

THE AMBLE
ESTATE

ONE PLANET LIVING ACTION PLAN



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REVISION

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1	23/07/2019	Second Round Submission Issue	PDS
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WHAT'S INSIDE



1.	Executive Summary	2
2.	One Planet Living	4
3.	Project Vision	6
4.	One Planet Living Action Plan-Summary	7
5.	One Planet Living Action Plan-Details	10
6.	Monitoring Plan	19
7.	Summary	20
Appendix A- Vision Statements for Target Community Members		21

EXECUTIVE SUMMARY

The Amble Estate is targeting a One Planet Living rating as part of its sustainability aspirations. The estate consists of the redevelopment of an unused 4.0ha primary school site, creating 105 residential lots ranging in area from 120-450sqm, with 1 apartment centrally located.

The estate provides innovation through a large array of initiatives and features such as:

- Large areas of public space for community use
 - Public Open Space within The Estate has playground with recycled content and high levels of native vegetation
 - Adjacent Roydon Park redeveloped from dilapidated state
- Roads and paths with high amounts of recycled content
- Affordability through mix of offerings and innovative “micro” lots. 40% of lots targeting affordable living.
- Sustainability Packages provided to residents at no cost
 - Solar Power Bonus
 - Landscaping (reticulation, native plantings, fruit tree)
 - Sustainable Upgrade (LED lights, skylights, ceilings fans or increase insulation)
- Solar PPA with private and public stakeholders Infinite Energy and Department of Communities
 - Innovative supply model (Power Purchase Agreement or PPA) created. Every home offered a solar PV system at no cost. Owners sign a 10yr lease with bills being paid to Infinite Energy for daytime solar energy
 - The new PPA structure avoids problems of existing models where all energy produced required payment, leading to sub-optimal outcome
- System designed for easy retrofit of batteries once economically viable
- Residents are guaranteed 40% off Synergy A1 Tariff for daytime solar energy for 10yrs. Savings to residents estimated at \$600 per year. System is handed over to owner after 10yrs for \$1.00
- All maintenance is undertaken by Infinite Energy at no cost to resident
- Solar PPA structure creates a new investment asset class in Australia with potential for widespread uptake and backing from large investment firms
- Monitoring plan created with Department of Communities (largest developer in WA) to investigate rolling out initiative to all established and new homes and developments.



- Urban Heat Island effect reduced through large extent of softscape areas and light roofs mandated through design guidelines
- Potable Water consumption reduced through Oxijet Low Flow shower heads and water wise front landscaping
- Liveable Home options (Silver Living standard) provided to all Aussie Living home designs, allowing residents to age-in-place and provide more flexible living arrangements for all. Silver Living Standard includes:
 - Continuous step free path of travel from street to front door
 - Larger internal doors and corridors
 - Toilet on ground floor
 - Hobless shower recess
 - Reinforced walls around toilet shower and bath for future grabrail installation
 - Continuous handrails on stairways
- Demonstration Home displaying sustainable best practice with potential for
 - 8 star NatHERS target rating
 - Low embodied energy timber framing
 - Solar PV and battery
 - Improved Air Tightness
- Community Wellbeing and Sense of Place assisted by engaging a Community Specialist during early phase of community development. Will provide events, distribute community newsletters and promote One Planet Living
- Design Guidelines and Welcome Info Package educating community regarding One Planet Living principles and initiatives, local offerings and sustainable practices
- Edible fruit trees and compost tumblers, reticulated herb gardens provided at no cost to all households to increase local food production

This document outlines the One Planet Living Action Plan for this development. This outlines the strategies, actions and targets to achieve One Planet Living and provides a pathway for implementation that can be monitored and adapted over time.

“
I WAKE UP AND EAT
BREAKFAST, WITH
PIECES OF FRUIT FROM
OUR FRONT YARD AND
A DRINK OF WATER
FROM OUR TANK.
”

ONE PLANET LIVING

One Planet Living is a vision of a sustainable world, in which people everywhere can enjoy a high quality of life within the productive capacity of the planet, while leaving space for wilderness and wildlife.

It uses ten principles of sustainability as a framework to guide all stakeholders towards sustainable outcomes.

If everyone in the world lived like the average Australian, we would require approximately 5 planets to support our current population (see Figure 1- Country's "equivalent Earth's" consumption). Taking the world average, the human population currently require approximately 1.7 planets to support us indefinitely. Given that we only have one planet, it is necessary to bring our average ecological footprint to below one planet to ensure that we are not depleting existing long-term assets to sustain our lifestyle. Given that developing nations are seeking to improve their standard of living and given population growth, we are currently increasing our Ecological Footprint which will require even greater effort to reduce in the future.

See www.footprintnetwork.org for more information on how these impacts are calculated.

Figure 1- Country's "equivalent Earth's" consumption



Source: Global Footprint Network National Footprint Accounts 2017

The Amble Estate has been developed as a One Planet Community based on the ten principles and supported by the actions identified in the One Planet Action Plan. The 10 One Planet Living Principles are:

“ THE BUS STOP IS JUST DOWN THE STREET, AND THE LOCAL SHOPS, CHEMISTS, DOCTORS AND DENTISTS ARE ALL ON YOUR DOORSTEP ”

Figure 2 - One Planet Living Principles

	HEALTH AND HAPPINESS	Encouraging active, social, meaningful lives to promote good health and wellbeing
	EQUITY AND LOCAL ECONOMY	Creating safe, equitable places to live and work which support local prosperity and international fair trade
	CULTURE AND COMMUNITY	Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living
	LAND AND NATURE	Protecting and restoring land and marine systems for the benefit of people and wildlife
	SUSTAINABLE WATER	Using water efficiently, protecting local water resources and reducing flooding and drought
	LOCAL AND SUSTAINABLE FOOD	Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein
	TRAVEL AND TRANSPORT	Reducing the need to travel, encouraging walking, cycling and low-carbon transport
	MATERIALS AND PRODUCTS	Using materials from sustainable sources and promoting products which help people reduce consumption
	ZERO WASTE	Reducing consumption, reusing and recycling to achieve zero waste and zero pollution
	ZERO CARBON ENERGY	Making buildings energy efficient and supplying all energy with renewables

3.

PROJECT VISION

At the commencement of this project, the various stakeholders met for a workshop to set the vision for the development.

This workshop reviewed the research produced by the developer regarding the current demographics of the area and state of the market. This helped frame the sustainability expectations for the project and provide context for the sustainability aspirations which are:

- Delivering affordable, diverse dwellings
- Creating a vibrant, safe community
- Innovation in Design
- Sustainable Community
- Precinct within Girrawheen which people are proud to call home

To further detail the vision for the project, "vision statements" from various target demographics were created and referred to when considering design initiatives and outcomes-see Appendix A.



4.

ONE PLANET LIVING ACTION PLAN - SUMMARY

The Amble Estate's 'One Planet Action Plan' has been collaboratively developed by a licensed One Planet Integrator with the participation of a broad range of stakeholders including the local council, state government departments, home builders and private companies affiliated with community development.

The One Planet Action Plan is a positive response to local and global challenges and sets out the actions needed to make One Planet Living affordable, easy and achievable. Contact your sustainability coordinator or visit the Bioregional

website www.bioregional.com.au/oneplanetliving/be-involved for more information on how all residents can be actively involved in the One Planet Living framework.

Key mechanisms for implementation of the action plan include:

- Design & Construction guidelines
- Financial Incentives
- Information and Awareness
- Community Engagement
- Post-occupation surveys and questionnaires

The following action plan outlines a pathway for residents of The Amble estate to bring their ecological footprint to within 1 planet or less. The development has included many features in the current design to assist in this goal. However, the buildings and infrastructure is only one part of the equation. A coordinated effort from all residents and stakeholders is required to achieve the potential of the actions identified in the Action Plan. Individuals, households, local community groups and all stakeholders have an important part to play in their operational decisions and behaviour in order to achieve One Planet Living.

“
 I LOVE VOLUNTEERING
 AT THE COMMUNITY
 GARDEN - IT'S
 BEEN GREAT TO GET TO
 KNOW OTHERS.
 ”

Figure 3 - Summary of One Planet Action Plan Outcomes

Principles	Strategy / Actions	Target
 Health and Happiness	Mandate bike facilities in apartments, receive approval from council to renew adjacent park and significantly improve useability.	100% of residents do 3 hrs exercise (moderate to vigorous)
	Low VOC paints, adhesives and sealants to reduce indoor toxins. Encouraging cross ventilation to maximise access to fresh air in design guidelines.	100% of all items @ 16g/l or less of VOC
	Provide document to homeowners at purchase that includes sections on sustainable design, local points of interest, sustainability opportunities for the community.	100% of residents receive
	Hold community engagement activities throughout life of project.	4 events in first year, increasing thereafter
 Equity and Local Economy	Provide affordable living. Affordability provided through mixed dwelling sizes. Key start and shared equity offerings also available.	Minimum 40% of dwellings provide affordable living
	Provide an "Accessible Design" option as part of suite of incentive packages offered, at no cost to owner. All "Aussie Homes" to be made available with Silver Living Design standard.	100% availability for Aussie Homes
	Developer to provide sustainable packages/incentives at no cost.	100% uptake
	Demonstration home showing savings on dwelling lifecycle costs, and housing affordability.	50% reduce lifecycle costs
	Include section on local services in welcome pack / design guidelines.	100% of residents receive
	Supply NBN high speed internet.	100% of residents able to connect
	Developer to supply open day for Girrawheen high school for students to try/experience different trades i.e. lay 1 brick with mortar at a house being built.	100 participants
	Access to community garden and reticulated herb gardens for each dwelling for equal access to low cost healthy food.	10kg produce/participant/yr.
	Community Specialist to assist in fostering sense of place and wellbeing during initial phases of community growth.	3 years of engagement
 Culture and Community	Info sessions and working bees in Public Open Space.	2 activities/yr.
	Retain as many existing trees as possible to retain connection and give sense of established place.	100% of existing tree numbers either retained or maintained through new plantings
	Retain/increase number of trees on site through planting to assist in creating identity of the estate.	

Principles	Strategy / Actions	Target
 Land and Nature	Upgrade Roydon Park, removal of contamination, significantly improve appeal and change perception of unsafe, undesirable area.	20% increase on existing area of native vegetation
	Fences to protect wind and water erosion in construction.	
	Fruiting and native tree species / local materials in hardscaping Realigning of roads where feasible to retain existing mature trees Keeping woodchips from trees that have to be felled and using in landscaping.	20% improvement in ecological value pre and post development
	Native species, high provision of trees. Adapt road layout to better fit in with existing trees.	2 trees per dwelling min.
	Landscape plan. Welcome packs for residents to assist in recognizing value of nature.	100% receive
 Sustainable Water	Plant native species with reduced water needs. Providing CSIRO created efficient flow shower heads. Provide info on high WELS rated fixtures and fittings.	Average water consumption 50% below reported WaterCorp figures
	Stormwater managed via swales, bio retention and storage cells to recharge local water table.	100% stormwater used/infiltrated
 Local and Sustainable Food	Provide fruit trees in gardens, explore community garden. Site estate close to local shops and restaurants (<800m). Design guidelines to encourage north facing private courtyards for winter sun access to help with food production.	1000kg of produce created within The Estate Annually 20m2 of community garden
	Fruit trees and compost tumblers provided at no cost. Care instructions for fruit tree and vegie garden in welcome pack.	100% of residents receive
	Compost tumblers provided at no cost to each dwelling. Good waste practices detailed in welcome package to reduce food waste.	75% reduction in organic waste volume
 Travel and Transport	Select site with good public transport options.	10% increase/yr in public transport usage
	Select site with good access to local services.	85% of residents use car less than 10,000km/yr.
	Mandate bike facilities in apartments. Receive approval from council to renew adjacent park and significantly improve useability.	85% of residents use car less than 10,000km/yr.
	Welcome info packs to educate on travel impacts and alternatives. Provision of high speed internet (NBN) to reduce need to travel. Encouraging use of offset programs offered by airlines in design guidelines.	100% of residents to receive information

Principles	Strategy / Actions	Target
 Materials and Products	Landscape plan / alternatives to chemical use / compulsory design guidelines containing info. Reuse of sand, timber chips for mulch. All timber display home as innovation product.	50 tonnes of CO2 avoided
	Lightweight timber framing to be showcased in display home, recycled content throughout to showcase low embodied energy design.	1575 kg CO2 e/m2 GFA of display home- a 15% reduction
 Zero Waste	Check construction material size, reduce offcuts and use modularity to reduce construction waste.	802 tonnes of domestic waste/person/yr.
	Reduce hardscape / increase landscape to allow for greater local food production.	
	Assess display home construction recycling rates	90%
	Audit construction waste diverted from landfill	90%
 Zero Carbon Energy	Hold community workshops, connect with local groups to share best practice recycling tips. Increase recycled waste volume by 25%.	1,250kg recycled waste/person/yr.
	Energy efficient designs encouraged via design guidelines. Energy efficiency package on offer as one of multiple no-cost options. PPA guarantees every house has opportunity for solar and don't have to pay for the upfront costs. Builders to engage specialist energy raters and optimise designs.	11.7kWh/person/yr, a ~25% reduction on Australian typical consumption
	Delivery of 8 star demonstration home utilising latest/pilot technologies (batter storage solar, air infiltration testing etc).	Average 2,750kWh/yr (50% less than Aus. avg.)
	Light roofs mandated in design guidelines, high amounts of vegetated area to reduce heat island impact. Cross flow ventilation encourage in design guidelines to reduce reliance on HVAC.	100% of households comply
	Option to upgrade array provided as part of PPA to offset all energy emissions and achieve net zero energy.	0 kgCO2e/house/year
Welcome pack to encourage purchase of renewable energy and all-electric homes.	100% of residents to receive	

“
**I'M CLOSE TO SCHOOLS
AND SHOPPING CENTRES.
PARKS AND CAFES.
THE AMBLE ESTATE IS THE
PERFECT ESTATE FOR ME AND
MY GROWING FAMILY.**
”



ONE PLANET LIVING ACTION PLAN - DETAILS

The outcomes in section 4 have been further detailed to provide relevance at the various stages of the estate's development (Design, Construction, Operation). The actions, strategies, responsible entity and deadlines for these outlined further on the following pages.



HEALTH AND HAPPINESS



Encouraging active, social, meaningful lives to promote good health and wellbeing

Goal	Outcome	Target / Indicator	Baseline
HH1	Exercise completed per resident	100% do 3 hrs (moderate to vigorous)	55.5% do 2.5 hrs
	% of building materials with no Volatile Organic Compounds	100% of all items @ 16g/l or less	95% @ 16g/l or less
	Residents with understanding of One Planet Living and Action Plan	100%	NA
HH2	Community events and activities	4 per year	0

5.1.1 KEY STRATEGIES

Design:

- Restrict any construction material with more than >16g/L of VOC content
- Provide instruction on benefits of cross ventilation, advice on how to achieve
- Info on sustainable design, local Points of Interest, sustainability options in community and surrounds to be included in design guidelines
- Include bike facilities in apartments, investigate bike repair station in Public Open Space. Receive approval from council to update and refresh adjacent park
- Supply diverse mix of housing typologies to encourage diverse community

- Provide mix of lot sizes to create diversity in economic status
- Include larger than standard Public Open Space for community use
- Provide communal structure and playground

Construction:

- Joint Venture partner Ventura Home Group (Main Contractor) to upskill/educate subcontractors/staff
- Hold community training sessions
- Hold community engagement activities through life of development

Operation:

- Ensure welcome pack provided to all households
- Monitor ongoing levels of health and happiness via survey
- Hold community engagement activities through life of development. Receive feedback via survey
- Encourage community involvement in recreation activities
- Assist in creating champion within estate, to promote ongoing participation / integration.
- Promote sense of engagement between residents.

5.2

EQUITY AND LOCAL ECONOMY



Creating safe, equitable places to live and work which support local prosperity and international fair trade

Goal	Outcome	Target / Indicator	Baseline
EE1	% of dwellings provided at affordable threshold	40%	8%
	% of Aussie Living homes able to be Silver Living standard	100%	0%
	% of residents receiving sustainable package/incentives	100%	0%
	Lifecycle savings for demonstration home	50% reduction	NA
EE2	% residents aware of local amenities	100%	NA
	% residents able to connect to NBN	100%	NA
	# of participants in "Come and Try" buildings trade day	100	NA
	Weight of produce grown locally in community garden	10kg/participant/yr	NA

5.2.1 KEY STRATEGIES

Design:

- Define "affordable" relative to target demographic. % of house and land packages delivered for under \$360,000. in confirmation with Department of Communities, data to be updated as project progresses
- Work up package and cost impact for Silver Liveable Design standard
- Work up package and cost impact for Sustainability Package (to be undertaken through demonstration home to quantify costs associated in build, and estimated savings in operation of household)
- Supply diverse mix of housing typologies to encourage diverse community

- Provide mix of lot sizes to create diversity in economic status
- Include larger than standard Public Open Space for community use
- Provide communal structure and playground
- Check with NBN authority on suitability and schedule of roll out
- Confirm with VHG on suitability of holding "come and try day". Brainstorm ideas for what that could look like- each student lay one brick etc. Canvass local school/colleges for interest
- Get costing for reticulated herb garden for each house
- Get costing for fruit trees to be provided
- Seek approval from council for community garden

Construction:

- Educate builders on benefits
- Confirm each lot has access to NBN
- Coordinate installations with NBN
- Hold "Come and Try Day"
- Plant fruit trees, install tumblers

Operation:

- Confirm % of packages taken up
- Confirm numbers of different options selected for feedback on where market interest lies
- Ensure each household receives welcome pack
- Hold upcycling/reuse/repair workshops.
- Gather info on production weight via survey

5.3

CULTURE AND COMMUNITY



Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living

Goal	Outcome	Target / Indicator	Baseline
CC1	Number of years that residents are helped by specialist in establishing sense of community	3 years	0
	Number of working bees/info sessions	2 per yr	0
CC3	Number of trees compared to original	100%	NA

5.3.1 KEY STRATEGIES

Design:

- Engage with community specialist
- Design home that "grows" with occupants needs, allowing to remain in place rather than relocating
- Ensure that trees earmarked for felling are chipped and stored on site for reuse later
- Supply diverse mix of housing typologies to encourage diverse community
- Provide mix of lot sizes to create diversity in economic status
- Include larger than standard Public Open Space for community use
- Provide communal structure and playground
- Align roads and lots to retain existing mature trees where possible

Construction:

- Plant trees/vegetation and provide protection during construction so not run over, destroyed
- Plant and make sure properly watered prior to occupation
- Provide instruction to contractors on location and access to bark chips
- Provide communal meeting area in central open space
- Ensure mature trees are sufficiently protected during construction

Operation:

- Estimate annual production via survey
- Hold info sessions and working bees in communal garden
- Hold events/activities in Public Open Space for community

" ITS GREAT BEING ABLE TO WALK DOWN TO THE PARK AND LET THE KIDS PLAY AND ON WEEKENDS. "

5.4

LAND AND NATURE



Protecting and restoring land and marine systems for the benefit of people and wildlife

Goal	Outcome	Target / Indicator	Baseline
LN1	% increase in native vegetation pre and post development	20%	NA
LN2	Improve ecological value of site post development	20% on existing	10%
LN4	# of trees per dwelling	2	1
LN5	# residents with landscape plan and package	100%	0%

5.4.1 KEY STRATEGIES

Design:

- Seek permission from council to repair and improve adjacent park
- Allow for relocation of any fauna found on site (if required)
- Retain woodchips from felled trees for reuse in landscaping
- Provide 1 fruit tree per dwelling
- Supply diverse mix of housing typologies to encourage diverse community
- Provide mix of lot sizes to create diversity in economic status
- Include larger than standard Public Open Space for community use
- Provide communal structure and playground
- Provide fencing to prevent wind and soil erosion. Sandbag drains to prevent sand and litter from entering waterway

- Restrict landscape selections to native species in landscape packages
- Include instruction on alternatives to chemical use in Design Guidelines/newsletter etc.
- Section on value of natural aspect of The Amble in information packs

Construction:

- Update and improve local park
- Conduct survey and relocate any fauna
- Retain slab skimmings for reuse- set aside designated area during construction and inform contractors
- Retain woodchips from felled trees for reuse in landscaping -set aside designated area during construction and inform contractors
- Plant vegetation and ensure sufficient watering prior to occupancy

- Protect existing trees from stress/damage during construction via awareness, exclusion zones if necessary
- Require mesh fencing installed and maintained during construction.
- Require sandbagging of stormwater inlets to prevent influx of top soil, construction debris

Operation:

- Annual survey to estimate levels and gauge increase/decrease
- Annual survey to estimate production quantity

5.5

SUSTAINABLE WATER



Using water efficiently, protecting local water resources and reducing flooding and drought

Goal	Outcome	Target / Indicator	Baseline
SW1	% residents with access to safe clean drinking water	100%	100%
SW2	Average water consumption/household/yr	108,000L	127,000L
SW3	% of stormwater captured/used on site	100%	0%

5.5.1 KEY STRATEGIES

Design:

- Include pressure increasing shower heads (CSIRO developed pressure increasing connectors. They have not been able to gain traction in volume builders space. Water saving of 60%) as part of sustainability package
- The front landscaping packages have been designed so buyers have to install a front package. The strategy is to limit front gardens only having turf which is water intensive

- Recommend high WELS rated fittings in Design Guidelines, investigate low flow shower options
- Civil to design for best practice stormwater design
- Civil to allow for 1 in 100 yr. flood risk
- 100% of stormwater infiltrated to recharge water table

Construction:

- Install high efficiency shower heads
- install soak wells, swales and storage cells

Operation:

- Monitor consumption via survey, meter review. Alternatively via Watercorp figures for suburb



5.6

LOCAL AND SUSTAINABLE FOOD



Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein

Goal	Outcome	Target / Indicator	Baseline
SF1	Kg of food produced within The Estate	1000kg	0 kg
	Area of community garden	20m2	0 m2
LSF3	% of residents with organic waste tumblers, fruit trees and vegetable gardens	100%	0%
LSF5	% reduction in organic waste	75%	NA

5.6.1 KEY STRATEGIES

Design:

- Investigate community garden option in proximity of site
- Provide one fruit tree per lot
- Design Guidelines to encourage north facing courtyards for winter access for continued growing potential
- Educate residents about buying local produce
- Every home to be provided with an established vegetable garden
- Provide compost tumbler at no charge to every home to encourage composting and organic waste reuse and reducing fertiliser requirements
- Provide education to all residents on producing food and management

Construction:

- Plant fruit trees and install compost tumbler

Operation:

- Survey to estimate annual quantities produced of organic produce
- Ensure information regarding sustainable produced food is conveyed to residents. Providing for an informed choice.
- Survey to estimate tonnes of organic waste recycled

“
IT'S GREAT TO
BE PART OF
A HEALTHY,
THRIVING, CONNECTED
COMMUNITY.
”

5.7

TRAVEL AND TRANSPORT



Reducing the need to travel, encouraging walking, cycling and low-carbon transport

Goal	Outcome	Target / Indicator	Baseline
TT1	Annual % increase in residents using public transport	10%	10.7%
	Annual km's travelled per resident	85% use less than 10,000km	100% use 11,000km
TT5	% of residents aware of alternatives to air travel	100%	NA

5.7.1 KEY STRATEGIES

Design:

- Select site with good public transport options
- Select site with high accessibility to local services
- Mandate bike facilities in apartments
- Negotiate approval from council to renew adjacent park and significantly improve useability and access
- Welcome info packs to educate on impacts and alternatives
- Provision of high-speed internet (NBN) to allow for online meetings
- Encouraging use of offset programs offered by airlines via info in newsletters, welcome pack etc.

Construction:

- Encourage contractors to use Public Transport/carpool/cycle where possible

Operation:

- Survey to assess performance against targets

5.8

PRODUCTS AND MATERIALS



Using materials from sustainable sources and promoting products which help people reduce consumption

Goal	Outcome	Target / Indicator	Baseline
MP2	% reduction of embodied carbon in demonstration home	75%	199t
MP6	Kg CO2e/m2 GFA of demonstration home	1575	1853.4

5.8.1 KEY STRATEGIES

Design:

- Restrict any material with more than >16g/L of VOC content
- Use recycled products
- Use timber in homes
- Reuse slab skimmings
- Mulch felled trees for reuse
- Design display home with timber construction
- Design display home for low embodied carbon
- Arrange permission with City of Wanneroo for use of recycle retaining walls, asphalt, road base, footpath
- Collate info in schedule and calculate tonnes of CO2 avoided

Construction:

- Collect evidence of compliance
- Induction of workforce by builders, to educate on waste minimisation in house construction.
- Undertake Life Cycle Assessment on display/demonstration home
- Quantify tonnes CO2 avoided

Operation:

- Survey to assess against target

5.9

ZERO WASTE



Reducing consumption, reusing and recycling to achieve zero waste and zero pollution

Goal	Outcome	Target / Indicator	Baseline
ZW1	Tonnes of domestic waste per person per year	802 kg/pers./yr.	1017 kg/pers./yr.
ZW2	Tonnes of recycled content created per person per year	1,250 kg/pers./yr.	1,011 kg/pers./yr.

5.9.1 KEY STRATEGIES

Design:

- Provide composting and recycling bins to each home
- Include best practice guidelines in welcome pack
- Investigate local groups with expertise
- Provide 3 waste streams- landfill, recycling (both via council) organic (via compost tumblers).
- Welcome pack to detail local council policy on recycling

Construction:

- Check material size, reduce offcuts and use modularity. Audit waste diverted from landfill. Target 90%.
- Install compost tumblers

Operation:

- Ensure all households have received a welcome pack
- Measure and review annually via survey and compare with targets
- Hold community workshops
- Connect with local groups with expertise
- Encourage swap meet, or annual garage sale event or similar

“
PEACEFUL LIVING SUMS
IT UP. THE AMBLE
ESTATE OFFERS A DIVERSE
RANGE OF HOMES TO
SUIT YOU THROUGH ALL
STAGES OF LIFE.
”

5.10

ZERO CARBON ENERGY



Making buildings energy efficient and supplying all energy with renewables

Goal	Outcome	Target / Indicator	Baseline
ZC1	Energy efficiency of residents	11.7 kWh/pers./yr.	15.7 kWh/pers./yr.
	Household energy efficiency	4,134 kWh/household/yr	5,512 kWh/household/yr
	Homes with cooling load reducing light roofs and cross flow ventilation	100%	NA
ZC2	Energy related carbon emissions annually	0 kg Co2e/house/yr.	0 kg Co2e/house/yr. (international best practice)
	Residents aware of energy efficient and all-electric operation and green energy availability	100%	NA

5.10.1 KEY STRATEGIES

Design:

- Energy efficient designs encouraged via design guidelines.
- Explore no upfront cost model for Solar PV
- Explore option to upgrade to include battery and car charger.
- Builders to engage specialist energy raters and optimise designs
- Welcome pack/design guidelines to contain info on efficient appliances and all-electric option
- Smart meters. Meters to be placed in convenient locations so can easily monitor consumption
- Supply diverse mix of housing typologies to encourage diverse community

- Provide mix of lot sizes to create diversity in economic status
- Include larger than standard Public Open Space for community use
- Provide communal structure and playground
- Life Cycle Assessment on "Growable Home" Display Home

Construction:

- Educate builders on importance of proper construction- overlapping insulation, sealing windows, exhausts etc.
- Install Solar PV
- Undertake air infiltration testing of display home

Operation:

- Review take up of sustainability incentives and review for effectiveness, market interest
- Review take up of Solar PV (net zero) option and review for effectiveness, market interest
- Collect energy consumption numbers via survey or meter reading and review against target
- Ensure all household have received welcome pack

6.

MONITORING PLAN

The above Action Plan outcomes and targets will be reported against in accordance with the One Planet Living principles.

A yearly report will summarise progress and achievements in the year previous and track the overall status of the One Planet Living Action Plan targets.

The Community Specialist will assist in following up during the early establishing phase of the community to reinforce the One Planet Living principles that have guided the design of The Estate and hold community workshops and events that facilitate sustainable practices. Electronically distributed material such as newsletters and welcome packs will keep these principles, targets and actions front-of-mind for residents and reinforced through workshops, community gatherings and events.

7.

SUMMARY

The Estate development, on the site of an unused primary school in Girrawheen, Western Australia, presents an exceptional example of a One Planet Living Community.

A range of innovative and Australian-first initiatives provide a strong foundation for residents to build on in reducing their total ecological footprints to within the boundaries of our one planet.

The One Planet Action Plan clearly outlines an extensive series of actions and tasks that will guide the community in their efforts to achieve the goal of One Planet Living- living happy, healthy lives within the limits of the planet, leaving space for wildlife and wilderness.

“
IT'S QUITE A DIVERSE COMMUNITY HERE WITH ALL WALKS OF LIFE.
”

VISION STATEMENTS FOR TARGET COMMUNITY MEMBERS

Child

"I wake up and eat breakfast, with pieces of fruit from our front yard and a drink of water from our tank. I take the scraps to our compost tumbler and watch some worms squirm around- they're so funny to look. Run back inside so can get ready and head down to the park with my friends. Mum normally says she wouldn't let us go down the park by ourselves, but she says this neighbourhood is really safe and everyone looks out for each other. The playground is awesome, so many cool things to do there, and there's tonnes of kids to play with coz there's lots of young families around. It's fun playing with some friends from school too, a bunch of us all go the school down the road and ride our bikes around the streets. I love eating the fruit from our trees, and sometimes when I'm hungry I'll pick some of our neighbours fruit and eat them too, but they don't mind!"

Single Adult

"Going to uni and working plus keeping a busy social calendar leaves little time to unwind and chill out, but there's something about The Amble that really helps me unwind. People here are all really nice, we know each other and lots of the community regularly get together at the park for different events and workshops. Having the shops and easy access to so many things around here is awesome. The bus stop is just down the street, and the local shops, chemists, doctors and dentists are all on your doorstep. I get most of what I need from the local store, but don't have to get far with Alexander Heights, Mirrabooka Square, Kingsway City and Warwick Grove are just a short drive away. Not that I even use my car much, public transport options are pretty good. Not having to stress out about big bills is a massive relief, it's so cool to know that I'm a part of an environmentally conscious community doing our bit. It's quite a diverse community here with all walks of life, I guess that's what happens when you have apartments, big houses and little ones too all thrown in together."

Young Couple

"We looked for ages for something that fits all of our needs, and quite a bit of our wants too, and when we finally came across the packages on offer at The Amble, we were so impressed. We wanted somewhere with a cafe close by as we love our Sunday morning coffee and catch up with friends. Having Hillary's so close is great too, we often head down there at the end of a long week and soak up the great vibe. We've both been really keen to get into the property market for a little while but couldn't find something that met our budget. We had conceded that maybe we had to settle for something a little further out, but the prices and amenity on offer really surprised us. It meant we could spend a little extra on upgrading the Solar Package and proudly show off our PV panels to any visitor and boast of how little we spend on our bills. Dave loves going down to the park for a run and I love volunteering at the community garden every now and then- it's been great to get to know others and contribute to the community"

Single Parent

"I'm close to schools and shopping centres. Parks and cafes. The Amble Estate is the perfect estate for me and my growing family. It's just a hop, skip and a jump away from five primary schools and two high schools, making the morning rush a whole lot easier. The local shops, chemists, doctors and dentists are almost on my doorstep, while the shopping hubs of Alexander Heights, Mirrabooka Square, Kingsway City and Warwick Grove are just a short drive away. It makes life so much easier, giving me more time to spend doing the things I really enjoy and helps with juggling all of my different commitments"

Older Couple

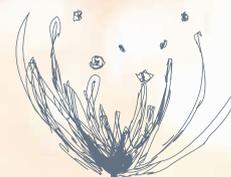
"Everything is just so convenient here. Having 3 little kids running around and trying to keep up with all of the different schedules can be a big hassle but kids school, the shops and the park are all so close. When Lilly got sick, having the late night chemist just 5 minutes away was a life saver. Its great being able to walk down to the park and let the kids play and on weekends, we all head to the cafe for an ice cream as a treat every now and then. My partner loves that the bus is just around the corner and takes it into work every day. Buying a house and finding a good neighbourhood can be difficult, but we love the sense of community here and are really happy with the environment it provides our kids."

Retirees

"We wanted somewhere to wind down, but not too much. So we are spoilt for choice when finding places to rest, relax and socialise. The Amble is surrounded by parks, reserves, cafes, and is a short drive from Kingsway Sporting Complex, Marangaroo Golf Course, Lake Karrinyup Country Club, Whiteman Park and Hillarys Boat Harbour. So much to do, so close to home. The shared herb gardens and communal gathering areas, sustainable community classes, social events, community centres and the public library make sure there is always plenty to do. It's great to be part of a healthy, thriving, connected community."

Carers and Disabled Persons

"Peaceful living sums it up. The Amble Estate offers a diverse range of homes to suit you through all stages of life, including Silver Liveable homes designed for ease of living and accessibility. From shared herb gardens and communal gathering areas, to sustainable community classes, social events, community centres and the public library you'll be part of a healthy, thriving, connected community."



THE AMBLE

ESTATE

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