AWORLD CLASS SUSTAINABILITY PLANFOR A WORLD CLASS PRECINCT



BARANGAROO SOUTH

BARANGAROO SOUTH WILL BE A WORLD-CLASS PRECINCT.

A WORLD-CLASS PRECINCT NEEDS A WORLD-CLASS SUSTAINABILITY PLAN.

THIS DOCUMENT SHARES OUR CURRENT STRATEGIES TO ACHIEVE OUR TARGETS, BUT IS BY NO MEANS THE END OF THE STORY.

WE HAVE TAKEN INSPIRATION FROM THE CITY OF SYDNEY'S VISIONARY 2030 STRATEGY.

IN THE DEVELOPING REALM OF SUSTAINABILITY, WE ARE ALWAYS LOOKING TO IMPROVE AND WE ARE OPEN TO CONSULTATION AND FEEDBACK.

THIS IS OUR PLAN FOR HELPING MAKE SYDNEY THE WORLD'S BEST PLACE.



















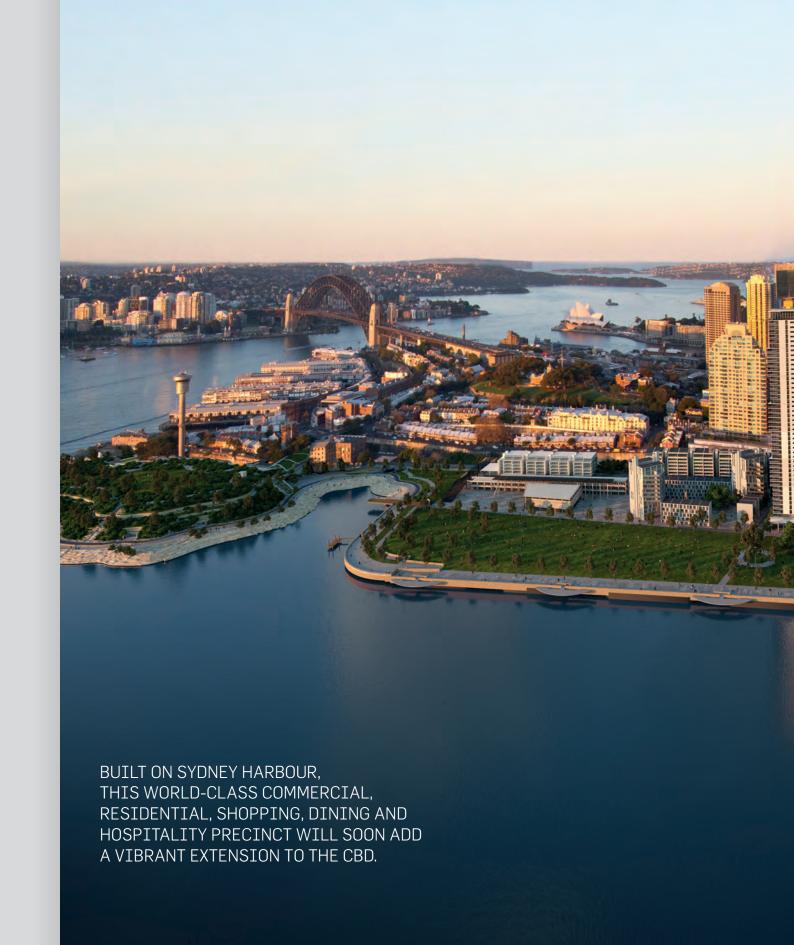








































BARANGAROO

IS SYDNEY'S LARGEST URBAN REGENERATION PROJECT SINCE THE 2000 OLYMPICS.

HECTARES IN SIZE BARANGAROO SOUTH

22 HECTARES BARANGAROO PRECINCT

BARANGAROO SOUTH CONTAINS

490,000 sq m

MIXED USE GROSS FLOOR AREA.

RETAIL, FOOD & BEVERAGE

80-100

LIFESTYLE AND BOUTIQUE STORES, CAFES, RESTAURANTS, BARS AND COFFEE SHOPS. **RESIDENTIAL**

800-1000

APARTMENTS, MIXED LOW AND HIGH RISE.

HOTEL

LANDMARK INTERNATIONAL HOTEL

WITH DAY-SPA, BUSINESS CENTRE, BARS, RESTAURANTS AND RETAIL.



TRANSPORT

A COMMITMENT HAS
BEEN MADE FOR A DIRECT
PEDESTRIAN LINK TO TRAINS
AND BUSES AT WYNYARD
AND THE CENTRAL CBD. ALSO
PROPOSED ARE FERRY WHARFS,
NEW BUS ROUTES, CYCLEWAYS
AND PARKING FOR BIKES.

COMMUNITY AND PUBLIC FACILITIES

CULTURAL FACILITIES, A WATERFRONT SQUARE, HARBOUR COVE, WATERFRONT PROMENADE & PLAZAS.



TOTAL VALUE

\$ 5 OVER AUD BILLION.





























KEY SUSTAINABILITY TARGETS



BARANGAROO IS ONE OF ONLY 18
PROJECTS GLOBALLY TO BE PART OF
THE C40 CITIES-CLINTON CLIMATE
INITIATIVE'S CLIMATE POSITIVE
DEVELOPMENT PROGRAM.

NET OPERATIONAL CARBON EMISSIONS

(COVERING ENERGY, WASTE AND COMMUTER CARBON EMISSIONS).

AUSTRALIA'S FIRST LARGE SCALE CARBON NEUTRAL COMMUNITY.



IN EMBODIED CARBON COMPARED WITH STANDARD CONSTRUCTION PRACTICES.

CAPABLE OF BEING WATER POSITIVE. ON-SITE BLACKWATER TREATMENT PLANT CAPABLE OF SUPPLYING

1 MILLION LITRES

OF RECYCLED WATER A
DAY TO THE COMPLETED
PRECINCT AND
SURROUNDING SUBURBS.

90,000 L RAINWATER TANK

IN EACH COMMERCIAL TOWER TO CAPTURE AND RECYCLE RAINWATER.

%

3























6,000 sq m
OF SOLAR PANELS

ENERGY REQUIRED FOR PUBLIC SPACE & RECYCLED WATER TREATMENT PLANT 100% OFFSET BY ON-SITE RENEWABLES.

ZERO
NET WASTE TO LANDFILL
BY 2020.















Lend Lease has always had sustainability as part of its DNA.

The Lend Lease sustainability plan looks at the world we want to hand on to the next generation and then considers the ways we can best create it.

Lend Lease's long-term goals and aspirations are framed in three focus areas - Respect for Resources, Sustainable Lifestyles and Future Ready.

Each focus area is then broken down into its various elements, each with commitments on what we aim to deliver by 2020.

BARANGAROO SOUTH IS A KEY PROJECT FOR DELIVERING ON THESE GOALS AND COMMITMENTS.

Read all about our sustainability commitments at: www.lendlease.com

CARBON



CHOOSE A SUSTAINABILITY ISSUE TO SEE WHAT WE'RE DOING AT BARANGAROO SOUTH.

ENERGY EFFICIENCY



WATER



WASTE



MATERIALS



NATURAL ENVIRONMENT



CREATING COMMUNITY



DIVERSITY &

CULTURE

EMPLOYMENT,

SKILLS & TRAINING



SAFETY, HEALTH & WELLBEING



GOVERNANCE & RESPONSIBLE INVESTMENT





INNOVATION

RESPECT FOR RESOURCES

"THE RESOURCES WE
USE WILL BE RECYCLED,
RESPONSIBLE. REUSABLE"

Resources are one of the most fundamental constraints facing our world. With many raw materials predicted to become more scarce as this century passes, a more considered approach to their use is essential. It's also a smart business approach.

SUSTAINABLE LIFESTYLES

"WHAT WE CREATE WILL LEAVE A POSITIVE SOCIAL LEGACY"

How something is constructed is just a small part of its impact on the world. By considering how people interact with and move between the places we create and the sort of communities that exist within them, we can ensure our projects have a far more positive impact on individuals and society as a whole.

FUTURE READY

"WE WILL FUTURE READY OUR BUSINESS AND THE BUILT ENVIRONMENT"

With climate change and technological innovation set to change the world we live in faster than ever before, our challenge is to create places and infrastructure that can be adapted for both predicted and unpredictable future changes.

































CARBON



OF ALL GREENHOUSE GAS EMISSIONS.*

OUR AIM IS TO MAKE BARANGAROO SOUTH A DEMONSTRATION OF HOW BETTER DESIGN AND BUILDING PRACTICES CAN, ULTIMATELY, REDUCE THIS IMPACT TO ZERO.

AVOID

Through better building design, efficient precinct infrastructure and education and behavioural initiatives.

REDUCE

Through on and off-site low carbon and renewable energy sources.

MITIGATE

Through the purchase of carbon offsets to cover residual emissions such as commuter carbon emissions.



EMBODIED CARBON

DESCRIBES THE CARBON EMISSIONS
CREATED IN THE PRODUCTION AND
TRANSPORTATION OF MATERIALS FOR
A BUILDING AS WELL AS THE CARBON
EMISSIONS GENERATED BY THE
CONSTRUCTION PROCESS ITSELF.



IN EMBODIED CARBON COMPARED WITH STANDARD CONSTRUCTION PRACTICES.

We are investigating ways to achieve this by using fewer materials through efficient design and replacing carbon intensive materials such as concrete, steel, aluminium and glass with less carbon intensive alternatives.

OPERATIONAL CARBON

DESCRIBES THE CARBON EMISSIONS
CREATED FROM THE PRECINCT'S DAY TO
DAY USE. LIGHTING, HEATING, COOLING
AND TRANSPORTATION OFFER THE BEST
OPPORTUNITIES FOR EMISSIONS REDUCTION.

BARANGAROO SOUTH WILL BE AUSTRALIA'S FIRST LARGE SCALE CARBON NEUTRAL COMMUNITY WITH

ZERO NET CARBON EMISSIONS IN OPERATION

COVERING ENERGY, WASTE AND COMMUTER CARBON EMISSIONS.

























EVERY DAY 23,000 WORKERS, 1,200 RESIDENTS & 33,000 VISITORS

WILL BE ENCOURAGED TO USE GREEN TRAVEL OPTIONS.

A direct pedestrian link to trains and buses at Wynyard and the central CBD, as well as proposed ferry wharfs, new bus routes, cycleways and end-of-trip bike facilities will make the choice easier.

ZERO CARBON FROM WASTE. We are working with our waste partners to ensure

We are working with our waste partners to ensure recovery of all recyclable materials and to treat and recycle organics that, in a landfill, would produce methane, a powerful greenhouse gas.



CARBON EMISSIONS FROM STAFF COMMUTING WILL BE OFFSET THROUGH THE PURCHASE OF CARBON OFFSETS.



will be utilised to ensure a carbon neutral outcome in operation.

WE ARE INVESTIGATING OPTIONS FOR

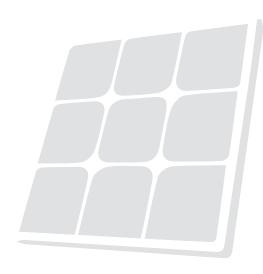
ON-SITE LOW CARBON ENERGY GENERATION FOR THE PRECINCT, SUCH AS

CO-GENERATION & TRI-GENERATION.

THE ENERGY NEEDED TO POWER ALL PUBLIC AREAS OF BARANGAROO SOUTH AND THE CENTRALISED BLACKWATER TREATMENT PLANT WILL BE OFFSET BY

APPROXIMATELY

6,000 sq m OF ON-SITE SOLAR PANELS.



THIS WILL GENERATE

1,000_{MWh}
OF ENERGY A YEAR.

ENOUGH TO POWER

137 HOMES.

















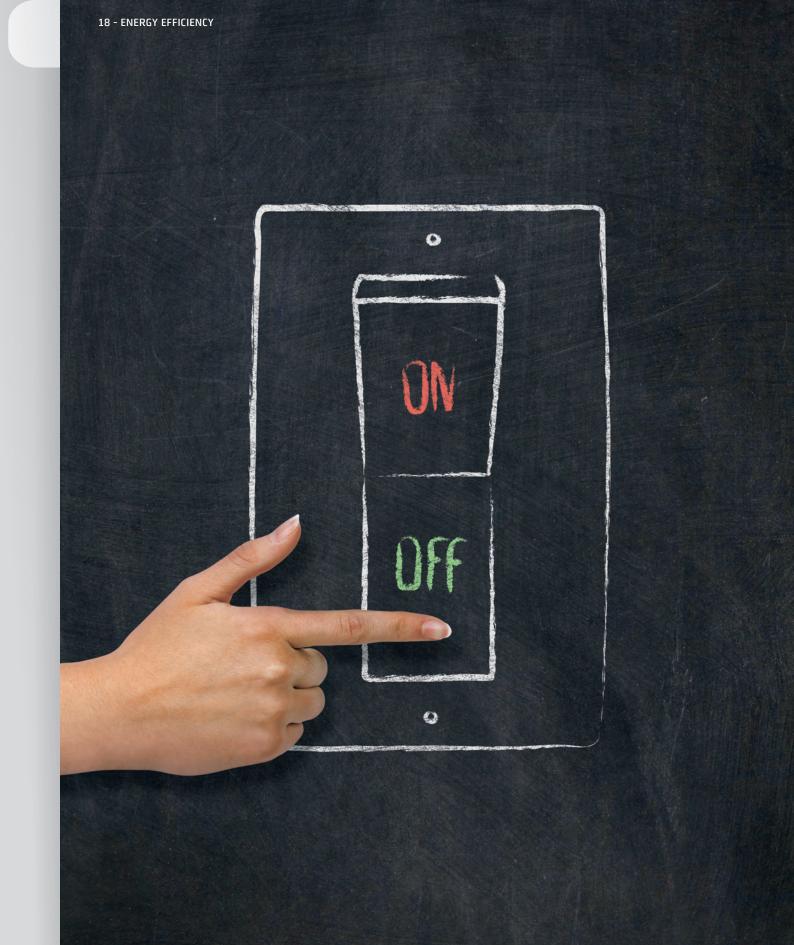




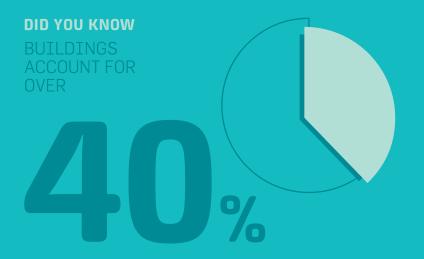








ENERGY EFFICIENCY



BY REDUCING THIS FIGURE, THE PROPERTY INDUSTRY CAN MAKE AN ENORMOUS DIFFERENCE TO CLIMATE CHANGE AND REDUCE ENERGY BILLS FOR TENANTS AND RESIDENTS IN THE PROCESS.

ELECTRICITY USAGE.*

















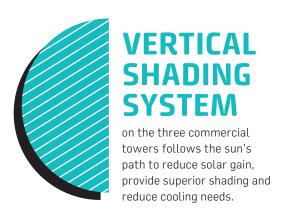












METERING, MONITORING & VISUAL DISPLAYS

IN OFFICES AND HOMES TO EDUCATE USERS AND ASSIST IN REDUCING ENERGY CONSUMPTION.

CENTRALISED PLANT & INFRASTRUCTURE

OPERATED ACROSS THE BUILDINGS AT BARANGAROO SOUTH MEANS REDUCED ENERGY CONSUMPTION AND PRECINCT SCALE EFFICIENCIES.

ENERGY EDUCATION IN THE BARANGAROO SOUTH COMMUNITY WILL PLAY A KEY ROLE IN ENSURING RESPONSIBLE ENERGY USE IN THE PRECINCT.

70CENTRAL CHILLED WATER PLANT

COOLS THE PRECINCT USING HARBOUR WATER.

This is more energy efficient than traditional cooling tower based systems and will be the largest of its kind in Australia.



THESE WILL BE AMONG

THE FIRST

HIGH RISE OFFICE BUILDINGS TO BE RATED 6 STAR UNDER VERSION 3 OF THE RATING TOOL.







ENERGY EFFICIENCY MEASURES LESSEN CARBON EMISSIONS OF THE PRECINCT. SEE CARBON FOR MORE ON THIS.

















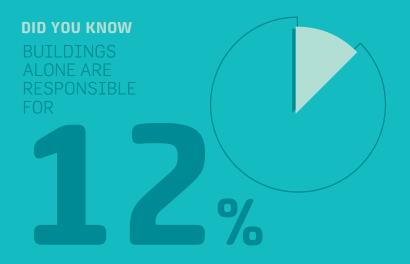








WATER



BARANGAROO SOUTH AIMS TO BE A WATER POSITIVE PRECINCT.

OF THE WORLD'S WATER USE.*

"WATER POSITIVE" MEANS BARANGAROO SOUTH IS DESIGNED TO EXPORT MORE RECYCLED WATER THAN THE POTABLE (DRINKING) WATER IT USES, THEREBY REDUCING DEMAND ON PRECIOUS WATER RESOURCES.

























AVOID

Water use by replacing cooling towers with harbour water heat rejection.

REDUCE

Water use by efficient design combined with education and behavioural initiatives.

REUSE

Rainwater capture and reuse.

Stormwater diversion for reuse in parklands to the north.

RECYCLE

Blackwater treatment plant supplying recycled water to the site.

EXPORT

Recycled water export greater than precinct potable use.



OUR APPROACH



IN EACH OF THE COMMERCIAL TOWERS
TO CAPTURE AND REUSE RAINWATER
WITHIN THE BUILDINGS.

ON COMPLETION, THE WATER RECYCLING SYSTEM WILL BE CAPABLE OF SUPPLYING

MILLION OF GRADE A RECYCLED WATER A DAY

TO THE PRECINCT & SURROUNDING SUBURBS.























THE CENTRALISED CHILLED

WATER PLANT at Barangaroo South is designed to support the cooling systems for all of the buildings. Once the development is complete and the buildings are fully occupied, the harbour water cooling system will not only save energy,

IT COULD SAVE UP TO

100 MILLION LITRES OF WATER

BEING TAKEN FROM THE SYDNEY WATER MAINS NETWORK EACH YEAR. SMART DESIGN. Ultra efficient fixtures and appliances, as well as the incorporation of water sensitive urban design principles into the public domain and landscape plans, will reduce water usage across the precinct.

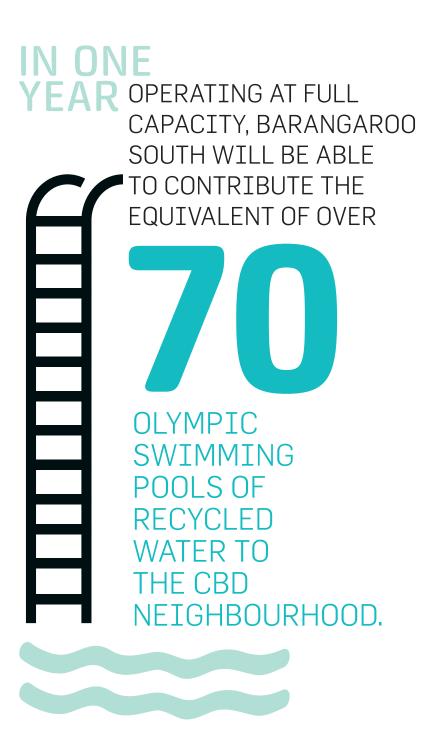
BLACKWATER TREATMENT &

REUSE. The blackwater treatment plant will enable captured and surplus wastewater to be recycled and reused on-site in place of drinking water for things like toilet flushing, irrigation and other appropriate uses.

STORMWATER TREATMENT.

Stormwater from the northern catchment will be diverted north for use in the headland park. The first portion of stormwater falling on the site (often referred to as the first flush of water which contains pollutants requiring treatment) will be captured and treated to national best practice standards before being returned to the harbour.

WATER EDUCATION IN THE BARANGAROO SOUTH COMMUNITY WILL PLAY A KEY ROLE IN ENSURING WE ARE WATER POSITIVE. EDUCATION AROUND THE USE – AND OVERUSE – OF WATER WILL BE PROVIDED TO WORKERS, BUILDING MANAGERS, RESIDENTS AND VISITORS.

























WASTE



OF THE WORLD'S SOLID WASTE.*

CLEVER RECYCLING AND COMPOSTING CAN REDUCE THIS SIGNIFICANTLY. BARANGAROO SOUTH AIMS TO BE A NET ZERO WASTE COMMUNITY.























PREVENT

Working with all tenants, visitors and contractors to educate on waste prevention, minimisation, recycling and reuse.

RECYCLE

Ensure waste is recycled using off-site advanced waste treatment process.

ZERO WASTE

Offset residual waste to landfill by leveraging the Barangaroo waste contract to include waste streams from other parts of the CBD to deliver a net waste to landfill balance below zero.

ZERO EMISSIONS

Off-site waste to energy technology to generate electricity being explored.

Zero greenhouse gas emissions technologies utilised for waste treatment.



TARGETING NET WASTE TO LANDFILL BY 2020.

While some residual material from the precinct will still need to be sent to landfill, our net zero waste in operation can be achieved by extending our advanced off-site recycling and waste treatment process to include waste from surrounding areas. This can effectively offset the portion of waste that has no other option than going to landfill.

WASTE EDUCATION IN THE BARANGAROO SOUTH COMMUNITY WILL PLAY A KEY ROLE IN ENSURING WE ARE ON OUR WAY TO ZERO WASTE.

We will team with workers, locals and visitors to minimise waste generation and maximise recycling.



LANDFILL FROM DAY ONE.

Key initiatives include source-separated collection and off-site advanced recycling

processes including the treatment of organics.

TARGETING %

DIVERSION OF CONSTRUCTION WASTE

AWAY FROM LANDFILL.





















EASILY ACCESSIBLE

PUBLIC DRINKING WATER

WILL ENCOURAGE REDUCTION IN BOTTLED WATER CONSUMPTION,

REDUCING THE
LITTER AND WASTE
ASSOCIATED WITH
EMPTY PLASTIC
BOTTLES.



OF WATER TO MAKE A 1 LITRE PLASTIC WATER BOTTLE*















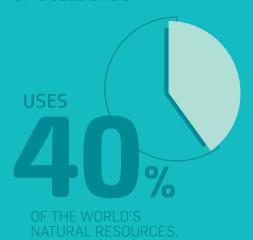


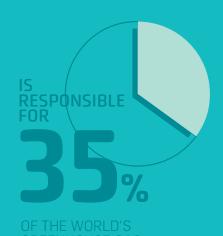


MATERIALS

DID YOU KNOW

CONSTRUCTION, OPERATION AND DECONSTRUCTION OF BUTLDINGS





LIFECYCLE ANALYSES OF MATERIALS CAN HELP US UNDERSTAND, THEN REDUCE THESE IMPACTS.





















WE ARE CONDUCTING LIFECYCLE ANALYSES ON THE

20MATERIALS

USED ON THE SITE.

This will help us better understand the impact that materials selection and construction techniques can have in reducing the development's embodied carbon and broader supply chain and environmental impacts.

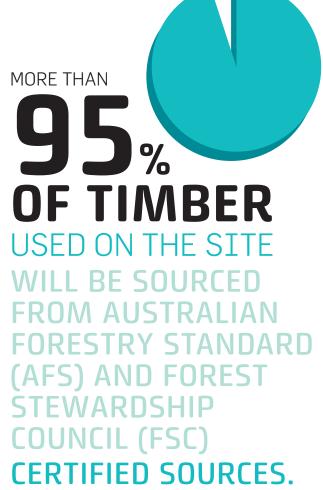
-UTURE

WE WILL ANALYSE THE ECOLOGICAL & CARBON FOOTPRINT

for the precinct to assist us in benchmarking our performance and to learn more about where to focus our efforts in reducing our impact on the environment.

SUPPLIER ENGAGEMENT & PARTNERING.

We aim to reduce the upstream impacts of the development related to materials use by engaging with our suppliers and partnering to create more efficient and lower impact materials and products, and ensure they demonstrate compliance with social and environmental considerations.













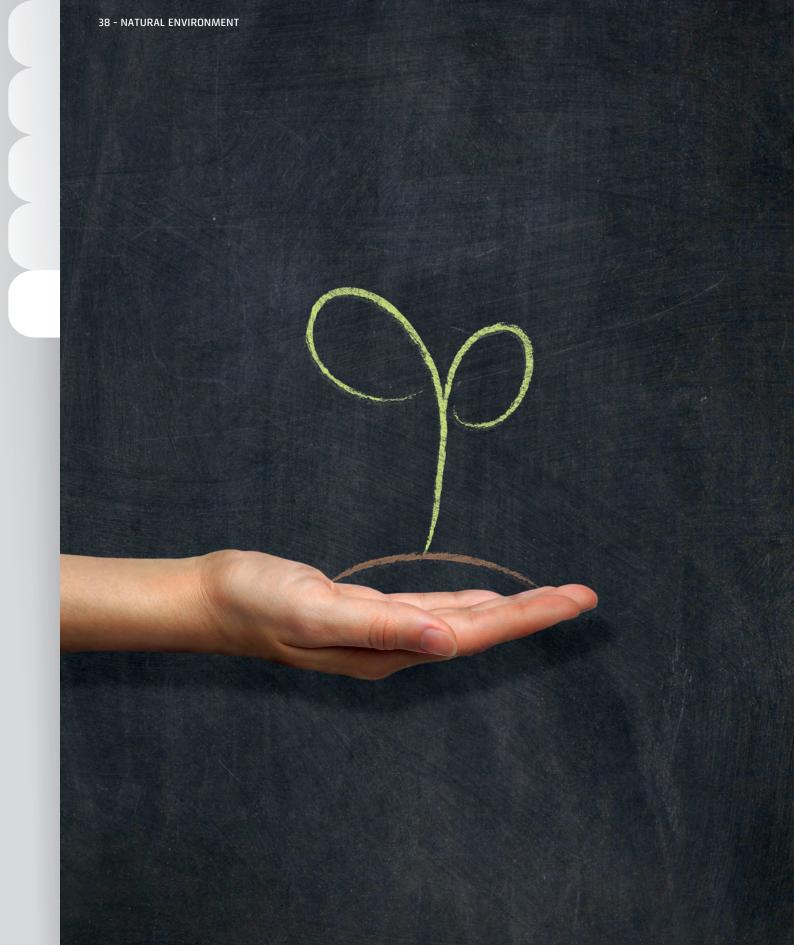












NATURAL ENVIRONMENT

DID YOU KNOW

SPECIES DENSITY IS THOUGHT TO BE GREATEST IN THE SOUTHERN HEMTSPHERE.



70% OF THE WORLD'S SPECIES ARE FOUND IN JUST 12 COUNTRIES.*

AUSTRALIA, BRAZIL, CHINA, COLOMBIA, COSTA RICA, THE DEMOCRATIC REPUBLIC OF CONGO, ECUADOR, INDIA, INDONESIA, MADAGASCAR, MEXICO AND PERU.

BARANGAROO SOUTH WILL BRING BIODIVERSITY BACK TO AN AREA OF THE CITY THAT HAS BEEN PREDOMINANTLY UTILISED BY INDUSTRY FOR THE PAST CENTURY.









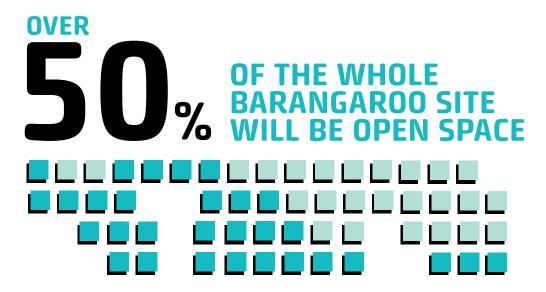












INTERCONNECTED BY VEGETATION LEADING TOWARD THE LARGE HEADLAND PARK.

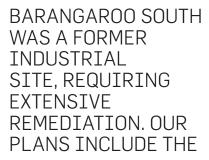
MARINE HABITAT WILL BE PROTECTED AND ENHANCED THRO

THROUGH IMPROVED
SEA WALL DESIGN AND
FURTHER STUDIES
ON MARINE HABITAT
PROTECTION AND
RESTORATION.

DURING CONSTRUCTION, A LARGE SCALE, ON-SITE

WATER TREATMENT PLANT

WILL CAPTURE WATER, TREAT IT
AND THEN RETURN CLEAN WATER TO
THE HARBOUR, SO IMPROVING THE
NATURAL MARINE ENVIRONMENT.



CLEAN UP OF THIS BROWNFIELDS SITE.

COMMUNITY GARDENS

INTEGRATE LOCAL AREA FOOD PRODUCTION INTO THE PRECINCT.

THE MAJORITY OF PLANTS WILL BE

SPECIES

TO ENHANCE LOCAL AREA BIODIVERSITY.

GREEN ROOF & GREEN WALL STRUCTURES

INTRODUCE NATURE AROUND WORKPLACES AND HOMES.

















reia ponjour atag erstang gutentag TIPUBIT \$ EII OI! Clá! Hola goddag aloha こんにちは Mpuber Chao ann/C

CREATING COMMUNITY

BARANGAROO SOUTH WILL WELCOME



BARANGAROO IS SET TO BECOME THE CENTRAL HUB OF SUSTAINABLE LIVING IN SYDNEY.

THROUGH CULTURE, PUBLIC ART AND EVENTS, BARANGAROO SOUTH WILL ENRICH THE DAILY LIFE OF THIS COMMUNITY AND REINFORCE SYDNEY'S REPUTATION AS ONE OF THE WORLD'S MOST ENJOYABLE CITIES.

















ACTIVATING

Enlivening the space through new programs, events, activities and experiences.

Completing the cultural "ribbon", connecting public art, theatre, innovation and performance.

Reaffirming our cultural heritage, celebrating indigenous, multicultural and maritime history.

LEARNING

Focusing on capacity building through school, industry, trade and tertiary skills programs.

Building indigenous capacity through professional job creation, lifelong education and minority procurement.

Delivering lifelong programs including workers, visitors, residents and tenants.

WELCOMING

Reconnecting Barangaroo to the people of Sydney.

Providing a socially inclusive destination for all ages, cultures and experiences.

Connecting through technology and, importantly, through inclusive master planning.

ENJOYING

Encouraging active and healthy living opportunities for residents, workers and visitors.

Developing infrastructure to foster active transport, e.g. Green Travel Plan.

Ensuring equal access and inclusive mobility.

INVESTING

Fostering new business through innovative commercial and retail space opportunities.

Establishing the governance of community infrastructure and programs.

Providing human and community services including childcare.



BARANGAROO SOUTH HAS BEEN REGISTERED AS ONE OF THE FIRST PROJECTS TO TRIAL THE GREEN BUILDING COUNCIL OF AUSTRALIA'S NEWLY-RELEASED

GREEN STAR COMMUNITIES

PILOT RATING TOOL.

The tool is designed to support delivery of more sustainable, productive and livable communities.



KEY CRITERIA ARE:

LIVABILITY
ECONOMIC PROSPERITY
ENVIRONMENT
DESIGN
GOVERNANCE
INNOVATION

COMMUNITY AMENITIES & SERVICES

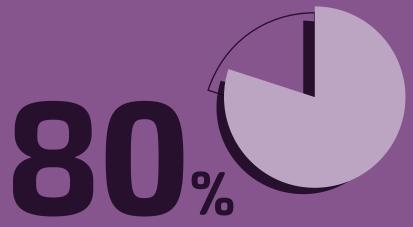
INCLUDING BARANGAROO INNOVATION CENTRE, CHILDCARE, KEY WORKER HOUSING, AS WELL AS AN AFFORDABLE OFFICE AND RETAIL STRATEGY.





46 - EMPLOYMENT, SKILLS & TRAINING

EMPLOYMENT, SKILLS & TRAINING



OF OUR SOCIAL RETURN ON INVESTMENT IS RELATED TO NEW EMPLOYMENT, SKILLS AND TRAINING OPPORTUNITIES FOR THE COMMUNITY PROVIDED BY BARANGAROO.

BARANGAROO SOUTH IS EXPECTED TO ENGAGE A TOTAL WORKFORCE OF OVER 100,000 PEOPLE DURING ITS CONSTRUCTION.

















OVER THE 10-YEAR CONSTRUCTION
PERIOD, BARANGAROO SOUTH WILL
EMPLOY A RANGE OF PRIORITY GROUPS,
INCLUDING INDIGENOUS AUSTRALIANS,
WORKERS WITH LOW LANGUAGE,
LITERACY AND NUMERACY SKILLS,
APPRENTICES AND MATURE AGE WORKERS.

10,000 PEOPLE

EXPECTED TO BE TRAINED WITH NEW ACCREDITED SKILLS QUALIFICATIONS IN A VARIETY OF SPECIALIST AND CRITICAL AREAS ACROSS THE CONSTRUCTION AND ASSOCIATED TRADES.

WE ARE TARGETING:

50,000LEARNING OUTCOMES.

'NEXT GENERATION'
CONSTRUCTION

INDUSTRY LEADERS.

30,000 STUDENTS

from NSW and beyond will learn about the urban regeneration of Barangaroo and its sustainability plans.

DISADVANTAGED YOUTH.

Part of our active investment program will involve programs that support innovative social enterprises, such as those that provide work opportunities to disadvantaged youth.

LIFELONG LEARNING STRATEGY.

Lend Lease's lifelong learning strategy aims to provide educational opportunities to the surrounding community in areas such as Millers Point and Pyrmont, to the people of Greater Sydney, as well as to the new community of residents and workers at Barangaroo South itself. Initiatives include community education, schools programs, skills and training, and research and development.

ESTABLISHMENT OF THE 'BARANGAROO SKILLS EXCHANGE',

which will focus on developing human capital across the project by establishing learning platforms and providing community education in partnership with public and private training providers.

\$7.3m of federal funding has already been secured to provide

TRAINING PROGRAMS
FOR CONSTRUCTION
WORKERS OVER THE
NEXT TWO YEARS.

This is being delivered at Barangaroo South in partnership with the Australian Government's Skills Connect program.







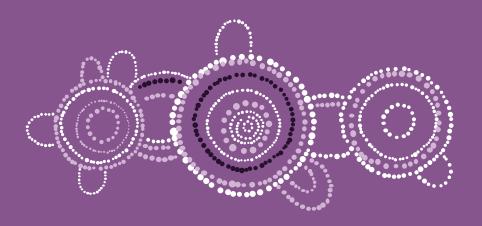






DIVERSITY & CULTURE

WHILE INDIGENOUS WORKFORCE RATES HAVE IMPROVED OVER THE PAST DECADE, THEY STILL LAG BEHIND THE GENERAL POPULATION.



BARANGAROO SOUTH WILL HELP ADDRESS
THIS PROBLEM AND WILL CONTRIBUTE TO
THE COMMITMENTS MADE IN THE LEND LEASE
RECONCILIATION ACTION PLAN.













500+ INDIGENOUS WORKERS

WILL BE INVOLVED IN THE PROJECT.

BY INVESTING OUR PURCHASING POWER INTO

INDIGENOUS ENTERPRISES

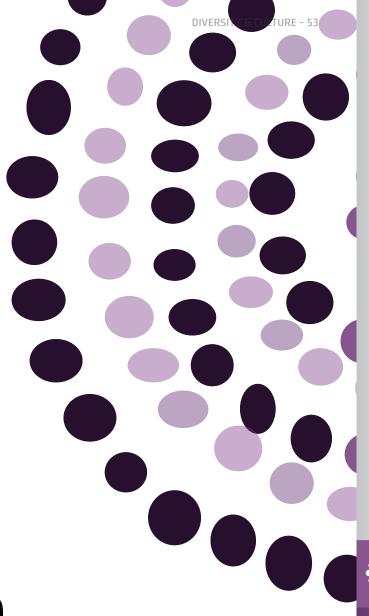
WE ARE SUPPORTING AND ENCOURAGING NEW BUSINESSES TO EXPAND THEIR OPERATIONS.

OUR PUBLIC ART STRATEGY

INCLUDES A STRONG THEME TO CELEBRATE THE INDIGENOUS HERITAGE OF THE AREA.

WE HAVE MADE
PROVISION FOR
DIVERSITY OF HOUSING
TYPES IN BARANGAROO
SOUTH BY INCLUDING

KEY WORKER HOUSING.





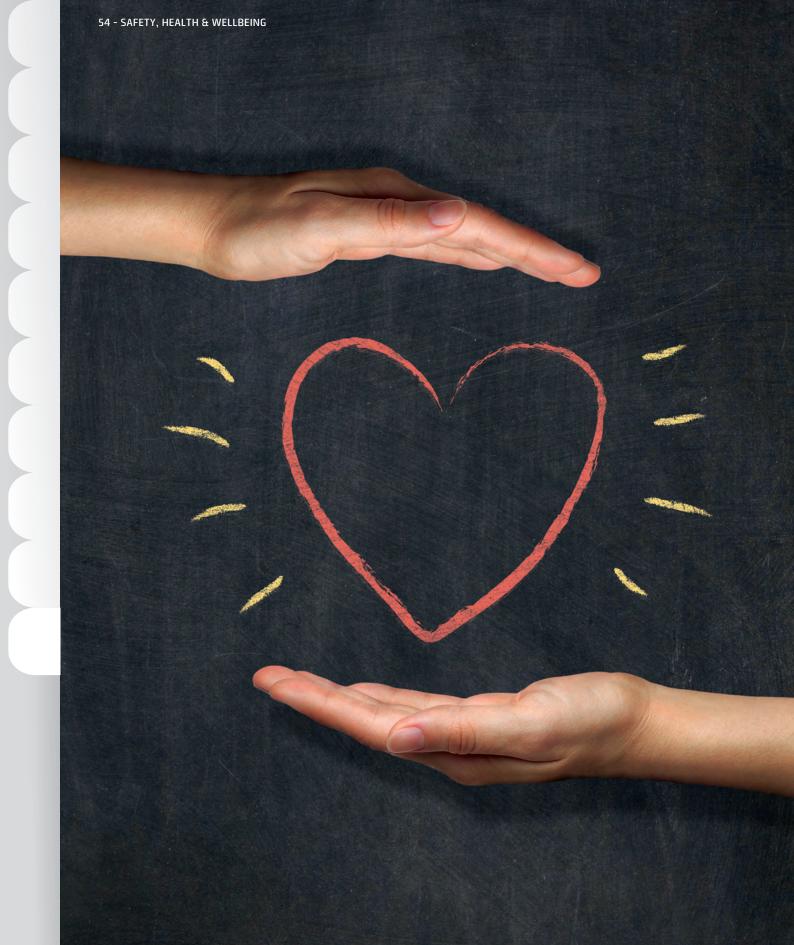












SAFETY, HEALTH & WELLBEING

SAFETY, HEALTH AND WELLBEING ARE KEY PRIORITIES AT LEND LEASE.

WE TAKE AN UNCOMPROMISING
LEADERSHIP STANCE ON SAFETY
THROUGHOUT THE DESIGN, CONSTRUCTION
AND OPERATIONAL PHASES OF
THE DEVELOPMENT.











Typically air is recycled within a building, which can spread pollutants and reduce indoor environment quality.

THE COMMERCIAL BUILDINGS AT BARANGAROO WILL UTILISE

100%
OUTDOOR AIR

DURING OCCUPANCY
HOURS. THIS WILL FLUSH
OUT POLLUTANTS &
PROVIDE A HEALTHIER
WORKING ENVIRONMENT.



HEALTHY MATERIALS

USED IN THE FITOUT PROCESS.

24_{HR}

MONITORING OF AIR
AND WATER QUALITY
DURING CONSTRUCTION
IN ACCORDANCE WITH
THE SITE'S ENVIRONMENTAL
PROTECTION LICENCE.

SAFETY PASSPORT TRAINING AND LEND LEASE GLOBAL MINIMUM REQUIREMENTS

will be applied on the site to ensure a safe working environment.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

will provide a precinct that is safe for everyone and maximises active and passive surveillance to reduce crime.

HEALTHY BUILDINGS

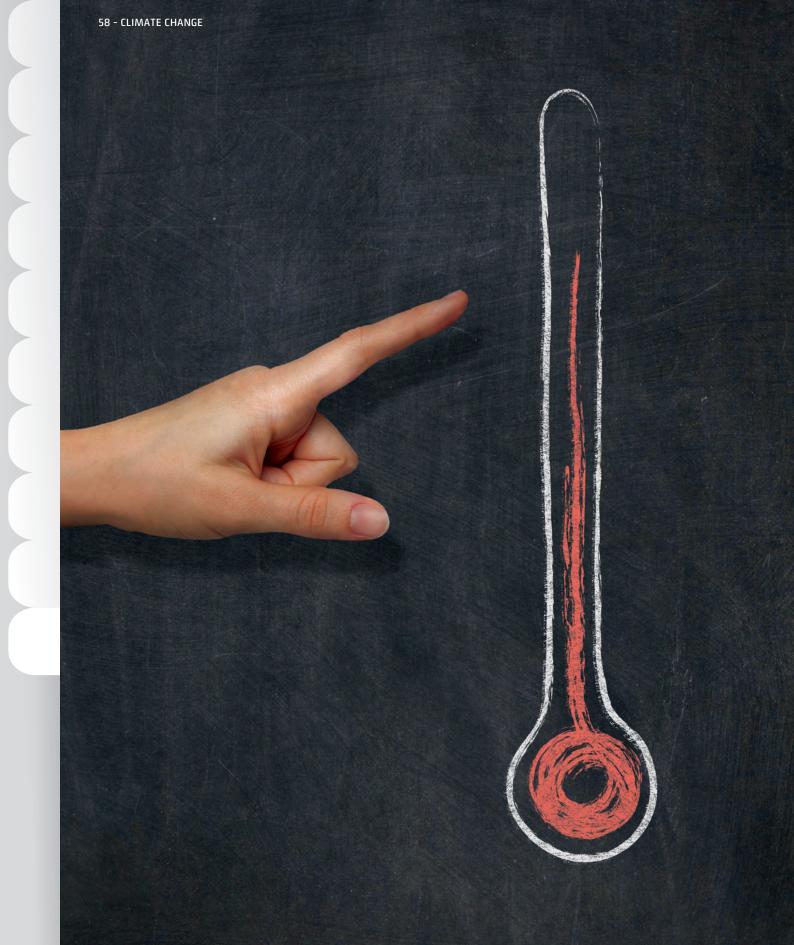
will be designed to provide the best environment for occupants including access to daylight, views and fresh air.











CLIMATE CHANGE

RISING TEMPERATURES WILL INCREASE THE VOLUME OF WATER ON THE EARTH. DURING THE 21ST CENTURY, THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) PREDICTS

SEALEVELS WILL RISE A FURTHER 18 - 59 cm.

IN PLANNING FOR THIS, WE HAVE INCREASED THE HEIGHT OF THE GROUND PLANE AND UPGRADED STORMWATER INFRASTRUCTURE TO AMELIORATE STORMWATER IMPACTS ON THE SURROUNDING AREAS.

WE WILL ALSO PREPARE A CLIMATE CHANGE ADAPTATION PLAN AS PART OF OUR GREEN STAR COMMUNITIES COMMITMENT.











GOVERNANCE & RESPONSIBLE INVESTMENT

TRANSPARENCY AND GOOD CORPORATE GOVERNANCE ARE PART OF THE LEND LEASE CULTURE.

WE BRING THIS TO OUR APPROACH AT BARANGAROO SOUTH.







TO ENSURE WE MEET OUR COMMITMENTS OUTLINED IN THIS DOCUMENT, WE WILL BE:

PUBLISHING AN ANNUAL SUSTAINABILITY REPORT

including independent certification by an Expert Sustainability Certifier.

EMBODYING RESPONSIBLE CORPORATE CITIZENSHIP

by working with stakeholders such as the Green Building Council of Australia, the City of Sydney and State and Federal Government to seek their assistance in the implementation and refinement of our plans.

CREATING A BIENNIAL REVIEW OF SUSTAINABILITY BENCHMARKS

to ensure the project targets maintain pace with world's best practice.

SEEKING INDEPENDENT RATINGS AND VERIFICATION

such as Green Star targets (see our energy efficiency section).

MATRIX OF BARANGAROO SOUTH

BENCHMARKING & CERTIFICATION MEASURES

C40 CITIES-CLINTON CLIMATE INITIATIVE.

WORLD RECOGNISED CERTIFICATION

ECO FOOTPRINT / CARBON FOOTPRINT/ SOCIAL RETURN ON INVESTMENT.

SINGLE MEASURE REPORTS - (ENCOMPASSING MULTIPLE INPUTS)

CARBON NEUTRAL.
WATER POSITIVE.
ZERO WASTE.
COMMUNITY WELLBEING.

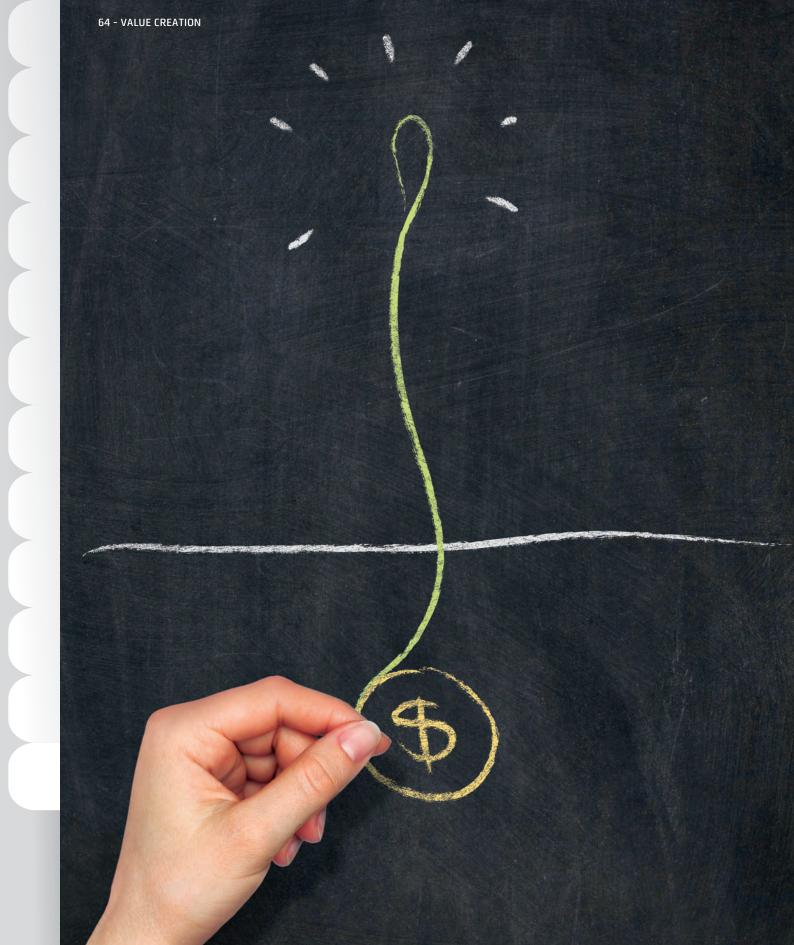
METRICS & INITIATIVES TRACKING

GREEN STAR, NABERS, BASIX ETC + SUBJECT MATTER SPECIFIC EXPERT REPORTS.

BENCHMARKING TOOLS AND SUPPORTING EXPERT OPINIONS







VALUE CREATION

OUR SOCIAL RETURN ON INVESTMENT ANALYSIS ESTIMATES



IN SOCIAL VALUE TO THE NSW ECONOMY AS A RESULT OF THE BARANGAROO SOUTH DEVELOPMENT.*

BARANGAROO SOUTH IS NOT JUST ABOUT TREADING LIGHTLY ON THE PLANET AND CREATING A NEW COMMUNITY.

IT'S ABOUT REDUCING THE BURDEN ON INFRASTRUCTURE, CREATING JOBS AND BRINGING A NEW INTERNATIONAL FINANCIAL SERVICES HUB TO SYDNEY, PROVIDING A TRIPLE BOTTOM LINE OUTCOME.





CREATING VALUE FOR THE COMMUNITY

≈\$947M

IN NEW EMPLOYMENT AND TRAINING OPPORTUNITIES.

≈\$125M

CREATING A WORLD-CLASS SUSTAINABILITY PRECINCT.

≈\$327M

IN PUBLIC-PRIVATE PARTNERSHIPS.

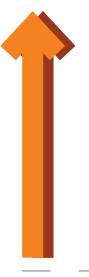
≈\$73M

CREATING AN ENERGISED COMMUNITY AND CULTURAL DOMAIN.

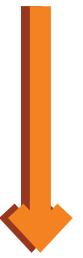


CREATING VALUE FOR TENANTS

WHILE RENT AND OUTGOINGS ARE IMPORTANT ASPECTS OF OCCUPANCY COSTS, THE HUMAN ASPECT OF PRODUCTIVITY IS ALSO A KEY PART OF THE VALUE/BENEFIT EQUATION OF OCCUPYING A BUILDING. BARANGAROO SOUTH HAS BEEN DESIGNED WITH THIS IN MIND, OFFERING MODERN, HEALTHIER WORKPLACES THAT PROVIDE A BETTER OFFICE ENVIRONMENT FOR PEOPLE. THIS MEANS MORE PRODUCTIVE EMPLOYEES.



INCREASE IN PRODUCTIVITY



IS THE EQUIVALENT OF A OF A CONTROL OF A CON

VALUE OF ASSETS WILL BE

FUTURE PROOFED



AGAINST RISING ENERGY, WATER AND WASTE COSTS AND WILL ALSO MEET THE DEMANDS FOR GREENER OFFICES, SUSTAINABLE RETAIL OFFERINGS AND HEALTHY, EFFICIENT HOMES.

WORKERS WILL BENEFIT FROM EXTENSIVE TECHNOLOGY INFRASTRUCTURE DESIGNED WITH WORLD-CLASS RESILIENCE AND SECURITY PRINCIPLES TO MEET THE NEEDS OF LEADING DEMANDS AROUND THE GLOBE.

10.5%

STRONGER
INVESTMENT
RETURNS WERE
ACHIEVED FOR
A-GRADE OFFICE
BUILDINGS WITH
HIGH NABERS

SOURCE: AUSTRALIAN GREEN PROPERTY INDEX. INDEX SNAPSHOT. SEPTEMBER 2012



BEST PRACTICE DESIGN

Best practice telecommunications, network and building services infrastructure design will ensure resilience and flexibility.



FIBRE NETWORKS

High speed fibre optic networks for base building services ensure future scalability and flexible connectivity options.



WIRELESS OVERLAY

Seamless wireless coverage in building lobbies and public realm to support employee mobility.



TELECOMMUNICATIONS

Capacity planning for multiple telecommunications carriers with diverse feeds from multiple exchanges.



OFF-SITE FIBRE LINKS

Capacity to install your own dark fibre connection to your off-site co-location facility or data centre.



DIVERSE POWER & DATA

Diversity of power and data feeds allowed for in precinct and building designs.



DIVERSE RISERS

Multiple base building and tenancy risers to ensure availability of secure, diverse cabling pathways.



GENERATOR BACKUP

Base building essential services generator backup and space for tenant generators within nominated plant rooms.



INTEGRATED SECURITY

Holistic consideration of physical precinct and building security systems.



ENERGY MONITORING

Monitoring of all power, renewable energy sources, water, gas and waste.



BUILDING DASHBOARDS

Tenancy dashboards which can be tailored across building management systems to track and report real time and trend performances.



DIGITAL SIGNAGE

Adaptable signage systems to communicate event information, advertising and emergency egress information.



INFORMATICS DISPLAYS

Digital displays to communicate key metrics, such as sustainability information about Barangaroo.



WAY FINDING

Various way finding and transport information solutions such as interactive maps, amenity locations and transport timetables.



LIFT SCREENS

Digital lift car screens promoting information such as destination, news and advertising.





INNOVATION

INNOVATION IS FUNDAMENTAL TO SUSTAINABILITY. IT'S THE THINKING THAT CREATES ANSWERS TO THE BIG ISSUES.

YOU WOULD HAVE SEEN INNOVATIVE PRACTICES FEATURED WITHIN EACH SECTION OF THIS DOCUMENT.

WE HAVE PUT IN PLACE THE BARANGAROO SOUTH INNOVATION INITIATIVE TO SEEK OUT AND SELECT PARTNERS TO CONTINUE DISCUSSIONS REGARDING TECHNOLOGY, INFRASTRUCTURE AND SUSTAINABILITY SOLUTIONS. WE ARE SEEKING RESPONSES FROM THE MOST INNOVATIVE COMPANIES AND THOSE THAT HAVE THE WORLD'S BEST TECHNOLOGY.

FOR MORE INFORMATION OR TO REGISTER YOUR INTEREST, GO TO: WWW.BARANGAROOSOUTH.COM.AU



KEY INNOVATIONHIGHLIGHTS

CENTRALISED PRECINCT SCALE INFRASTRUCTURE

TO PROVIDE A STEP CHANGE IN EFFICIENCIES.

See water and energy for more about this innovation.

BUILDINGS THAT RESPOND TO THEIR ENVIRONMENT WITH

PASSIVE & ACTIVE SHADING ELEMENTS

TO ACHIEVE LEADING SUSTAINABILITY RATINGS.

See **energy efficiency and carbon** for more about this innovation.

A UNIQUE COMMITMENT TO REVISIT OUR



TO KEEP PACE WITH WORLD'S BEST PRACTICE STANDARDS.

See governance for more about this innovation.

INDEPENDENT EXPERT SUSTAINABILITY CERTIFIER

TO AUDIT OUR PROGRESS AGAINST OUR SUSTAINABILITY COMMITMENTS.

See **governance** for more about this innovation.

OFFICE BUILDINGS WILL TARGET



GREEN STAR OFFICE DESIGN & AS BUILT V3 RATINGS.

See **energy efficiency** for more about this innovation.

500+
INDIGENOUS WORKERS

WILL BE INVOLVED IN THE PROJECT.

See **diversity and culture** for more about this innovation.

PRECINCT GOVERNANCE TO ACHIEVE

A CARBON NEUTRAL OUTCOME IN OPERATION.

COVERING ENERGY, WASTE AND COMMUTER CARBON EMISSIONS.

See **carbon and governance** for more about this innovation.

BARANGAROO SOUTH SUSTAINABILITY TARGETS OUR PLAN ON A PAGE

CA CARBON

GOAL OF 20% LESS EMBODIED CARBON **COMPARED** WITH STANDARD CONSTRUCTION **PRACTICES**

ZERO NET CARBON **EMISSIONS** IN OPERATION COVERING ENERGY, WASTE AND COMMUTER CARBON **EMISSIONS**

GREEN TRAVEL OPTIONS AND COMMUTER **CARBON OFFSET**

CARBON COMMUNITY **FUND FOR** CARBON OFFSETS / RENEWABLE **FNFRGY**

INVESTIGATING CO-GENERATION & TRI-GENERATION

6,000 sq m OF SOLAR PANELS **ON-SITE**

ZERO CARBON OFF-SITE WASTE **TREATMENT PROCESS**



ENERGY EFFICIENCY

ULTRA ENERGY EFFICIENT BUILDINGS INCLUDING SMART SHADING

EFFICIENT CENTRALISED INFRASTRUCTURE

GREEN STAR RATED BUILDINGS

METERING. MONITORING. VISUAL DISPLAYS & EDUCATION



WATER

BLACKWATER RECYCLING SYSTEM **ON-SITE**

RAINWATER CAPTURE

REMOVAL OF COOLING **TOWERS**

WATER-WISE **EDUCATION**

WATER SENSITIVE **URBAN DESIGN**

STORMWATER TREATMENT TO BEST PRACTICE **STANDARDS**



WASTE

TARGETING ZERO **NET WASTE TO** LANDFILL BY 2020

80% OF OPERATIONAL WASTE DIVERTED AWAY FROM LANDFILL FROM DAY 1

TARGETING 97% DIVERSION OF CONSTRUCTION WASTE AWAY FROM LANDFILL

WASTE-WISE **EDUCATION**

EASILY ACCESSIBLE PUBLIC DRINKING WATER SUPPLIES



MATERIALS

LCA ON TOP 20 MATERIALS USED **ON-SITE**

ANALYSES OF ECOLOGICAL & **CARBON FOOTPRINTS** SUPPLITER **ENGAGEMENT** & PARTNERING MORE THAN 95% AFS & FSC CERTIFIED **TIMBER**



NATURAL ENVIRONMENT

50% PUBLIC SPACE ACROSS WHOLE OF **BARANGAROO**

ON-SITE WATER TREATMENT PLANT FOR CONSTRUCTION NATIVE & **ENDEMIC** SPECIES **SELECTION**

COMMUNITY **GARDENS**

GREEN ROOFS & WALLS

CLEANING UP BROWNFIELDS SITE & MARINE **HABITAT ENHANCEMENT**



PILOTING THE NEW GREEN STAR COMMUNITIES RATING TOOL BARANGAROO INNOVATION CENTRE COMMUNITY
AMENITIES &
SERVICES

ARTS, CULTURAL & COMMUNITY LEARNING FACILITIES



EMPLOYMENT, SKILLS & TRAINING

100,000 TOTAL WORKFORCE ENGAGEMENT

10,000 NEW ACCREDITED SKILLS QUALIFICATIONS 2,600 TRAINING PROGRAMS FOR CONSTRUCTION WORKERS

50,000 LEARNING OUTCOMES 30,000 STUDENTS LEARNING ABOUT THE PROJECT 100 'NEXT GENERATION' INDUSTRY LEADERS



DIVERSITY & CULTURE

INDIGENOUS ENTERPRISE PROCUREMENT

500+ INDIGENOUS WORKERS PUBLIC ART STRATEGY

KEY WORKER HOUSING



SAFETY, HEALTH & WELLBEING

ONE PASS AIR-CONDITIONING ON-SITE CONCRETE BATCHING PLANT

HEALTHY BUILDING MATERIALS 24 HOUR AIR AND WATER QUALITY MONITORING

SAFETY PASSPORT TRAINING CRIME
PREVENTION
THROUGH
DESIGN



CLIMATE CHANGE

INCREASED HEIGHT OF GROUND PLANE

UPGRADED STORMWATER INFRASTRUCTURE

CLIMATE CHANGE ADAPTATION PLAN



GOVERNANCE & RESPONSIBLE INVESTMENT

REGULAR REPORTING STAKEHOLDER ENGAGEMENT ANNUAL SUSTAINABILITY REPORTS BIENNIAL REVIEW OF BENCHMARKS INDEPENDENT RATINGS AND VERIFICATIONS



VALUE CREATION

NEW EMPLOYMENT & TRAINING OPPORTUNITIES

FUTURE PROOFED INVESTMENTS

HEALTHY BUILDINGS
IMPROVING PRODUCTIVITY

REDUCED BURDEN ON ENVIRONMENT & INFRASTRUCTURE



INNOVATION

CENTRALISED PRECINCT SCALE INFRASTRUCTURE

BIENNIAL REVIEW OF OUR SUSTAINABILITY STRATEGY

INDEPENDENT EXPERT
SUSTAINABILITY CERTIFIER

OFFICE BUILDINGS WILL TARGET 6 GREEN STAR OFFICE DESIGN & AS BUILT V3 RATINGS

ZERO NET CARBON
EMISSIONS IN OPERATION
COVERING ENERGY, WASTE
AND COMMUTER CARBON
EMISSIONS

500+ INDIGENOUS WORKERS WILL BE INVOLVED IN THE PROJECT

INNOVATIVE MATERIAL SELECTION

ANDREW WILSON

MANAGING DIRECTOR, BARANGAROO SOUTH, LEND LEASE.

Since Lend Lease was founded in the 1950s, we have been at the forefront of creating much of the Sydney CBD. Over this time we have established a strong track record of delivering many of the city's ground breaking buildings.

In our first decade we built the country's first reinforced concrete high rise office (Caltex House) and the world's then tallest light-weight concrete skyscraper (Australia Square). In the most recent decade we have built Australia's first Green Star building (30 The Bond) and in 2012 delivered the world's most sustainable 6 Star Green Star office campus building (Commonwealth Bank Place, Darling Quarter). Our ambition to deliver the best is unwavering.

We also take our responsibility to future generations very seriously. Lend Lease's founder, Dick Dusseldorp, believed in a "community of interest" and that business needed to justify its worth to society, with greater emphasis placed on environmental and social impact rather than straight economics. Caring for the environment and for the communities in which we work is part of the company's DNA.

Today we are undertaking the next phase in our sustainability journey, with the creation of a precinct rather

"IT'S ABOUT CHANGING THE WAY WE ALL WORK, LIVE AND THINK TODAY TO BETTER SHAPE THE WORLD WE WILL PASS ON TO THE NEXT GENERATION"

than just a building, through the transformation of Barangaroo South, the former container wharf on Sydney harbour.

In partnership with the NSW Government we are creating a new piece of the city – a vibrant new waterfront financial district, which will be a mix of world-class office space and premium residential buildings, along with shopping, dining, an international hotel and public spaces – all on Sydney's famous harbour foreshore.

At its core sit International Towers Sydney, which will be Australia's most advanced and most sustainable high rise workplaces. International Towers Sydney will help to redefine Sydney's position as a major financial centre in the Asia Pacific region and to deliver Australia's first large scale carbon neutral precinct.

To achieve these ambitions we have put in place a Climate Positive Work Plan for Barangaroo South. This considers in great detail the sustainability aspects of everything

we are doing on the project and how it is delivered. From the materials we use to how energy is generated, from water recycling to how waste is handled, we have looked at the project from every angle to identify ways we can design out, share, minimise or recycle to genuinely reduce the impact that building Barangaroo South has on the planet and ensure we leave a positive legacy for the community. It's about changing the way we all work, live and think today to better shape the world we will pass on to the next generation.

This summary of our sustainability plans for Barangaroo South provides an overview of the actions and measures we are taking to ensure its delivery enhances the environment, the economy and society. We hope you find it interesting and informative and we welcome any feedback you may have. We are very excited about the transformation of Barangaroo South and its role in making Sydney an even better place to work, live or visit than it already is.

GET INVOLVED

WE WOULD LOVE TO HEAR YOUR
THOUGHTS ON CREATING A SUSTAINABLE
FUTURE, CONTRIBUTE VIA OUR BLOG, THE
OPEN CONVERSATION

www.openconversation.com.au

OR EMAIL US:

sustainability@lendlease.com

TO FIND OUT MORE ABOUT SUSTAINABILITY AT BARANGAROO SOUTH, VISIT

www.barangaroosouth.com.au







www.barangaroosouth.com.au