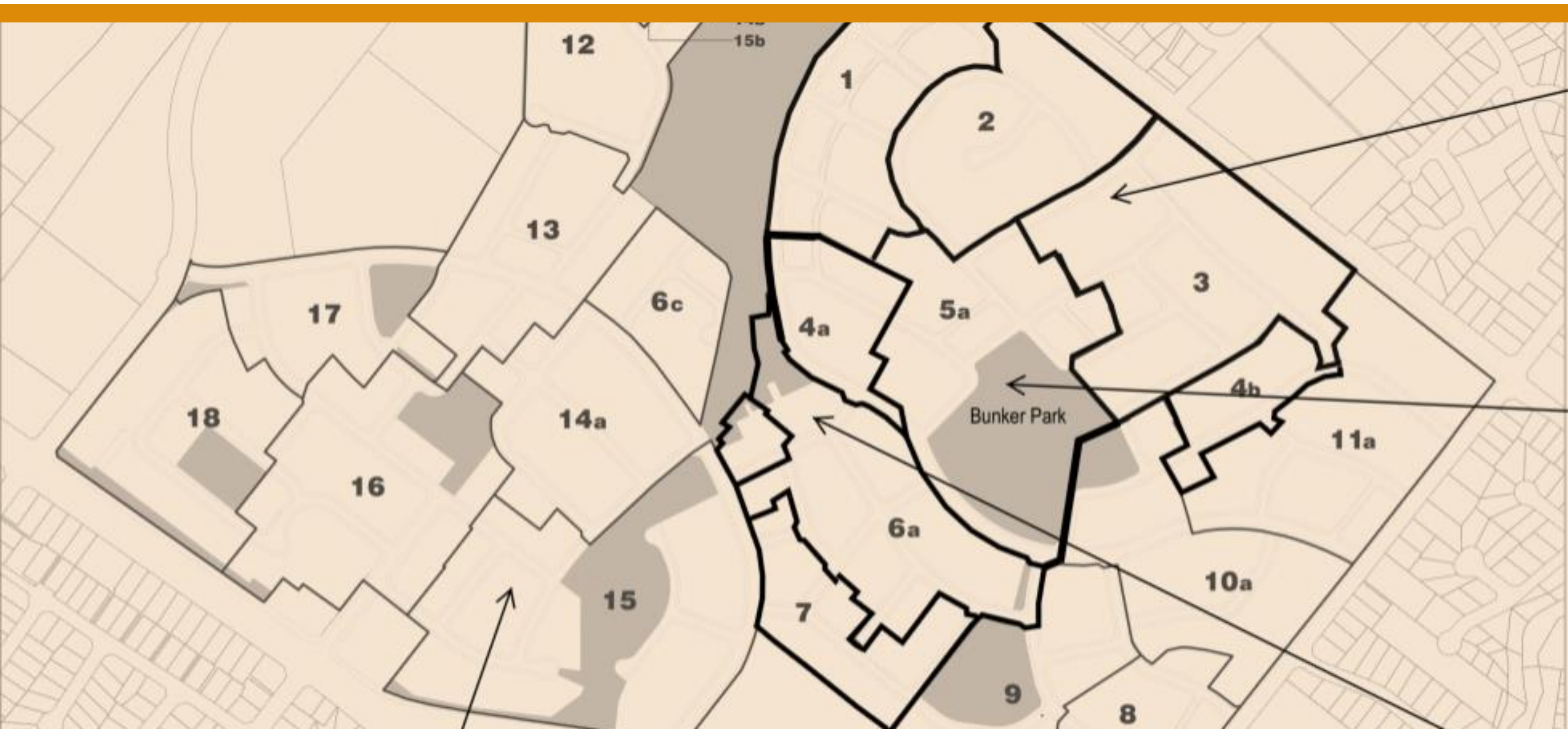


BONNYRIGG

SUSTAINABILITY REPORT

29 OCTOBER 2018





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Bonnyrigg Masterplan

Note: This report is provided subject to some important assumptions and qualifications:

The results presented in this report are modelled estimates using mathematical calculations. The data, information and scenarios presented in this report have not been separately confirmed or verified. Accordingly, the results should be considered to be preliminary in nature and subject to such confirmation and verification.

Energy, water and greenhouse consumption estimates are based on local climate and utility data available to the consultant at the time of the report. These consumption demands are, where necessary, quantified in terms of primary energy and water consumptions using manufacturer's data and scientific principles.

Generic precinct-level cost estimates provided in this report are indicative only based on Kinesis's project experience and available data from published economic assessments. These have not been informed by specific building design or construction plans and should not be used for design and construct cost estimates.

The Kinesis software tool and results generated by it are not intended to be used as the sole or primary basis for making investment or financial decisions (including carbon credit trading decisions). Accordingly, the results set out in this report should not be relied on as the sole or primary source of information applicable to such decisions.

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EXECUTIVE SUMMARY

The Land and Housing Corporation (LAHC) has a vision to:

- Provide sustainable outcomes for tenants through communities that enhance social wellbeing and promote connectivity
- Deliver innovative building design that improve energy and water efficiency
- Display leadership through continual environmental improvement and minimising risk

This vision is built on a historical and on-going commitment to promoting environmental and social sustainability in its operations through a range of environmental sustainability initiatives. LAHC's priorities over the next three years are to continue to improve resource efficiency, minimise environmental risks and adapt to climate change. This will be achieved through a combination of three sustainability priorities across LAHC's portfolio:

1. Improve resource efficiency in key areas of energy, water and waste

LAHC aims to achieve net zero carbon and water independent sites, buildings and communities. Energy and water efficiency programs will support sustainable communities and reduce energy poverty.

2. Reduce environmental risks and continually improve environmental performance

Proactive management of environmental risks will minimise environmental impacts and improve compliance. LAHC contractors are required to develop environmental management plans that identify and manage risks

3. Adapt to climate change

Deliver resilient communities that can adapt to climate change. This includes understanding climate change impacts such as higher temperatures, lower rainfall, rising sea level, more extreme weather events and constrained water supply is important for long-term property management and tenant wellbeing.

These priorities present an opportunity to implement innovative programs that improve the personal and social wellbeing of tenants and reduce energy, water and living costs. Kinesis was engaged to capture such an opportunity for the Bonnyrigg precinct.

Kinesis has developed a sustainability approach for the Bonnyrigg precinct that aims to deliver three integrated outcomes.

SUSTAINABILITY APPROACH FOR BONNYRIGG

Bonnyrigg will be designed to deliver leading sustainability outcomes for its social and on-market residents. The strategies have been developed to ensure an integrated approach across environmental sustainability, accessibility and affordability.

1. Environmentally Sustainable & Responsible

- **Renewable Energy** – promote the use of solar PV
- **Building Efficiency** – through sustainable building products, building design and orientation
- **Water Efficiency** – through efficient water fixtures and water reuse

2. Accessible & Connected

- **Active transport** – 4km of bike and pedestrian paths in the estate

3. Affordability & Resilience

- **Reduced household costs** – from environmental sustainability measures
- **Battery ready homes** – future proof dwellings by designing battery ready homes

THREE INTEGRATED OUTCOMES





KEY RECOMMENDATIONS & FINDINGS

Kinesis has developed recommendations for the Bonnyrigg precinct in line with LAHC’s vision and key strategic requirements. We have documented our recommendations for minimum sustainability targets and a roadmap of strategies and performance outcomes to achieve the targets.

The strategies outlined to deliver on the recommended targets are simply one way to optimise sustainability solutions and deliver the aspirational sustainability targets and affordable living outcomes at Bonnyrigg. Other mechanisms may be used to deliver the desired outcomes.

We have modelled two scenarios, a LAHC target and a stretch scenario. We recommend pursuing the LAHC target at a minimum and the stretch scenario where feasible.

Key recommendations

- Efficient thermal design to achieve average 6 star NatHERS under the LAHC target and average 7 star NatHERS under the stretch. This can be achieved through a combination of glazing, insulation, awnings, and passive design measures for effective lighting and ventilation.
- Ceiling fans in the living rooms under the LAHC target and also in bedrooms under the stretch scenario.
- Rainwater reuse to service irrigation, laundry and toilets can be pursued to provide an additional 5 BASIX Water points.
- By incorporating renewables, the Bonnyrigg precinct can achieve and exceed minimum compliance targets. Specifically, we recommend 3 kW of solar PV on the cottages/ townhouses and 0.1 kW per dwelling (solar PV covering 30% of roof space) on multi-unit dwellings.
- Dwellings can be designed to be battery ready to facilitate battery installation when required.

BASIX Outcomes

Precinct	LAHC Target	Stretch
Cottages and Townhouses	BASIX Energy 50 BASIX Water 45	BASIX Energy 70 BASIX Water 45
Low Rise (3 storey)	BASIX Energy 45 BASIX Water 45	BASIX Energy 50 BASIX Water 45
Mid Rise (4-5 storey)	BASIX Energy 35 BASIX Water 40	BASIX Energy 40 BASIX Water 45
High Rise (6 storey)	BASIX Energy 25 BASIX Water 40	BASIX Energy 30 BASIX Water 45

Key performance results

- Approximately 50% reduction in per person emissions relative to the average resident in Sydney
 - Approximately 30% reduction in per person water consumption relative to the average resident in Sydney
- A clear and deliberate pathway has been identified to achieve all of the above with reliable and proven technology and design solutions that are currently in place in social housing projects in Australia.
- Additionally, the outcomes are not easily undone by residents or owners corporations ensuring the affordability and environmental benefits are locked in for the life of the project.



OVERVIEW OF THE BONNYRIGG PRECINCT

The purpose of this Sustainability report is to support the Secretary Environmental Assessment Requirements (SEARS's) for the modification of the Concept plan approval (MP06_00460) which relates to the remaining stages of the Bonnyrigg Housing Estate. The Bonnyrigg Housing Estate is located in Fairfield in the southwest of Sydney, the Fairfield, Liverpool and Cabramatta centres are within a 10km radius of the site. The Bonnyrigg estate was developed in the late 1970's and originally provided 833 social houses and 88 private homes, located on a 81 ha site area.

The Redevelopment of the Bonnyrigg has been underway since 2009. With the latest concept plan modification the Land and Housing Corporation is proposing a total of 3,000 properties which comprises of 900 social housing properties and 2,100 private properties, the latter are likely to attract entry level byers and first time home owners. To achieve an increase in housing supply there is a need to increase the range of housing types and distribution of density with the remaining stages to be delivered. This report takes into consideration the balance of the masterplan yet to be delivered, which consists of 2,200 properties across a 41 ha site area. Table 1 demonstrates the proposed housing typology and development yield.

The masterplan is displayed in Figure 1.

APPROXIMATE INDICATIVE YIELD SUMMARY

Dwelling type	Total	3 bed	2 bed	1 bed	Studio
Cottages/ Townhouse	271	271			
Low rise apartments (2-3 storeys)	242	26	155	56	5
Mid rise apartments (4-5 storeys)	222	24	142	50	6
High rise apartments (6+ storeys)	1,465	155	938	330	42
Total dwellings	2,200	476	1,235	436	53

Table 1: Yield summary for Bonnyrigg

BONNYRIGG MASTERPLAN



Figure 1: Bonnyrigg Masterplan (source:AJ+C)



SCENARIO ANALYSIS

In response to the requirements set out in LAHC’s Environmental Sustainability Program 2018-22, Kinesis and LAHC collaboratively developed strategies and solutions to ensure an integrated approach across environmental sustainability, cost of living and resilience.

Importantly, all of the proposed strategies have been crafted to deliver High Impact – Low Maintenance solutions which will provide certainty for LAHC and the affordable housing provider that there are no complex technical, ongoing governance or financial obligations to deliver enhanced sustainability outcomes. Detailed modelling by Kinesis has quantified the environmental and economic benefits of a sustainability strategy for Bonnyrigg. The strategies and outcomes proposed by Kinesis are summarised below and the results are documented in detail in the next section.

This work was undertaken using CCAP Precinct, a strategic infrastructure and sustainability design tool, used in the analysis of key performance metrics of precincts, integrating land use and development inputs with demographic, utility, transport and affordability models.

Analysis of energy and water demands, transport and car use and household living costs were undertaken under the following two scenarios:

- 1. **LAHC Target** – which incorporates current strategies adopted by LAHC.
- 2. **Stretch** – which incorporates cutting edge measures to future proof the development.

These scenarios were compared to a Compliance Scenario, which assumes the development is delivered to building compliance standards (Minimum BASIX and NCC Section J).

The technical details of these scenarios are summarised in Table 2 and the high level BASIX outcomes in Table 3.

The emissions savings, water savings and average household expenditure are shown in Figure 2 to Figure 6. Incremental costs and benefits of each strategy in each scenario are documented and discussed in the following section.

Technology	Compliance	LAHC Target	Stretch
Hot water system	Gas	Gas	Gas
Cooking	Gas Cooktops, Electric oven	Gas Cooktops, Electric oven	Gas Cooktops, Electric oven
Thermal Design (NatHERS)	5-star average	6-star average (delivered through awnings, insulation and glazing)	7-star average (delivered through good passive design, increased insulation, and effective glazing)
Space heating and cooling	None	Ceiling Fans for living areas	Ceiling Fans for living areas & bedrooms
Lighting	Efficient (LED)	Efficient (LED)	Efficient (LED)
Solar PV & Batteries	None	None	3 kW per cottages/ townhouse 0.1 kW per multi-unit dwelling* Design battery ready dwellings
Water Fixtures & fittings	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star
Rainwater reuse	Irrigation & laundry for Townhouses only	Irrigation & laundry for Townhouses and Low rise dwellings only	Irrigation, toilets & laundry for all dwellings

Table 2: Specifications assumed for Compliance (BASIX and NCC Compliance), LAHC Target and Stretch scenarios

* Solar PV for apartments - 0.1kW per dwelling estimated as amount of solar PV that can fit on 30% of the roof space of an average 6 storey apartment as per AJ+C yield tables.

ESTIMATED BASIX PERFORMANCE RESULTS

Precinct	Compliance	LAHC Target	Stretch
Townhouses	BASIX Energy 50 BASIX Water 40	BASIX Energy 50 BASIX Water 45	BASIX Energy 70 BASIX Water 45
Low Rise (3 storey)	BASIX Energy 45 BASIX Water 40	BASIX Energy 45 BASIX Water 45	BASIX Energy 50 BASIX Water 45
Mid Rise (4-5 storey)	BASIX Energy 35 BASIX Water 40	BASIX Energy 35 BASIX Water 40	BASIX Energy 40 BASIX Water 45
High Rise (6 storey)	BASIX Energy 25 BASIX Water 40	BASIX Energy 25 BASIX Water 40	BASIX Energy 30 BASIX Water 45

Table 3: Estimated BASIX scores for different dwelling typologies in Bonnyrigg with the strategies outlined in Table 2.



TOTAL GREENHOUSE GAS EMISSIONS

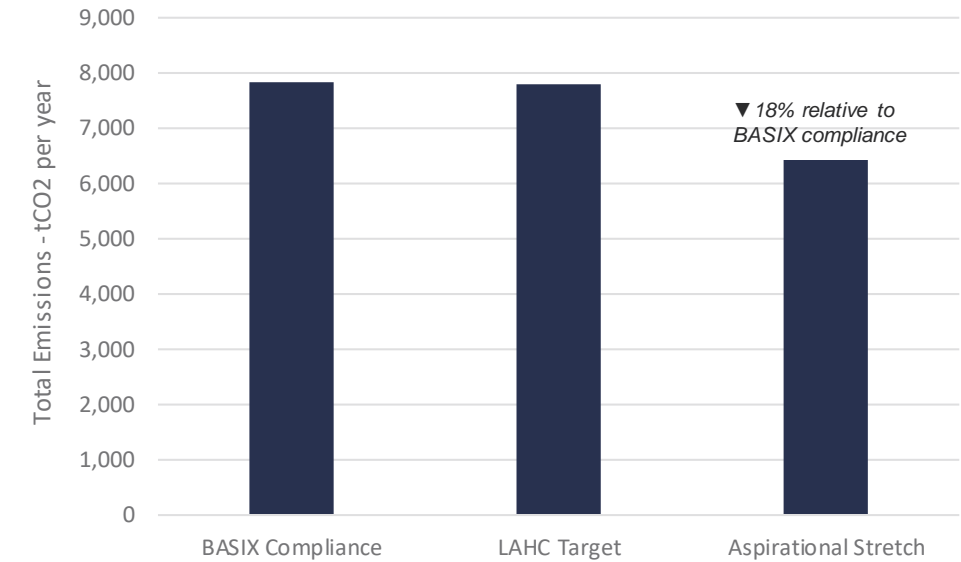


Figure 2: Estimated stationary emissions

PER PERSON GREENHOUSE GAS EMISSIONS

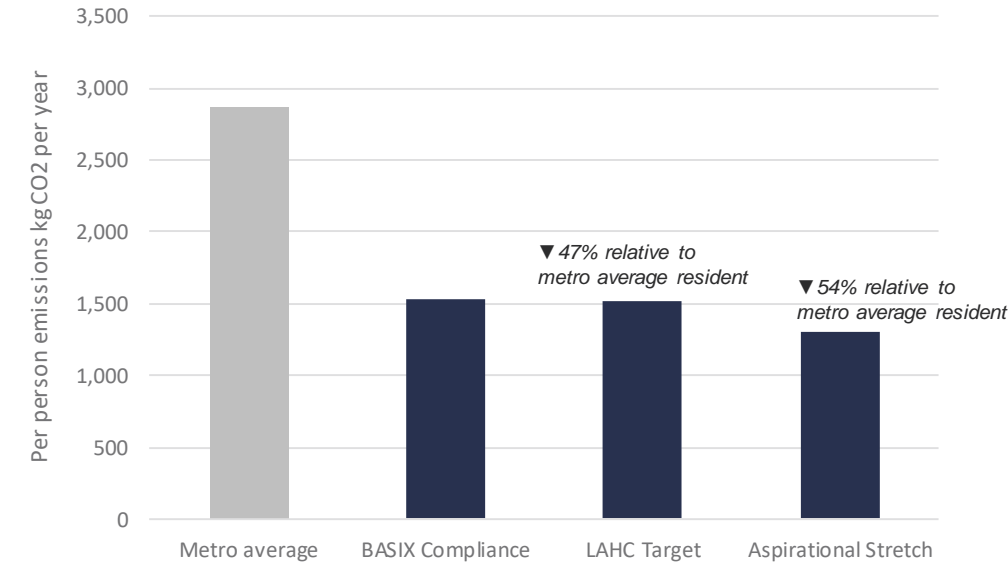


Figure 4: Estimated per person stationary emissions under the Compliance Case and Proposed Target scenarios

TOTAL WATER CONSUMPTION

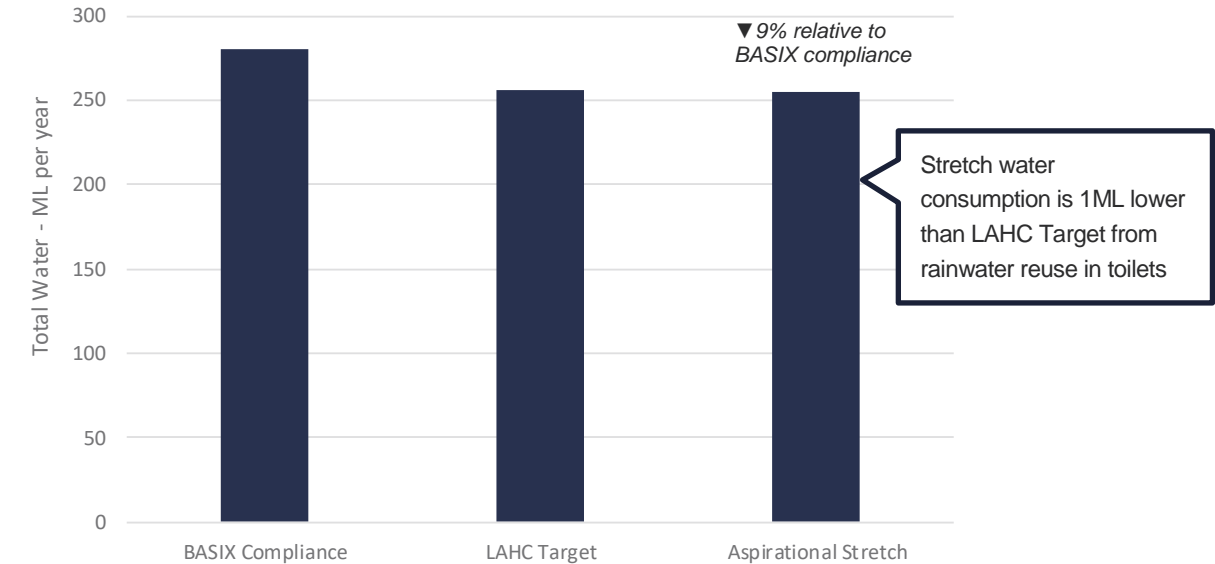


Figure 3: Estimated water use under the Compliance Case and Proposed Target scenarios

PER PERSON WATER CONSUMPTION

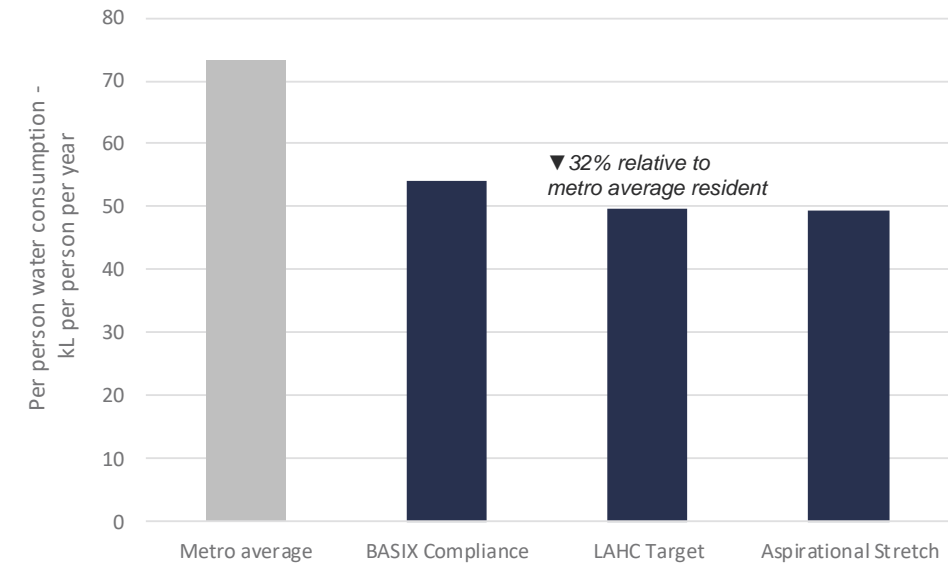


Figure 5: Estimated per person water use under the Compliance Case and Proposed Target scenarios



AN AFFORDABLE & RESILIENT COMMUNITY

Affordable Living

Studies have identified a strong link between household income, expenditure and resilience or adaptive capacity. The household cost savings delivered by the transport, energy and water strategies outlined above provide key resilience and adaptive capacity outcomes for residents.

When compared to the average resident across Sydney (see notes in appendix), the average household at Bonnyrigg is expected to spend nearly \$5,000 to \$6,000 less on utilities and transport costs (see Figure 6).

COST OF LIVING PER HOUSEHOLD

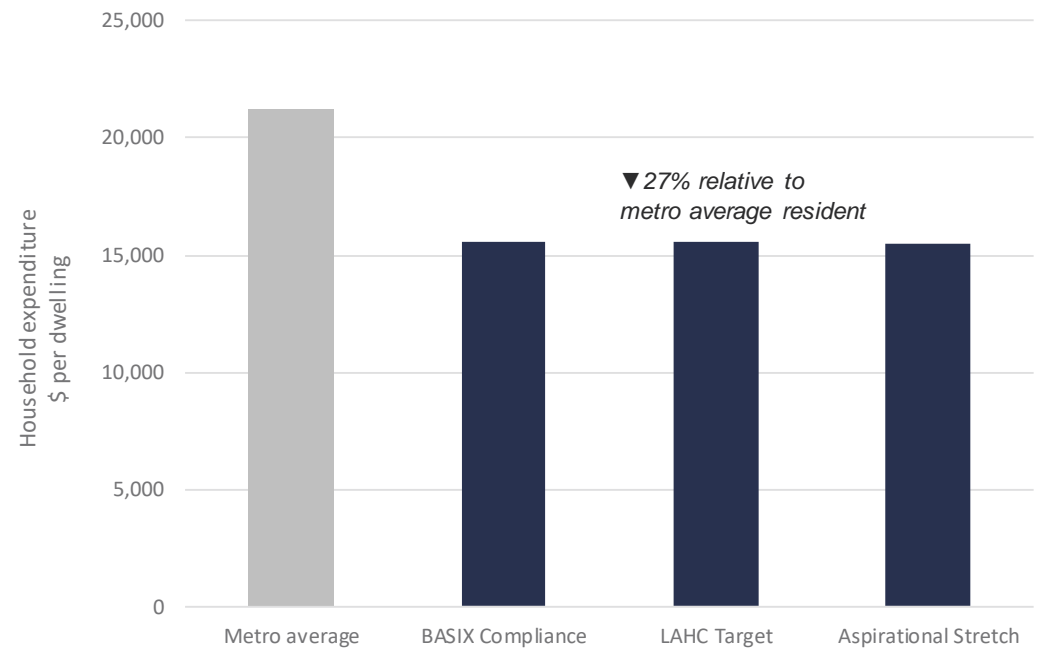


Figure 6: Cost of living per household in Bonnyrigg



KEY FINDINGS – LAHC TARGET SCENARIO FOR TOWNHOUSES/ COTTAGES

A summary of the incremental impact of each initiative explored in the LAHC Target scenario for townhouses/ cottages is documented below in Table 4.

Technology	Compliance	LAHC Target	Upfront Marginal Capital Cost (\$) per dwelling	Est. additional BASIX Energy Points	Est. additional BASIX Water Points
Hot water system	Gas	Gas*	-	-	
Cooking	Gas Cooktops, Electric oven	Gas Cooktops*, Electric oven	-	-	
Thermal Design (NatHERS)	5-star average	6-star average (delivered through awnings, insulation and glazing)	\$380	Less than 1	
Space heating and cooling	None	Ceiling Fans for living areas	\$140	Less than 1	
Lighting	Efficient (LED)	Efficient (LED)	-	-	
Solar PV & Batteries	None	None	-	-	
Water Fixtures & fittings	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	-		-
Rainwater reuse	Irrigation only	Irrigation & laundry	-		5
Total			\$520	1	5

Table 4: Specifications assumed for Compliance and LAHC Target scenarios for cottages/ townhouses

* Electric heat pump hot water systems and electric cooktops were considered for dwellings.
A transition from gas to electricity increased emissions and reduced BASIX points.

New Estimated BASIX Energy & Water Score 51 (up from 50) 45 (up from 40)



KEY FINDINGS – LAHC TARGET SCENARIO FOR APARTMENT DWELLINGS

A summary of the incremental impact of each initiative explored in the LAHC Target scenario for apartment dwellings is documented below in Table 5.

Technology	Compliance	LAHC Target	Upfront Marginal Capital Cost (\$) per dwelling	Est. additional BASIX Energy Points	Est. additional BASIX Water Points
Hot water system	Gas	Gas*	-	-	
Cooking	Gas Cooktops, Electric oven	Gas Cooktops*, Electric oven	-	-	
Thermal Design (NatHERS)	5-star average	6-star average (delivered through awnings, insulation and glazing)	\$370	Less than 1	
Space heating and cooling	None	Ceiling Fans for living areas	\$140	Less than 1	
Lighting	Efficient (LED)	Efficient (LED)	-	-	
Solar PV & Batteries	None	None	-	-	
Water Fixtures & fittings	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	-		-
Rainwater reuse	None	Irrigation & laundry for low rise only None for mid and high rise apartments	\$1,900 for low rise only		5 for low rise only
Total			\$2,410	1	5 for low rise only

Table 5: Specifications assumed for Compliance and LAHC Target scenarios for apartments

* Electric heat pump hot water systems and electric cooktops were considered for dwellings. A transition from gas to electricity increased emissions and reduced BASIX points.

New Estimated BASIX Energy & Water Score

26/ 36/ 46 (up from 25/ 35/ 45 for low/ mid/ high rise apartments)

45 for low rise 40 for mid and high rise



KEY FINDINGS – STRETCH SCENARIO FOR TOWNHOUSES/ COTTAGES

A summary of the incremental impact of each initiative explored in the Stretch scenario for townhouses/ cottages is documented below in Table 6.

Technology	Compliance	Stretch	Upfront Marginal Capital Cost (\$) per dwelling	Est. additional BASIX Energy Points	Est. additional BASIX Water Points
Hot water system	Gas	Gas*	-	-	
Cooking	Gas Cooktops, Electric oven	Gas Cooktops*, Electric oven	-	-	
Thermal Design (NatHERS)	5-star average	7-star average (delivered through awnings, glazing, insulation and passive design)	\$2,200	1	
Space heating and cooling	None	Ceiling Fans for living areas and bedrooms	\$560	1	
Lighting	Efficient (LED)	Efficient (LED)	-	-	
Solar PV & Batteries	None	3kW per dwelling Make cottages/ townhouses battery ready	\$4,500	Over 20	
Water Fixtures & fittings	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	-		-
Rainwater reuse	Irrigation only	Irrigation, toilets & laundry	-		5
Total			\$7,260	Over 22	5

Table 6: Specifications assumed for Compliance and Stretch scenarios for cottages/ townhouses

New Estimated BASIX
Energy & Water Score 72
(up from 50) 45
(up from 40)

* Electric heat pump hot water systems and electric cooktops were considered for dwellings under the stretch case.
A transition from gas to electricity increased emissions and reduced BASIX points.



KEY FINDINGS – STRETCH SCENARIO FOR APARTMENT DWELLINGS

A summary of the incremental impact of each initiative explored in the Stretch scenario for apartments is documented below in Table 7.

Technology	Compliance	LAHC Target	Upfront Marginal Capital Cost (\$) per dwelling	Est. additional BASIX Energy Points	Est. additional BASIX Water Points
Hot water system	Gas	Gas*	-	-	
Cooking	Gas Cooktops, Electric oven	Gas Cooktops*, Electric oven	-	-	
Thermal Design (NatHERS)	5-star average	7-star average (delivered through awnings, glazing, insulation and passive design)	\$2,100	1	
Space heating and cooling	None	Ceiling Fans for living areas and bedrooms	\$420	1	
Lighting	Efficient (LED)	Efficient (LED)	-	-	
Solar PV & Batteries	None	0.1 kW per dwelling (covering 30% of roof area) Make apartments battery ready	\$200	3	
Water Fixtures & fittings	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	Toilet – 4-star Showerhead – 3+ Star Kitchen Taps – 5-star Other Taps – 5-star	-		-
Rainwater reuse	None	Irrigation, toilets & laundry for low, mid and high rise	\$1,900		5
Total			\$4,620	5	5

Table 7: Specifications assumed for Compliance and LAHC Target scenarios for apartments

* Electric heat pump hot water systems and electric cooktops were considered for dwellings.
A transition from gas to electricity increased emissions and reduced BASIX points.

New Estimated BASIX Energy & Water Score

30/ 40/ 50 (up from 25/ 35/ 45 for low/ mid/ high rise apartments)

45 (up from 40)



SUMMARY

We have modelled two scenarios, a LAHC target and a stretch scenario. We recommend pursuing the LAHC target at a minimum and the stretch scenario where feasible.

Key recommendations

- Efficient thermal design to achieve average 6 star NatHERS under the LAHC target and average 7 star NatHERS under the stretch. This can be achieved through a combination of glazing, insulation, awnings, and passive design measures for effective lighting and ventilation.
- Ceiling fans in the living rooms under the LAHC target and also in bedrooms under the stretch scenario.
- Rainwater reuse to service irrigation, laundry and toilets can be pursued to provide an additional 5 BASIX Water points.
- By incorporating renewables, the Bonnyrigg precinct can achieve and exceed minimum compliance targets. Specifically, we recommend 3 kW of solar PV on the cottages/ townhouses and 0.1 kW per dwelling (covering 30% of roof area) on multi-unit dwellings.
- Dwellings can be designed to be battery ready to facilitate battery installation when required.

BASIX Outcomes

Precinct	LAHC Target	Stretch
Townhouses	BASIX Energy 50 BASIX Water 45	BASIX Energy 70 BASIX Water 45
Low Rise (3 storey)	BASIX Energy 45 BASIX Water 45	BASIX Energy 50 BASIX Water 45
Mid Rise (4-5 storey)	BASIX Energy 35 BASIX Water 40	BASIX Energy 40 BASIX Water 45
High Rise (6 storey)	BASIX Energy 25 BASIX Water 40	BASIX Energy 30 BASIX Water 45

Key performance results

- Approximately 50% reduction in per person emissions relative to the average resident in Sydney
- Approximately 30% reduction in per person water consumption relative to the average resident in Sydney

A clear and deliberate pathway has been identified to achieve all of the above with reliable and proven technology and design solutions that are currently in place in social housing projects in Australia.

Additionally, the outcomes are not easily undone by residents or owners corporations ensuring the affordability and environmental benefits are locked in for the life of the project.



KEY ASSUMPTIONS

An average Sydney resident is defined in this report as the average per person electricity, gas, water and car use in Sydney. This is determined by data provided by the local utilities and government agencies. This information is sourced from the following:

- Electricity and gas is sourced from local network utilities (see data sources).
- Water consumption is sourced from Sydney Water
- Average car use is sourced from the NSW Bureau of Transport Statistics (Household Travel Survey)
- Average car ownership rates are sourced from the ABS Census.

Metropolitan Sydney average benchmarks are listed below.

Metropolitan Sydney average benchmarks

Electricity	2,132 kWh per person/year
Gas	3,888 MJ per person/year
Water	237.8 L per person/day
Transport	18.5 km per person/day

Grid Co-efficient

Electricity	0.990 kgCO2-e/kWh
Gas	0.064 kgCO2-e/MJ

Tariffs and rates

Residential Water	Rate	Unit
Mains tariff	2.276	\$/kL
Recycled water tariff	1.817	\$/kL
Service charge per dwelling	771	\$/yr
Recycled water service charge	0	\$/yr

Residential Grid Electricity	Rate	Unit
Applied tariff	0.233	\$/kWh
Solar feed-in tariff	0.06	\$/kWh
Service charge per dwelling	303.78	\$/yr

Residential Gas	Rate	Unit
Gas (first 3,775 MJ per qtr/remaining)	0.038610/0.025784	\$/MJ
Service charge per dwelling	217	\$/yr

Residential Transport	Rate	Unit
Fuel	1.50	\$/L
Annual capital costs (devaluation)	6,642	\$/yr
Annual registration/insurance	2,172	\$/yr

KEY DATA SOURCES

All results contained in this report are derived from CCAP Precinct, a strategic infrastructure and urban design tool, used in the analysis of key performance metrics of precincts, integrating land use and development inputs with demographic, utility, transport and affordability models. CCAP Precinct draws on local climate, land use and tariff data, and available utility, government, public and private sector datasets to calculate to performance of proposed developments, precincts, corridors and regions.

Important datasets used in CCAP Precinct include:

- ACADS-BSG Australian Climatic Data (Reference Meteorological Year, RMY) for hourly temperature, insulation and humidity.
- Bureau of Meteorology local rainfall and evaporation data
 - Data is from the representative weather station for the local climate zone
 - The RMY (Representative Meteorological Year) is synthesized from a composite of 12 typical meteorological months that best represent the historic average of the specified location using post-1986 data in addition to the earlier weather data for each of the 69 climate zones in Australia.
- Department of the Environment (Ongoing) National Greenhouse Accounts Factors
- Sydney Water Best Practice Guidelines for water conservation in commercial office buildings and shopping centres (2007) and Best Practice Guidelines for holistic open space turf management (2011)
- National Water Commission, 2011, National performance report 2009-2010: urban water utilities, National Water Commission, Canberra
- NSW Department of Planning (Ongoing) BASIX Report Data.
- Department of Resources, Energy and Tourism, 2010, Energy in Australia – 2010, ABARE, Canberra
- Energy Use in the Australian Residential Sector, 1986 – 2020, Australian Government Department of the Environment, Water, Heritage and the Arts (DEHWA), 2008.
- National Construction Code (2010) Section J - Energy Efficiency Requirements
- Transport Data Centre (2006) The Development of a Sydney VKT Regression Model
- Department of Infrastructure and Transport, 2011, Road vehicle kilometres travelled: estimations from state and territory fuel sales, Australian Government, Canberra
- ABS (2010) 'Household Expenditure Survey, Australia: Summary of Results', catalogue number 65300DO001_200910, Australian Bureau of Statistics, Canberra.
- Kinesis (Ongoing) Water and energy end use data derived from first principle analysis of a range of metered residential and non-residential building types (ongoing, sourced from anonymised CCAP datasets from thousands of buildings, suburbs and cities across Australia), see: www.kinesis.org/ccap-asset and www.kinesis.org/ccap-city.

