It's a cultural challenge, not a technological challenge.

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It doesn't matter where you start from, just start. Aim for progress, not perfection.

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Don't make cost a barrier.

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Neutrality is not enough.

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Choose offsets which mean something to your business and staff.

**“Twenty-five years ago people could be excused for not knowing much, or doing much about climate change. Today we have no excuse.”**

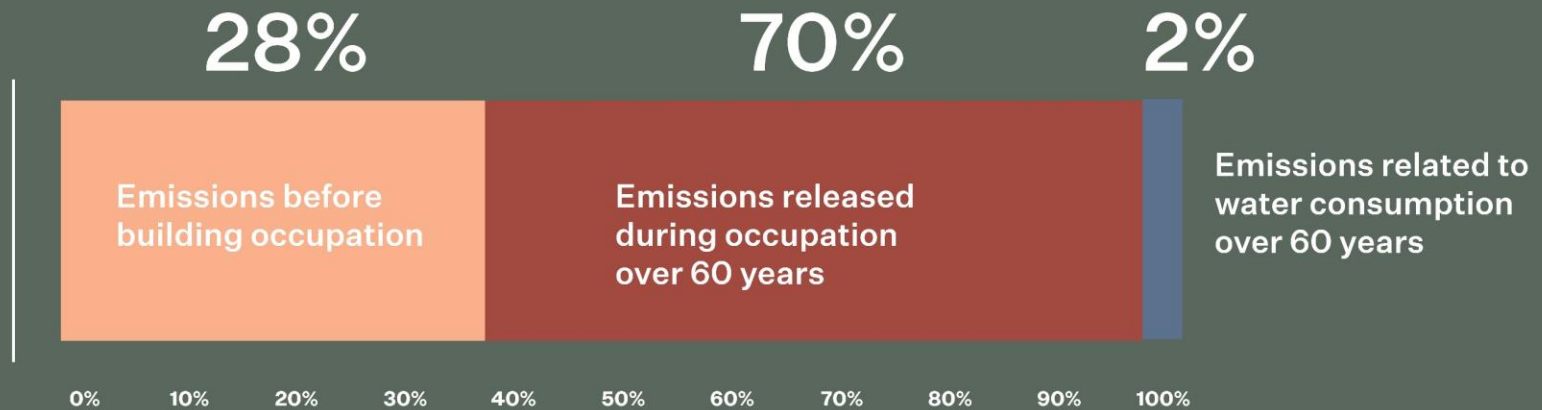
Desmond Tutu, Former Archbishop of Cape Town



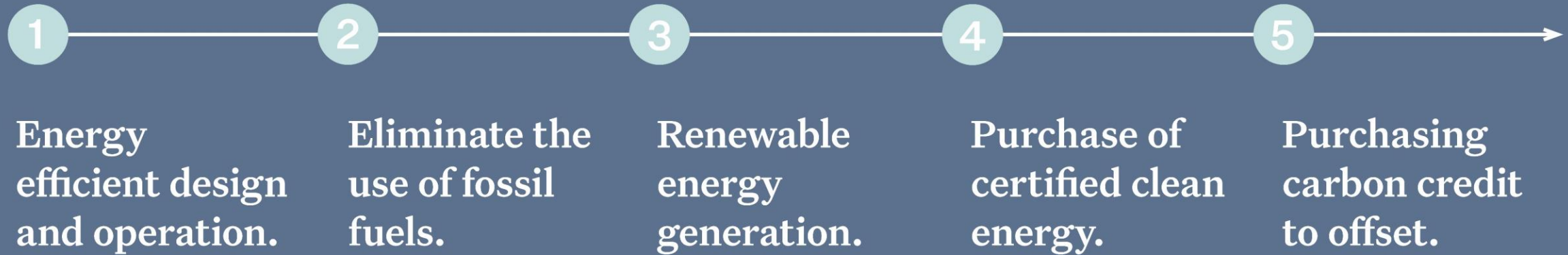
# Whole Life Carbon Operational vs Embodied

Commercial Office Building Life Cycle Carbon (60 year): Contribution Analysis

Average BRANZ  
NZ Commercial  
Office Reference  
Buildings AKL,  
WGTN, CHCH



# Steps to Operational Carbon Neutral



# Steps to Operational Carbon Neutral

1

Energy efficient design and operation.

2

Eliminate the use of fossil fuels.

3

Renewable energy generation.

4

Purchase of certified clean energy.

5

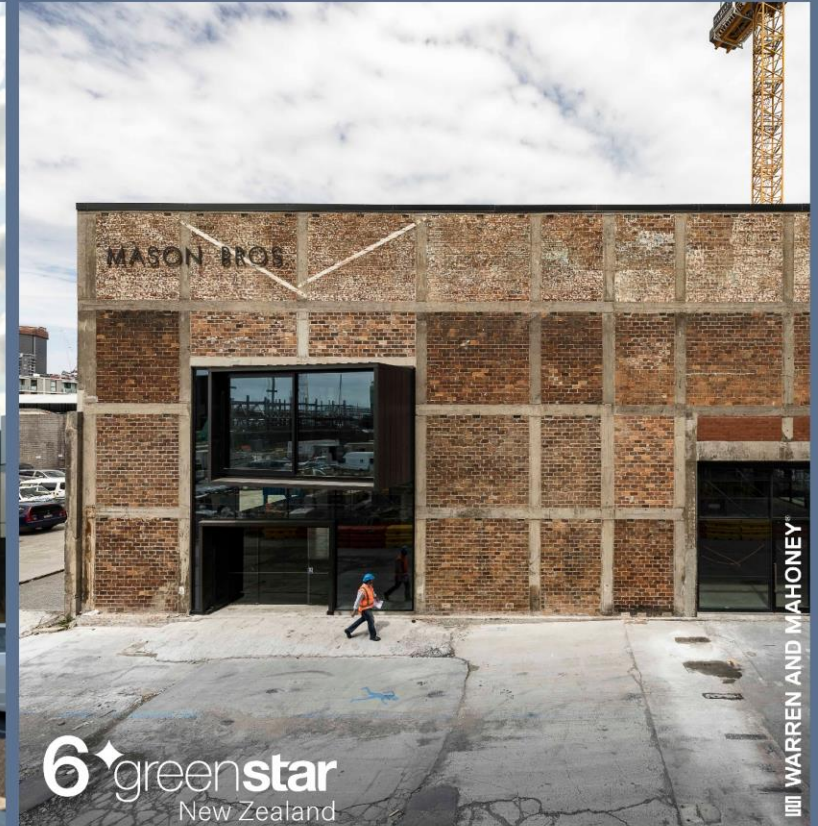
Purchasing carbon credit to offset.



La Trobe University Sports Park



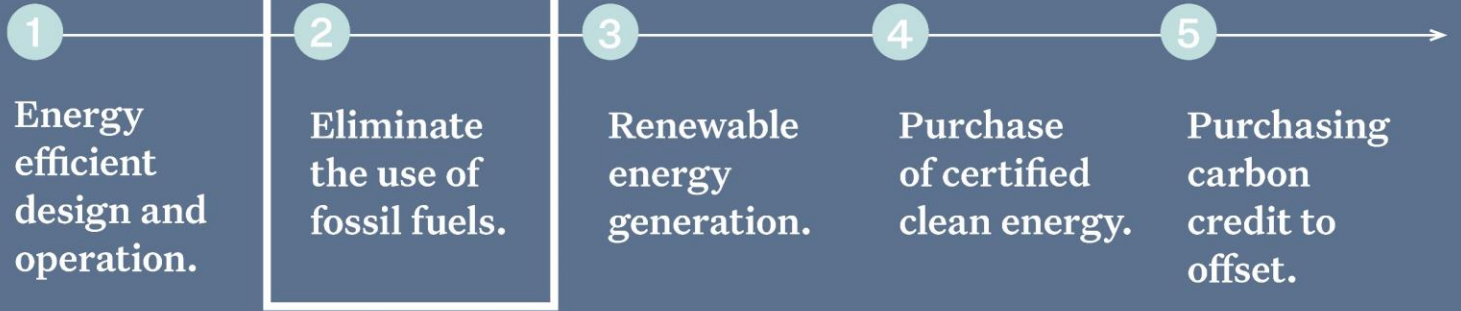
Northcote Aquatics and Recreation Centre



Mason Bros



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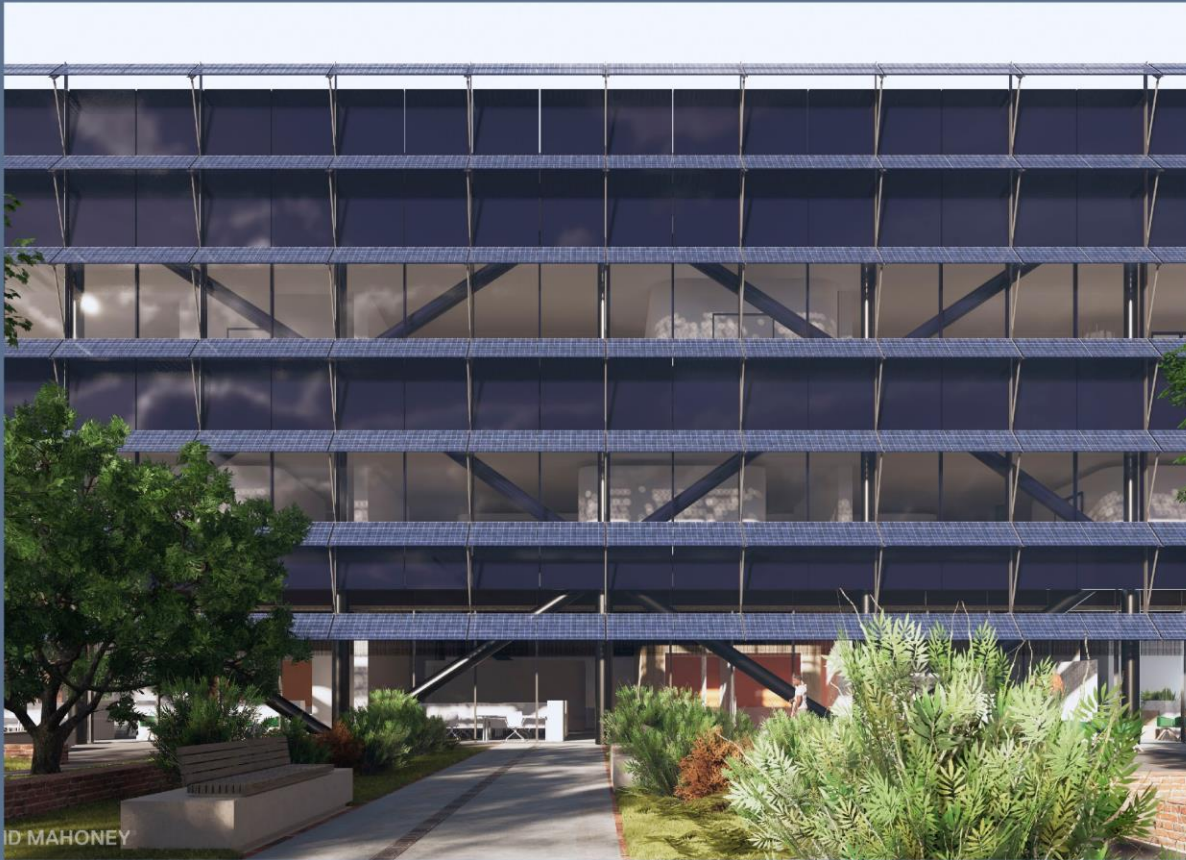
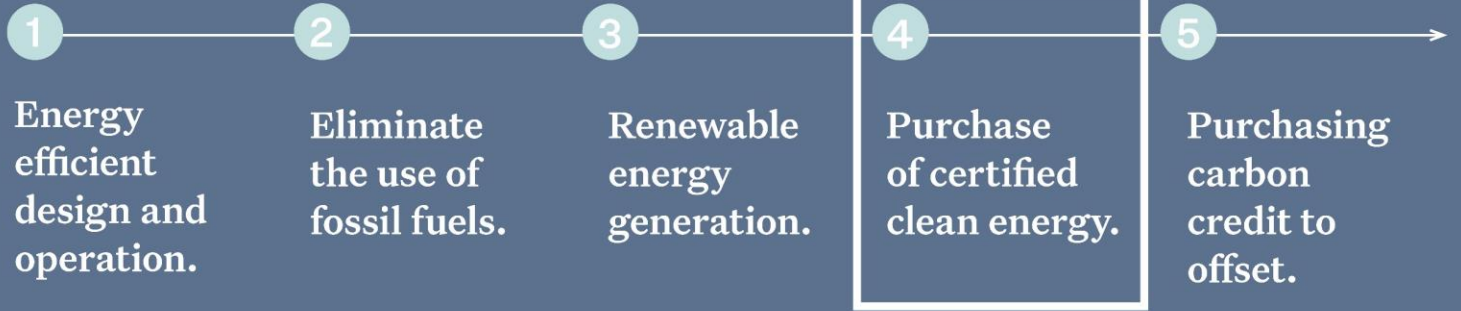
Purchasing carbon credit to offset.



Pita Te Hori Centre, King Edward Barracks



# Steps to Operational Carbon Neutral



Lincoln University Sciences North



# Embodied Carbon

## WARREN & MAHONEY SUSTAINABILITY INSIGHTS

10 MADDEN STREET, AUCKLAND



ADDRESS

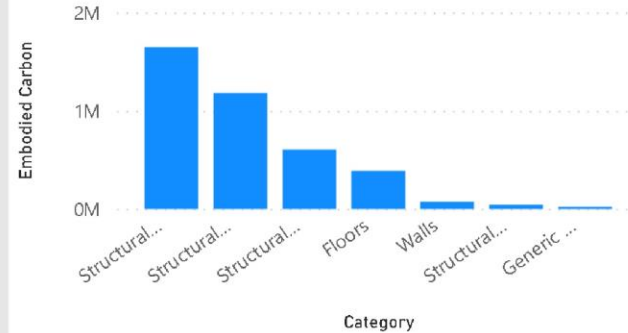
10 Madden Street, Auckland

### Total Embodied Carbon

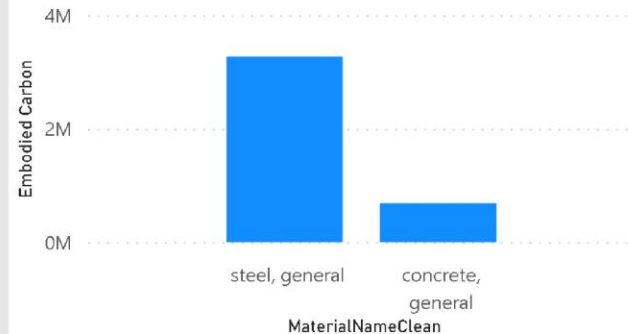
3.96M

Category	Volume	Embodied Carbon
<input type="checkbox"/> <b>Structural Columns</b>	<b>285.60</b>	<b>1,646,499.19</b>
steel, general	67.18	1,592,749.80
concrete, general	218.41	53,749.39
<input type="checkbox"/> <b>Structural Framing</b>	<b>743.96</b>	<b>1,180,453.72</b>
<input type="checkbox"/> <b>Structural Foundations</b>	<b>25.51</b>	<b>604,787.87</b>
<input type="checkbox"/> <b>Floors</b>	<b>1,575.16</b>	<b>387,633.44</b>
<input type="checkbox"/> <b>Walls</b>	<b>304.08</b>	<b>74,831.70</b>
<input type="checkbox"/> <b>Structural Stiffeners</b>	<b>1.85</b>	<b>43,870.01</b>
<input type="checkbox"/> <b>Generic Models</b>	<b>1.39</b>	<b>23,422.22</b>
<b>Total</b>	<b>2,937.55</b>	<b>3,961,498.16</b>

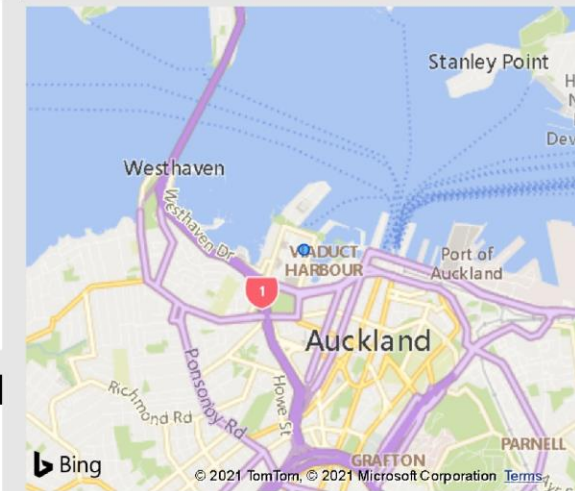
### Embodied Carbon by Category



### Embodied Carbon by Material



### Location



Total Elements

2643

Inferred Elements

2192

# Embodied Carbon

Typical office  
1000m<sup>2</sup> GFA  
Embodied energy  
1,100 tCO<sub>2</sub>e\*

**1000m<sup>2</sup>**

= “**3.6 hectares** planted with **9000** natives trees and shrubs and grown for **30 years**”\*\*

= “**239 vehicles** on the road for a **year**”\*\*\*

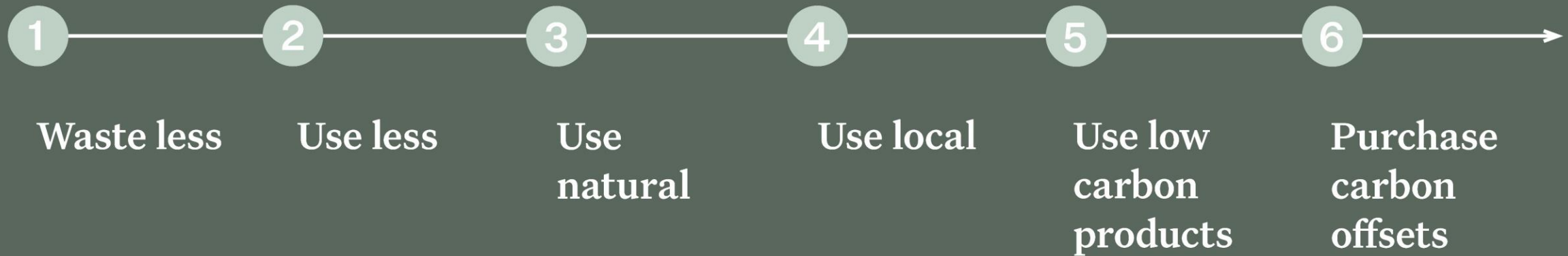
\*source RIBA Sustainable Outcomes 2019

\*\* source [www.tanestrees.org.nz/resources/carbon-calculator/](http://www.tanestrees.org.nz/resources/carbon-calculator/)

\*\*\* source [www.epa.gov/energy/greenhouse-gas-equivalencies-calculator](http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator)



# Steps to Neutrality of Embodied Carbon



# Steps to Neutrality of Embodied Carbon





# Steps to Neutrality of Embodied Carbon



**Total Carbon Saving  
3,200 tonnes**



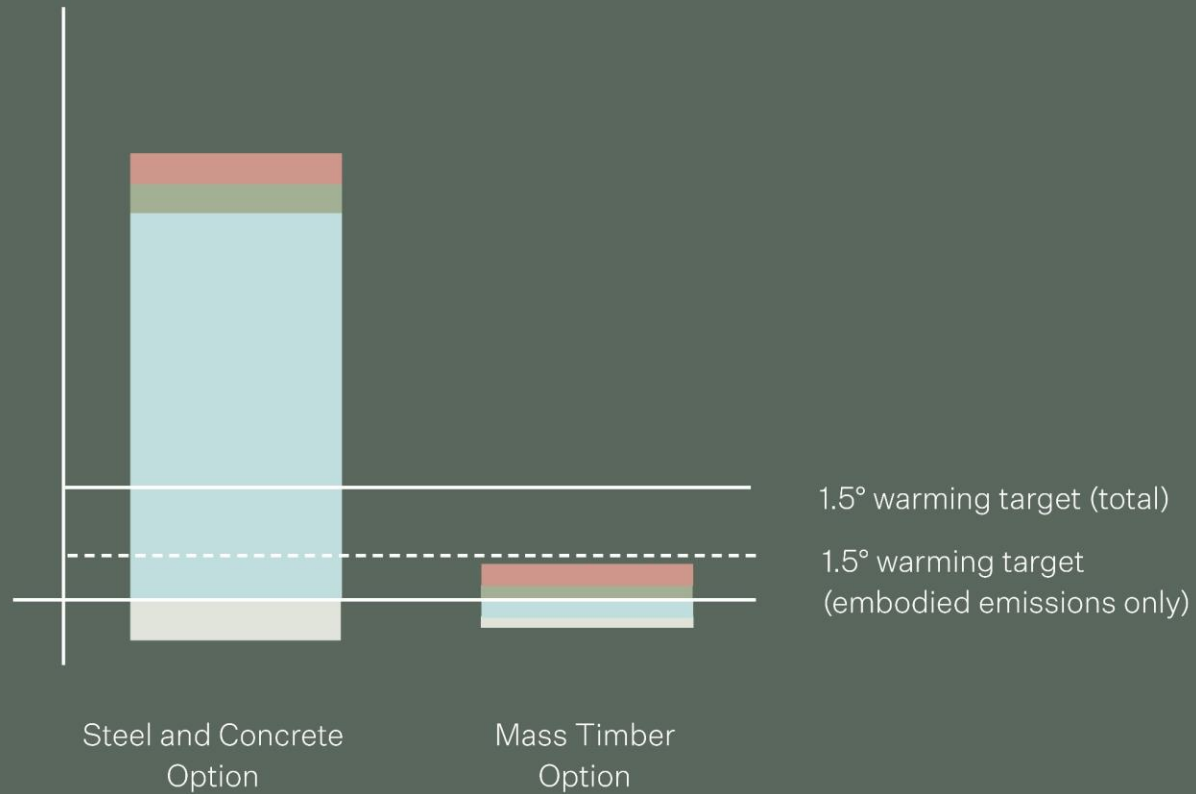


# Steps to Neutrality of Embodied Carbon



# Carbon in Construction

Typical example of an embodied carbon analysis:





Countries representing 2/3  
of the global economy have  
committed to carbon neutrality

1. Transforming their energy generation systems to renewables
2. Transforming their transport systems - EV's public transport and cycle transport
3. Redesign their energy using appliances
4. Reinvent the way they manufacture
5. Transform the way they design their homes and buildings

**“At the end of the Fossil Fuel Era,  
we are emerging to a new reality.  
We are ready to make the next  
leap – as momentous as abolishing  
slavery or giving women the vote.”**

Elizabeth May



**“Adults keep saying we owe it to the young people, to give them hope, but I don’t want your hope. I don’t want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. I want you to act.”**

Greta Thunberg, 17 year-old Swedish Activist

**IN THE FUTURE, WILL  
BUSINESS WANT THEIR  
BRAND ON MY BUILDING?**

**“If not us, then who,  
if not now, then when?”**