

# Mission Zero: Lendlease's Global Roadmap and Case Studies of Low Carbon/Net Zero Carbon Developments

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lendlease



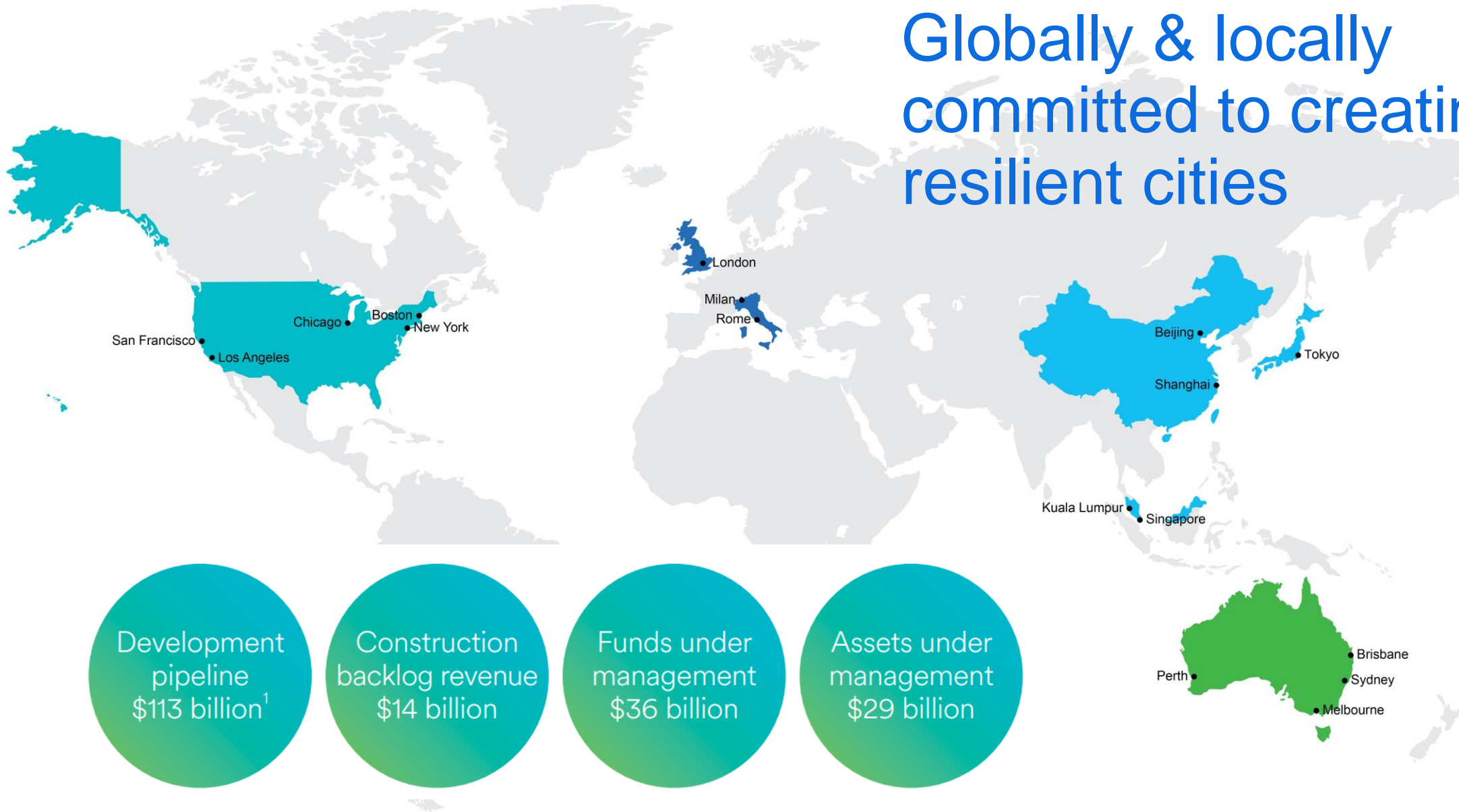
# Presentation Outline

Introduction to Lendlease

Mission Zero – Our mission  
to decarbonize our business

Examples of How We are  
Doing It Globally

# Globally & locally committed to creating resilient cities





# Our Future

By 2050, **70%** of global population will live in cities.

And **60%** of new urban settlements are yet to be built.

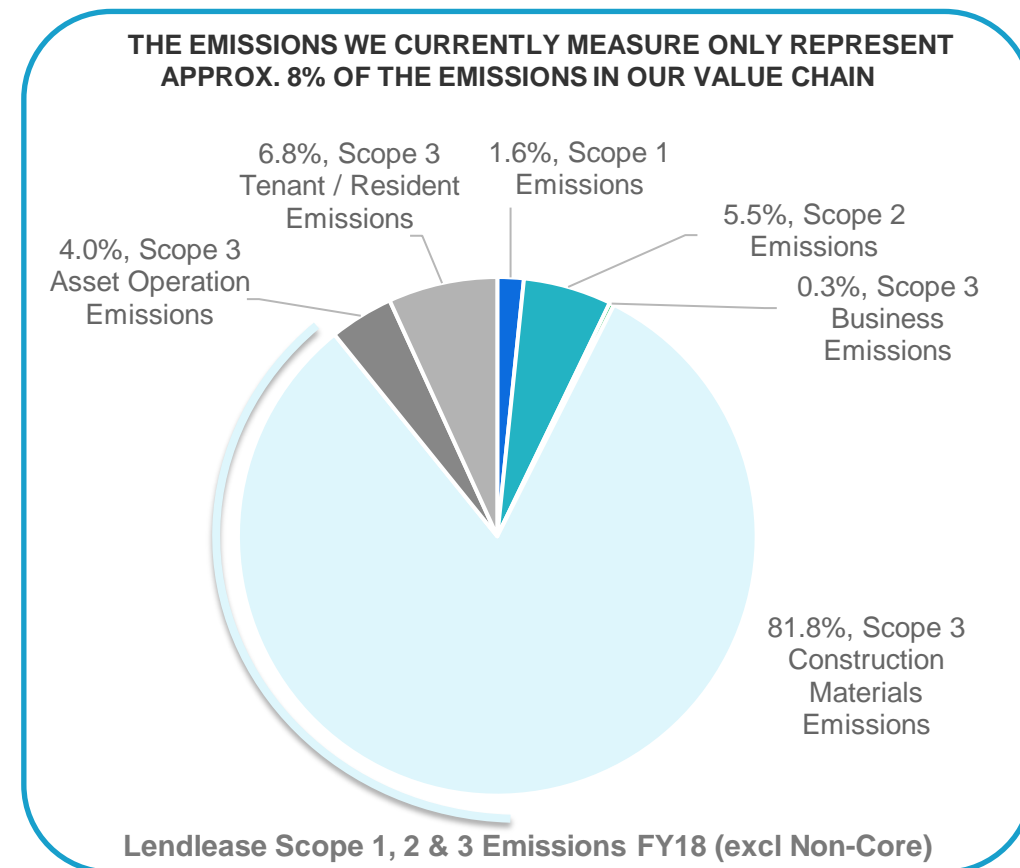
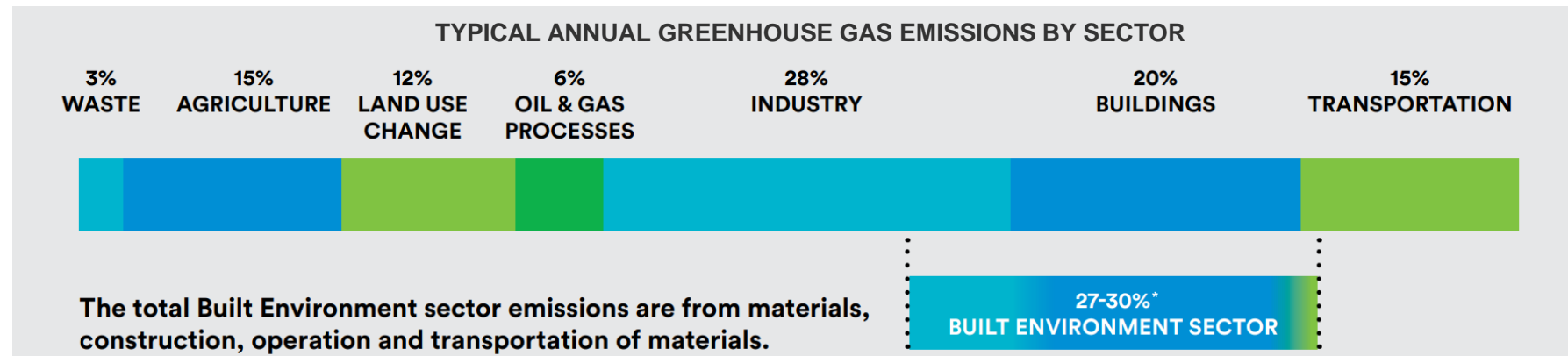
What we create today will still be here in **2080!**



# Built Environment & Climate Risk

Building and construction are responsible for 39% of all carbon emissions in the world, with operational emissions accounting for 28%..

The remaining 11% comes from embodied carbon emissions, or 'upfront' carbon that is associated with materials and construction.



  
**SCOPE 1**

**Fuels we burn**

  
**SCOPE 2**

**Power we consume**

  
**SCOPE 3**

**Goods we buy / activities we facilitate**

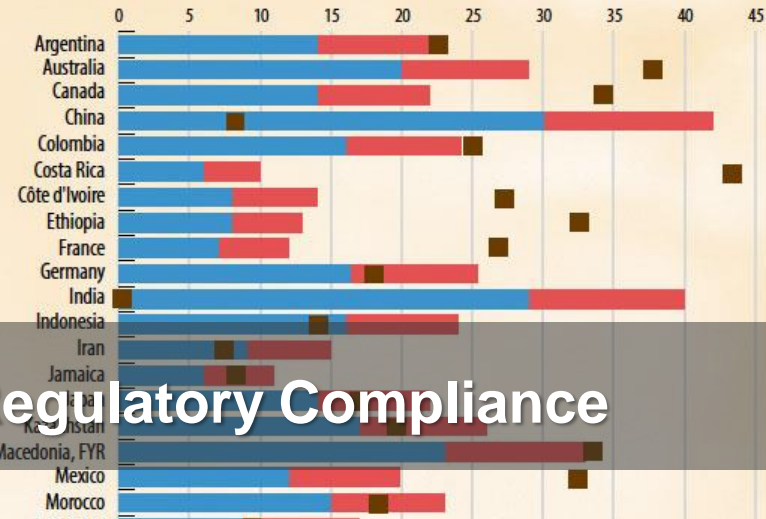


# A New Normal?

Extreme Weather

## Chart 1 Effect of carbon pricing

A \$35 per ton tax on carbon emissions is easily sufficient for some countries to meet Paris mitigation pledges but others need much higher prices.



Regulatory Compliance

Clients & Partners

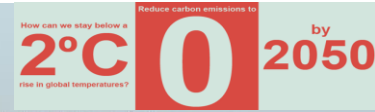
## Final Report

Recommendations of  
the Task Force  
on Climate-related  
Financial Disclosures

Industry & Benchmarking

Investors & Insurers

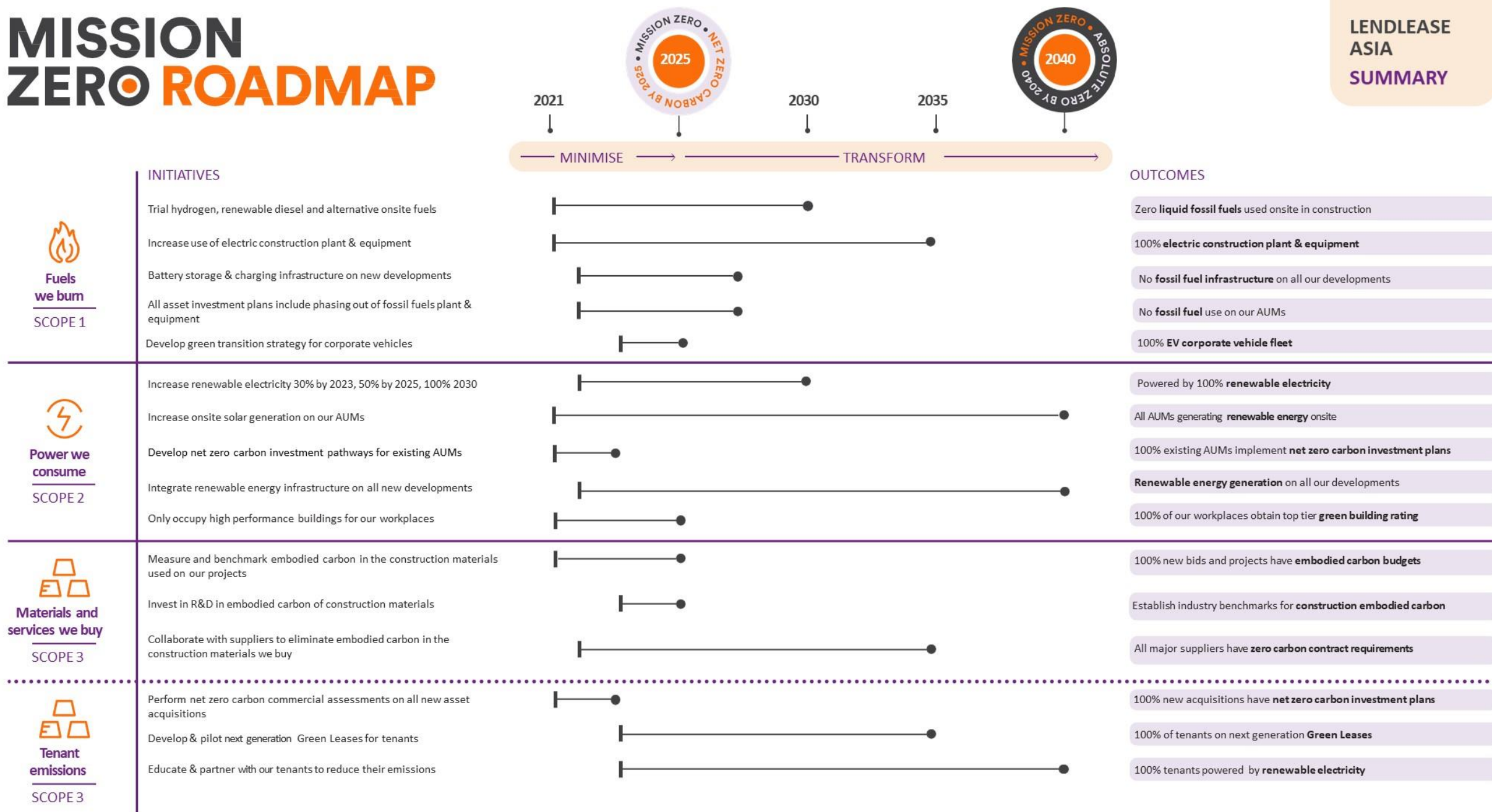
Supply Chain & Resources





# MISSION ZERO ROADMAP

## LENLEASE ASIA SUMMARY





- Built Environment Initiatives
- Community Resilience Initiatives

#### Thermal Comfort

Buildings are designed to exceed compliance standard (20% improvement over ASHRAE) and will be equipped with high performance glazing to improve thermal comfort.

#### Financial Position

The precinct is designed for 24-hour utilisation and assets that are complementary to one another, providing the perfect opportunity for a live-work-play community.

#### Passive Design

Building orientation, awning structures, trees and lush vegetation, green roofs and high albedo paving surfaces have been planned to mitigate urban heat island effect.

#### Biophilic Design

Sky gardens, vertical gardens and green spaces of the plaza and promenades will improve outdoor air quality for precinct users.

#### Connectivity

TRX is supported by first class infrastructure and connectivity, including KL's largest MRT interchange, access to the DUKE & MEX highways, SMART Tunnel and other primary arteries of KL such as Jalan Tun Razak & Jalan Imbi.

#### Flood Mitigation

Local drainage system will undergo a significant upgrade to improve capacity and reduce site overflow and downstream flash flooding.

## Resilient Placemaking

As part of our planning and design process, all developments that Lendlease undertakes includes an initial assessment of climate-related, environmental and social risks, mitigation and adaptation measures.

#### Indoor Air Quality

MERV14 filtration will be installed in all commercial buildings to maintain high levels of indoor environmental air quality.

#### Healthy Precinct

The precinct has the opportunity to create stronger community resilience via improved physical and mental wellbeing for its visitors and occupants with its activated outdoor spaces and expansive greenery.

#### Recycled Water

Precinct recycled water treatment will recover 80% of wastewater for toilet flushing, landscape irrigation, and cooling towers, reducing demand for potable water by more than 50%.

#### Flood Mitigation

Drainage cells under the landscaping areas gets water quickly off the roof to avoid flooding within the Park.

#### Community Connections

The Exchange and TRX Park will function as a town centre, offering a vibrant, open space for the community to meet and mingle.

#### Access and Egress

Elevated pedestrian link bridges will provide access between The Exchange TRX and its surrounding neighbourhoods, enabling safe egress should surrounding areas of the precinct be subject to flooding.

#### Climate Awareness

Increased awareness and education about climate change provided to the TRX community, starting with the release of this Climate Change Adaptation and Resilience Plan.



## Sustainability Ratings

### Barangaroo South:

- 6 Star Green Star Community

### International Towers:

- WELL Core & Shell Platinum
- 6 Star Green Star Office Design & As Built

### International House:

- 6 Star Green Star Office Design & As Built

### Daramu House:

- 6 Star Green Star Design & As Built

### One Sydney Harbour:

- Residences Targeting 6 Star Green Star Design & As Built

# Barangaroo South

Carbon Neutrality

Water Positive

Zero Waste  
Emissions

Community  
Wellbeing





## Carbon Neutrality

- Barangaroo is the first urban precinct in Australia to be awarded carbon neutral status.
- 20% reduction in embodied carbon for all buildings achieved to date.
- Over 6,000sqm of rooftop solar panels and one of the largest precinct in the Southern Hemisphere to use 100% LED lighting.



## Water Positive

- Water positive precinct, which means that at Barangaroo more water is captured, treated, recycled and reused than the drinking water that is consumed across the precinct.
- Up to 100 million litres of water projected to be saved annually by precinct-wide recycled water treatment plant and chilled water plant with harbour heat rejection.



## Zero Waste Emissions

- Delivery of two cross-laminated timber buildings, sourced from certified sustainably managed forests and delivering significantly lower carbon footprint than other building materials as well as generating zero production waste.



## Community Wellbeing

- Training delivered to over 8,900 construction workers between 2013 and 2015 via the Barangaroo Skills Exchange, generating \$78.5 million in social value (audited by Social Value International).
- More than 50 social programs delivered within the precinct over the life of the project.
- Public art program including permanent and temporary installations.



## Elephant Park

### Sustainability Ratings

#### Elephant Park Energy Hub:

- Excellent BREEAM<sup>1</sup>

We aim to be the  
1st Climate Positive  
development in the  
UK



ALL NEW HOMES DESIGNED  
TO ACHIEVE AT LEAST

# 35%



LOWER EMISSIONS THAN  
2013 REGULATIONS\*

London:  
Elephant Park  
(Artist's impression)

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(Artist's impression)



# Any Questions?

