



ALTERNATIVE HOUSING MODELS Addendum

Research Paper for Byron Shire Council

May 2023

PROJECT NUMBER:	2484
PREPARED BY:	SM, KF
REVIEWED BY:	SM
VERSION:	Final

CONTENTS

1. INTRODUCTION & PURPOSE	4
2. HOUSING ISSUES TODAY	5
3. STATUTORY FRAMEWORKS	5
THE 2022 FLOODS.....	7
NATIONAL BARRIERS TO AFFORDABLE HOUSING IN AUSTRALIA.....	8
4. ALTERNATIVE HOUSING MODELS	9
ECOVILLAGE.....	9
RURAL STYLE LIVING.....	10
DEMONSTRATION VILLAGE.....	10
5. ECOVILLAGE PROJECT EXAMPLES	11
CHARACTERISTICS OF THE PROJECTS.....	11
FINDHORN ECOVILLAGE, SCOTLAND. RURAL LIFESTYLE LIVING.....	12
THE ECOVILLAGE AT CURRUMBIN, QLD. RURAL LIFESTYLE LIVING.....	14
4 BALLARAT ST (ASSEMBLE BRUNSWICK), VIC ALTERNATIVE URBAN HOUSING.....	16
BROUGHAM ST COHOUSING, VIC ALTERNATIVE URBAN HOUSING.....	18
NIGHTJINGALE BALLARAT, VIC ALTERNATIVE URBAN HOUSING.....	20
NARARA ECOVILLAGE, NSW DEMONSTRATION VILLAGE.....	22
WITCHLIFFE ECOVILLAGE, WA DEMONSTRATION VILLAGE.....	24
6. ASSESSMENT OF THE CHARACTERISTICS OF ECOVILLAGE MODELS	26
7. OTHER MODELS	29
FUTURE HOMES.....	32
CLIMATE RESILIENT PLANNING.....	33
8. APPRAISAL OF THE MODELS	34
9. CHALLENGES AND OPPORTUNITIES IN DELIVERY ALTERNATIVE HOUSING MODELS	40
CHALLENGES:.....	40
OPPORTUNITIES, BENEFITS AND FACILITATING OUTCOMES:.....	46

1. INTRODUCTION & PURPOSE

This Addendum to the Alternative Housing Report 2019 (Main Report) has been prepared to provide further information and an appraisal of alternative housing models, with a particular focus on ecovillages. How might alternative housing models contribute to better housing outcomes in the Byron Shire?

This project is being undertaken in line with a review of the Residential Strategy, and within the context of the expected growth in the region and the need to plan for a minimum of 43,000 new homes in the Northern Rivers and Mid North Coast¹.

Byron Shire is facing one of the most acute shortages of affordable housing in Australia, this has been further exacerbated by the impacts of Covid-19 and the 2022 floods. The region needs a greater stock of diverse housing that addresses the various affordability, sustainability and design quality issues being faced, alongside the impacts of climate change.

Created to support the Main Report, which considers several deliberative development housing models and their ability to provide affordable, environmentally resilient outcomes that foster social connection. These reports combined may inform the future refresh of the adopted Residential Strategy and endorsed Rural Land Use Strategy.

Outlined in this Addendum are the specific characteristics and forms of ecovillages considering different settings, scales, and financial structures and the role they might play in delivering diverse and quality housing. The purpose of this Addendum is not to specifically evaluate the suitability of the models for particular locations within the Byron Shire, but rather to understand the ecovillage models in terms of their characteristics and ability to respond to Council policy objectives in planning for a housing supply that equitably meets future needs.

In preparing this Addendum, the following has been undertaken:

- Meetings with officers at Byron Shire to understand the purpose of the Addendum Report and its context.
- A brief literature review on ecovillages and other models.
- A review of key policy changes and events which have occurred since the Main Report was completed in 2019.
- Defining the three ecovillage models provided in the brief.
- Identification of other alternative housing models not dealt with in the Main Report.
- Researching ecovillage project examples to understand their tenure, title, affordability, community and environmental characteristics and the background of their development.
- The creation of a shortlist of 10 ecovillage project examples as key case studies to be included in this Addendum.
- Interviews with case study representatives including developers, residents and local government officers from the ecovillage project examples.

¹ NSW Government, 2022, North Coast Regional Plan 2041.

2. HOUSING ISSUES TODAY

The challenge of meeting housing needs, as documented in the Main Report, is at an all-time high across Australia. Population growth combined with the creation of a global market for housing investment has contributed to a lack of affordable housing for purchase or secure long term rental. Within Byron Shire, there are additional pressures on the housing market due to the tourism industry and the dramatic rise in short term accommodation investment. This leads to a chronic shortage of affordable purchase and long term rental accommodation in townships within the Shire and an inability for existing residents to age in place.

In the years since completing the Main Report, Byron Shire's housing supply and affordability issues have been exacerbated as a result of the Covid-19 pandemic and 2022 flood events.

The pandemic triggered a large movement of residents from the capital cities to regional and coastal areas to avoid lockdowns and other social limitations which was made possible via remote working. The continuation of remote working has meant many people have not returned to capital cities and, as such, the demand for housing with the Shire (particularly for professional service workers who can work remotely) has further increased. Research from the Regional Australia Institute found that from June 2020 to June 2021, the typical migration rate of residents moving from capital cities to Byron Shire increased by 33%.¹ In 2020, the median house price in Byron Bay increased by 37% to \$1.68 million and in Mullumbimby by 16.6% to \$830,000.²

Council has been pro-active in identifying and assessing alternative opportunities to improve housing supply, choice and affordability within their shire and planning for new housing in urban and regional areas which responds to the wider considerations of climate change while balancing this with the needs and expectations of the community.

3. STATUTORY FRAMEWORKS

There have also been changes in policy and planning directions which have impacts on both housing affordability and supply in the Byron Shire. These include:

State Environmental Planning Policy (Housing) (Housing SEPP)

The Housing SEPP (2021) introduces two new housing types:

- co-living housing
- independent living units.

It updates the provisions (legal conditions) for:

- boarding houses
- build-to-rent housing
- seniors housing.

It also includes planning rights for a range of affordable housing outcomes such as caravan parks and secondary dwellings.

North Coast Regional Plan 2041

This outlines the growth trajectory for the North Coast including Byron Shire, stating:

“Councils’ future local housing strategies are to plan for 10 years supply and have a clear road map outlining and demonstrating how to deliver 40% of new dwellings by 2036 in the form of multi dwelling / small lot housing”.

The Regional Plan states that any new greenfield areas across the North Coast should be planned for in areas adjacent to or near existing urban areas to encourage the efficient use of land and infrastructure. It acknowledges that whilst rural residential housing remains popular, it can be costly to service and environmentally unsustainable. It may also conflict with important agricultural, urban, industrial or resource lands.³ It states that councils need to focus on facilitating infill development. The plan states that new rural residential development must promote sustainable land use and must be located outside the environmentally sensitive and constrained coastal strip.⁴

The Regional Plan includes an urban growth area map for each LGA identifying land for investigation. No additional/ new land is identified in Byron Shire, demonstrating a significant constraint to outward growth.

1 Regional Australia Institute, 2021, Regional Movers Index.
2 Byron Shire Council, 2021, Regional Housing Taskforce Submission.
3 NSW Government, 2022, North Coast Regional Plan 2041, p.17
4 Ibid

Affordable Housing Contribution Scheme - Byron Shire Council

The Byron Shire Affordable Contribution Scheme, adopted in August 2022, outlines the requirement of an affordable housing contribution to upzoned land. The Byron Affordable Housing Contribution Scheme seeks a contribution of 20% for development in Byron Bay, Mullumbimby and Bangalow. The scheme outlines that the form of contributions will be determined by council and can include a combination of land, monetary contributions or dwellings.

Short-Term Rental Accommodation (STRA) Planning Proposal - Byron Shire Council

Byron Shire prepared a proposal to reduce the cap for non-hosted STRA from 180 days to 90 days per year for most of the Byron Shire.

This was reviewed by the Independent Planning Commission (IPC) who provided 12 recommendations including that the day cap for non-hosted STRA be reduced to 60 days across the whole Shire.

The report also included recommendations that the NSW Government work with council to identify mechanisms to increase land for housing including in infill locations, deliver housing supply, increase affordable and diverse housing and increase rental security.

Council are awaiting the Minister for Planning's decision on the advice report for next steps.¹

¹ <https://www.byron.nsw.gov.au/Your-Say-Byron-Shire/Short-term-rental-accommodation-Planning-Proposal>

Byron Shire Residential Strategy

Council adopted the Residential Strategy in December 2020. This strategy supports the North Coast Regional Plan with a shift in focus to housing residents using sensitive and appropriate infill development in established urban areas. This is complemented by a limited number of new urban growth areas focused around Mullumbimby. The strategy was not endorsed by the NSW Department of Planning and Environment (DPE) and is undergoing a refresh and update in response to:

- the peer review of the Strategy, requested by DPE
- the NSW Flood Inquiry Report recommendations following the 2022 floods
- Council's 'After the Floods Discussion Paper'
- Australia Bureau of Statistics staged release of 2021 census data
- DPE's updated North Coast Regional Plan 2041



Source: theguardian.com

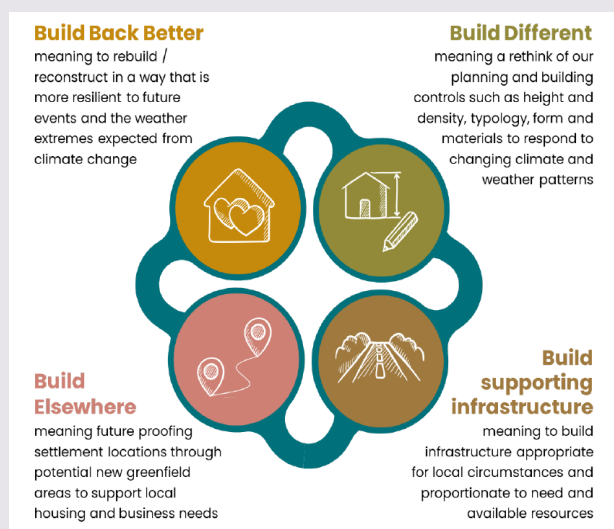


Figure 1. The Four Pillars, adapted from After the Floods Discussion Paper, Byron Shire Council, 2022.

The 2022 floods

The floods of February and March 2022 devastated the region and triggered a series of studies, both at the state and regional level, on how to respond to this crisis in the short and long term, including:

NSW Independent Flood Inquiry

The NSW Government commissioned an independent expert inquiry to investigate issues related to the cause, preparedness, response to and recovery from the 2022 floods. The final report included 28 recommendations across a broad range of areas including emergency management arrangements, land management and planning, equipment and technology, capacity and capability building and research.

After the Floods Discussion Paper

The After the Floods Discussion Paper was prepared by Byron Shire following extensive community consultation to determine how the Shire can respond specifically to the floods and provide a sustainable housing supply pipeline. It is based on four driving principles:

- **Build back better** - building or reconstructing in a way that is more resilient to future events and weather extremes due to climate change.
- **Build different** - rethinking our planning and building controls such as height and density, typology, form and materials to respond to a changing climate and weather patterns.
- **Build elsewhere** - future proofing settlement locations through potential new greenfield areas to support local housing and business needs.
- **Build supporting infrastructure** - building infrastructure / services appropriate for local circumstances and proportionate to need and available resources.

National barriers to affordable housing in Australia

New research from the National Housing Finance and Investment Corporation (NHFIC) highlights the barriers to international investment in affordable housing. The paper compares data for the US, UK, Canada and select European countries to gain insights into the barriers and enablers of private investment in subsidised housing.

Report's Key Insights:

- The UK and US have much larger (and growing) private investment flows into subsidised housing relative to Australia. Large institutional investors are driving most of this increased investment pulling policy levers and tapping into government-backed finance and other policy levers.
- Common features used by governments to encourage private capital include long-standing government-backed guarantees for private financing, long-term subsidies such as tax credit programs, financing intermediaries (with similar or broader mandates to NHFIC), allowing for-profit housing providers to access government support, and planning requirements.
- In the UK, private financing for affordable housing now accounts for 70% of the capital which has substantially increased from circa 30-40% in the 2000s.
- Large global pension and insurance funds in the UK are planning substantially invest over the next five years to create 10,000 new homes nationwide.
- Social and affordable housing investment enablers cited include tax incentives and subsidies, risk diversification and stability of cash flows, regulatory reform to allow institutional investors to own social housing stock, allowing for profit providers to take on development risk and access government incentives.
- Barriers cited included subsidised housing projects lacking sufficient commercial returns, insufficient scale, a lack of information on opportunities available, lack of data on vacancy risks, reputational risks around managing subsidised tenancies, and unfavourable market conditions.

4. ALTERNATIVE HOUSING MODELS

This Addendum outlines the characteristics of ecovillage models and how they may respond to Byron Shire's policy outcomes in relation to the provision of diverse, affordable and sustainable housing. It builds on the main report which outlined a range of deliberative development models and their performance against these metrics. While some of the housing models and examples in this report incorporate elements of deliberative development, as outlined in the Main Report, not all do.

This report focusses on ecovillages and other alternative housing models, specifically those which are on community title and show features of climate resilience. It also evaluates if models could positively contribute to other key policy principles for Byron Shire including increasing secure housing provision and improving social connection, sustainability and climate resilience.

It is difficult to provide a definition that fits all ecovillage types, however, a general definition of ecovillages was created.

Ecovillage

An ecovillage is defined as communities which seek to generate positive environmental, social, ecological and economic outcomes.

An ecovillage can also be considered a form of cohousing which is commonly defined as 'an intentional community of private homes clustered around shared space'.

The definition for ecovillages is intentionally broad, acknowledging they can be located in rural, suburban or urban settings and are therefore diverse in their appearance, scale, and organisational structure. They are commonly developed by a collective who make intentional decisions to achieve positive outcomes and who wish to come together and share facilities. Most ecovillages share a commitment to living intentionally and sustainably through features such as:

- Innovative environmental construction methods and technologies such as renewable energy
- Sharing of communal resources and amenities
- Consensus driven decision-making or community empowerment
- Organic gardening and regenerative natural restoration.

Byron Shire Residential Strategy

The Byron Shire Residential Strategy broadly aligns with the above definition stating:

"Ecovillage – an intentional community whose goal is to become more socially, economically and ecologically regenerative and includes detached dwellings, community facilities and common land seeking to regenerate natural systems, contain wastewater and produce own food, electricity and water supply."

Within the ecovillage model, three sub-categories were identified by Council for investigation as follows:

- Rural lifestyle living
- Alternative urban housing
- Demonstration villages

Again there are no existing definitions for these models and as such for the purpose of this report, the following definitions are applied:

Ecovillage Rural Style Living

A rural lifestyle living ecovillage intensifies housing provisions on rural or rural-residential lots but may retain some agricultural production, typically adopting a permaculture approach to land management.

Rural lifestyle living models can leverage flood resilient agricultural land for development, support strong community ties, engage in environmental sustainability and maximise resource self-sufficiency. The scale of rural ecovillages differ and could range from as small as 30 homes through to creation of a new village either as an extension to a small settlement or by creating a new village of scale which could sustain some local services.

Other models which may be able to achieve rural lifestyle living but may not meet the definition of a 'rural lifestyle ecovillage' include secondary dwellings, microlots and prefabricated residential parks on rural land.

Ecovillage Alternative Urban Housing

Alternative urban housing can be defined as housing which intensifies density in existing towns, making innovative use of land and housing, new construction methods and forming collectives to facilitate housing supply.

This could be done via housing models such as urban ecovillages, medium density deliberative development,

dual-key, land lease models, secondary dwellings and manufactured homes.

Alternative urban housing can improve housing diversity and make housing more accessible, affordable and sustainable than conventional low-density detached single homes.

Ecovillage Demonstration Village

Demonstration villages are ecovillages which can help increase education and awareness of innovative housing models for the community, developers, planners and government. They can be located rurally or be extensions to existing townships.

They would typically embody the characteristics of an ecovillage as defined previously but may focus on a particular pillar of sustainability such as generating renewable power, harvesting rainwater, specifically providing homes for segments of the market and creating spaces for artist or local manufacturing.

Demonstration villages can be small or of a larger scale able to sustain shops, hospitality, education facilities and short-term accommodation. Demonstration villages would prioritise sharing knowledge and spreading awareness of the benefits of the typology by typically holding information sessions, tours, accommodating travellers, holding markets and other events.

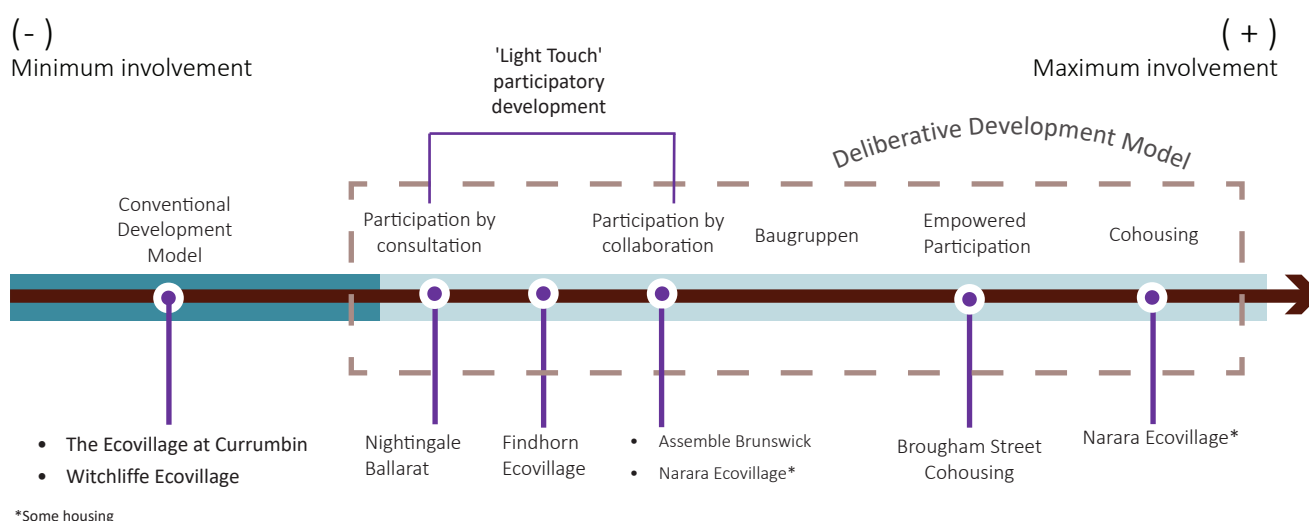


Figure 2. Participation/influence on housing design and decision-making adapted from *Deliberative Development: Opportunities for Moreland Council*, Research Paper, Echelon Planning, May 2018

5. ECOVILLAGE PROJECT EXAMPLES

A range of project examples were researched to understand the characteristics of the alternative ecovillage housing models in practice. These models are not specifically characterised by their tenure systems, context or typologies, with the examples reflecting the diversity of outcomes under each model and some showing crossovers between some models.

The Main Report included cohousing model projects such as Lime Tree Walk and Round the Bend which have some characteristics of an ecovillage. As this Addendum is an evolution of that report, those projects were not investigated in this body of work but have been drawn on in the appraisal of the models.

Characteristics of the projects

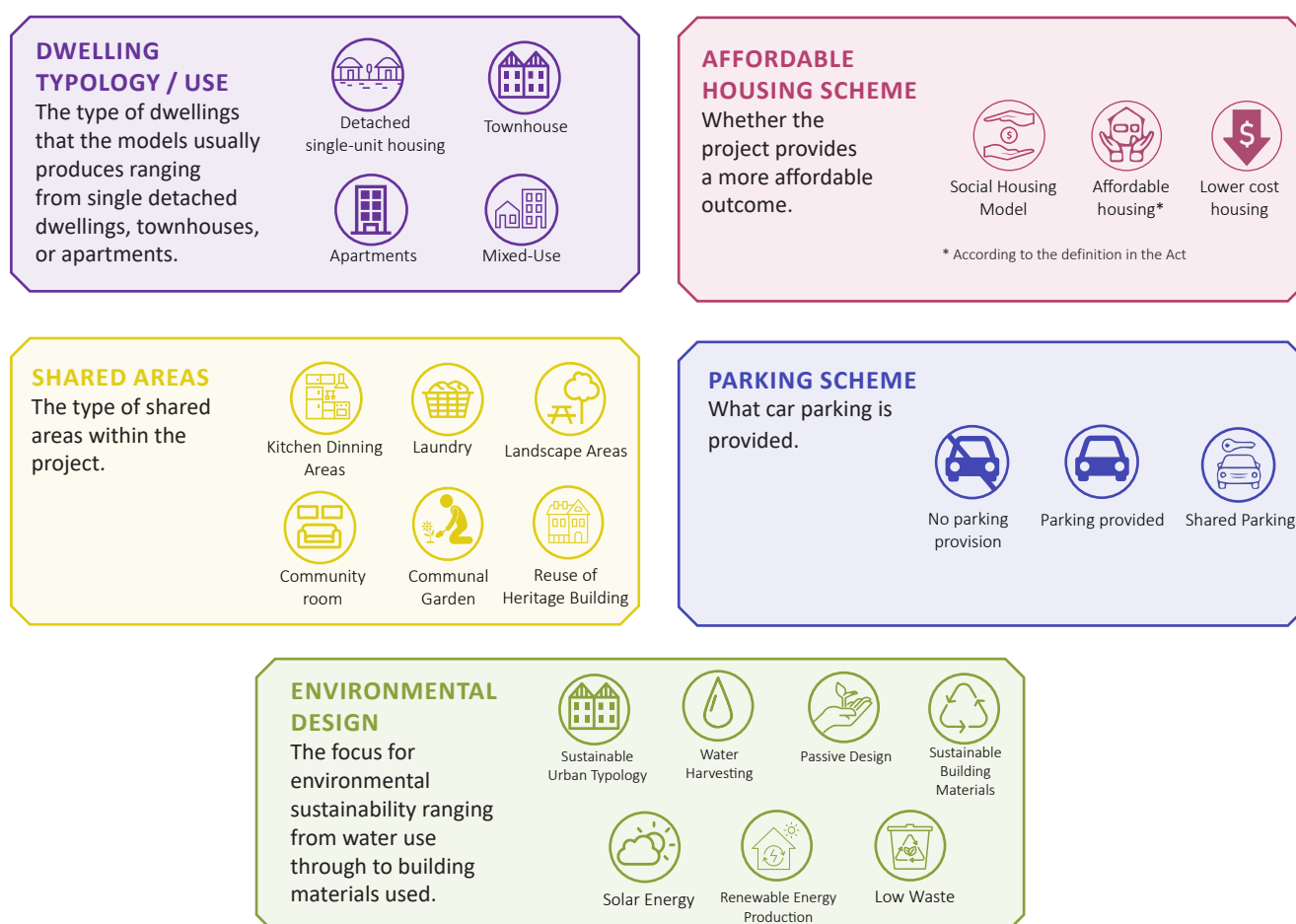


Figure 3. Element of Deliberative Development Model- *Deliberative Development: Opportunities for Moreland Council*, Research Paper, Echelon Planning, May 2018

FINDHORN ECOVILLAGE, SCOTLAND RURAL LIFESTYLE LIVING

Location	Findhorn, Scotland
Architect	Multiple
Partners	Findhorn Foundation, Scottish Government
Typology	Rural low density detached houses Some townhouses Some tiny homes
Legal form	Privately owned Some affordable housing
Residential units	125 houses
Inhabitants profile	Diverse international
Number of floors	1-2
Lot size	NA
Price Range	Detached House 3 Bed 1 Bath for \$542,928 (April, 2023)
Common space	Universal Hall, community gardens, common rooms, nature sanctuaries.

Overview

Findhorn Ecovillage is an evolving ecovillage development which experiments with different housing typologies and tenures along with regenerative lifestyle options. The project aimed to experiment with and demonstrate the most sustainable living options driven by the community. Initially started as a caravan park in the 1980s, the community undertook global fundraising that allowed them to purchase the park to develop diverse low-density housing typologies.

Ethos

Findhorn Ecovillage strives "to demonstrate low-carbon, place-based values and practices for human settlement to thrive".¹ The ecovillage aims to be a living laboratory for testing innovative forms of ecological living.

DWELLING TYPOLOGY



Detached single-unit housing



Townhouse



Apartments



Mixed-Use

AFFORDABLE HOUSING SCHEME



Lower cost housing



Affordable housing*



Social Housing Model

SHARED AREAS



Kitchen Dinning Areas



Laundry



Landscape Areas



Community room



Communal Garden



Reuse of Heritage Building

PARKING SCHEME



No parking provision



Parking provided



Shared Parking

ENVIRONMENTAL DESIGN



Sustainable Urban Typology



Water Harvesting



Passive Design



Sustainable Building Materials



Solar Energy



Renewable Energy Production



Low Waste

¹ <https://www.ecovillagefindhorn.com/>

Typology

- Although most housing is low-rise and comprises detached private dwellings, there are some small homes and 'eco-mobiles'
- The estate has eight affordable housing units which the Findhorn Cooperative, the Park Ecovillage Trust, helped fund and deliver with funds from the Scottish Rural Housing Fund.

Social and environmental initiatives

There are strict ecological guidelines for housing development including:

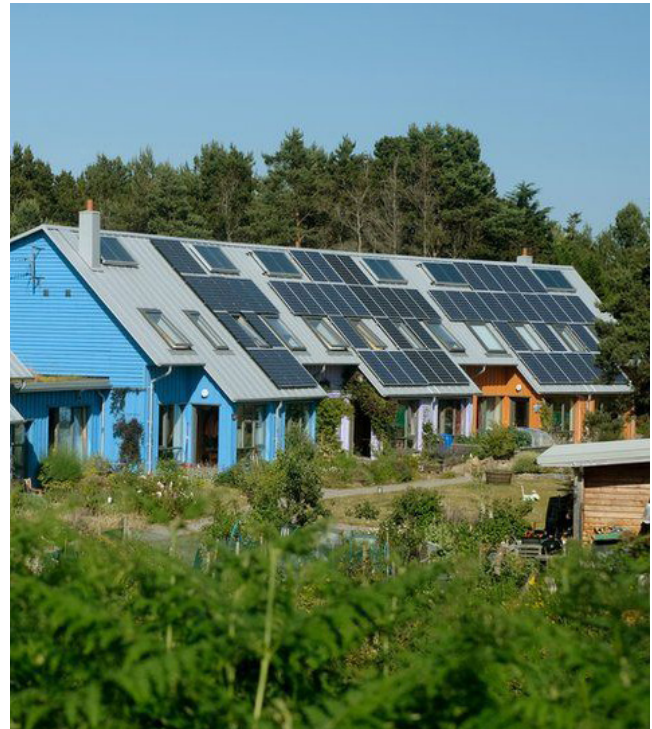
- The use of innovative construction materials such as using breathing walls, recycled materials and the use of high levels of insulation.
- Sustainable land management practices through organic food production and sustainably harvesting woodland for firewood.
- Green infrastructure and circular economy principles to underpin power and transport, using four wind turbines, a carpooling system with 170 members and 15 cars, three of which are EVs powered by the wind turbines.

Engagement/Advocacy

- The ecovillage runs holistic education workshops, sustainability education tours and training.



Source: Facebook.com



Source: BBC News

THE ECOVILLAGE AT CURRUMBIN, QLD RURAL LIFESTYLE LIVING

Location	Currumbin Valley, Queensland
Architect	Multiple
Partners	Land Matters Currumbin Valley
Completion Date	Ongoing
Typology	Low density detached houses
Legal form	Freehold land, private ownership
Residential units	147 homes (lot sizes 450 - 8000 sqm)
Inhabitants profile	Wide profile of ages, families, singles, travellers and retirees
Number of floors	1-2
Lot size	121 hectares
Price Range	\$1.8m to \$1.85m (April, 2023)
Common space	Community garden, greenways

DWELLING TYPOLOGY



Detached
single-unit housing



Townhouse



Apartments



Mixed-Use

AFFORDABLE HOUSING SCHEME



Lower cost housing



Affordable
Housing



Social Housing
Model

SHARED AREAS



Kitchen Dinning
Areas



Laundry



Landscape Areas



Community room



Communal
Garden



Reuse of Heritage
Building

PARKING SCHEME



No parking provision



Parking provided



Shared Parking

ENVIRONMENTAL DESIGN



Sustainable Urban
Typology



Water
Harvesting



Passive Design



Sustainable
Building Materials



Solar Energy



Renewable Energy
Production



Low Waste

Overview

The aim of the Ecovillage Currumbin was to deliver a highly sustainable residential development in the Currumbin Valley.

Ethos

The ethos behind the Ecovillage at Currumbin was to develop a sustainable, living community operating for the benefit of the environment and human well-being.

Typology

- The development is comprised of low-density, single unit, detached private homes.
- Architecturally-designed homes which are constructed consistent with the sustainable building codes of the project.
- Housing affordability is not a focus of this project.

Social and environmental initiatives

- Water self-sufficiency with centralized wastewater treatment system which provides recycled water
- Wildlife corridors, preservation of 50% of the existing site, revegetation and regeneration of native vegetation has increased the wildlife presence on the site.
- There is a Reduce, Reuse and Recycle Centre.



Source: wearegoldcoast.com

Engagement/Advocacy

- Some local food production occurs in the household gardens, greenways and a community garden which contributes to Oz Harvest.

Participation in Design

- Some local food production occurs in the household gardens, greenways and a community garden which contributes to Oz Harvest.



Source: weekendnotes.com

4 BALLARAT ST (ASSEMBLE BRUNSWICK), VIC ALTERNATIVE URBAN HOUSING

Location	Brunswick, Melbourne, Victoria
Architect	Fieldwork Architects
Partners	Assemble Futures, Fieldwork & Rush Wright Associates
Completion Date	Expected completion date: Mid-2024 Currently under construction, building commenced mid-2022
Typology	Apartments
Legal form	Build-to-rent Privately-owned
Residential units	171 apartments comprising of studio, one, two and three-bedroom options
Inhabitants profile	First-home buyers, young professionals, families and older generations
Number of floors	6
Lot size	Approximately 2,375m ²
Pice Range	\$462,500 (studio) to \$1,315,000 (3 Bed 2 Bath) (April, 2023)
Common space	Multi-purpose room, roof terrace, landscaped garden lanes, communal workshop, ground-level retail, parking

Overview

The Assemble model is to bridge the gap between renting and buying so that once an applicant signs the lease agreement and contract of sale, they secure five years agreed rent (following a two-year construction timeframe) with the option to buy their home at 4 Ballarat St at the end of the lease period. The target audience is first home buyers, renters looking for a secure, long-term next step, young families wanting to plant their roots, and anyone seeking to own a high quality, sustainable apartment.

Ethos

Assemble aims to provide an alternative pathway to access more affordable housing within a development which fosters community connection and is highly environmentally sustainable.

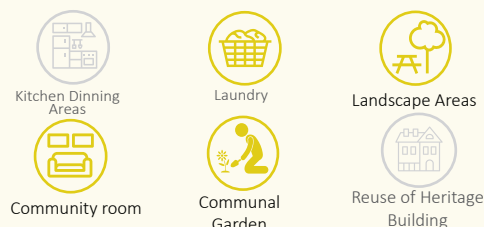
DWELLING TYPOLOGY



AFFORDABLE HOUSING SCHEME



SHARED AREAS



PARKING SCHEME



ENVIRONMENTAL DESIGN



Typology

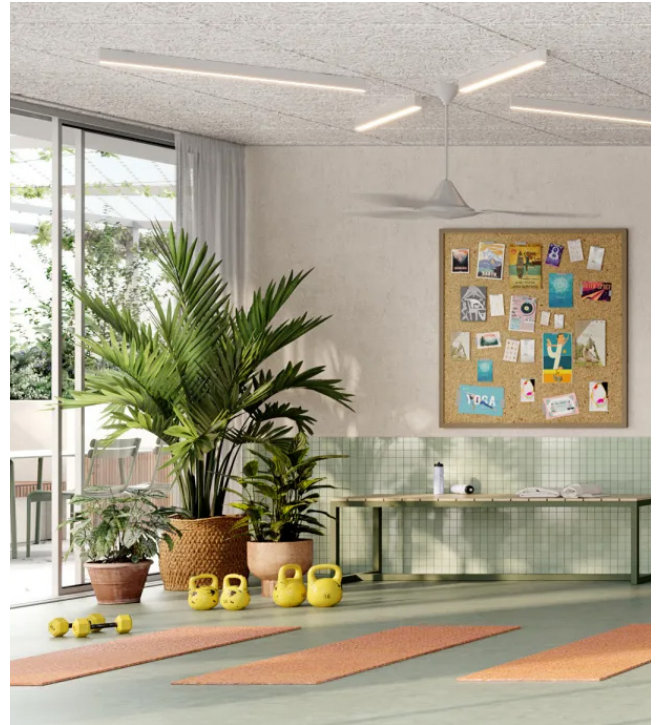
- 171 one-, two, and three-bedroom apartments
- Over 12,000sqm of flexible communal areas, such as a multi-purpose workshop, lending library and retail space in addition to a rooftop communal room which includes a shared laundry.

Social and environmental initiatives

- The project incorporates best practice waste and sustainability targets.
- All apartments offer natural light, cross flow ventilation, and connection to landscaping and open space.
- Onsite bio-composter, rooftop solar PV generation and distribution, generous bike storage, car sharing opportunities, double glazing, efficient heating and cooling reverse cycle systems as well as low VOC material use throughout the site.



Source: assemblecommunities.com



Source: assemblecommunities.com

BROUGHAM ST COHOUSING, VIC ALTERNATIVE URBAN HOUSING

Location	Brougham Street, Eltham, Victoria
Architect	DKO
Partners	Property Collectives
Completion Date	Planning approval phase
Typology	Townhouses
Legal form	Privately-owned
Residential units	21
Inhabitants profile	Diverse age groups and household structures
Number of floors	2-3
Lot size	Total site size of 6645m ² Average site size of 318m ² per dwelling.
Price Range	Targeting a saving of circa 15% less than the complete market value (April, 2023)
Common space	Communal makers workshop, storage areas, communal open space.

Overview

The project provides homes for purchase at cost (with an approximate savings of 15% market value) within an intergenerational co-housing community. A diversity of dwelling sizes is provided from 1 bedroom apartments up to 4 bedroom apartments. The design was driven by participatory processes to provide housing and communal facilities which truly suit residents.

Ethos

Brougham Street delivers cohousing in a suburban context led by the core values of having:

- A care mindset
- A culture of connection
- A lightness of being
- A commitment to stewardship
- A spirit of authenticity
- A courageous heart

DWELLING TYPOLOGY



Detached single-unit housing



Townhouse



Apartments



Mixed-Use

AFFORDABLE HOUSING SCHEME



Lower cost housing



Affordable housing*



Social Housing Model

SHARED AREAS



Kitchen Dinning Areas



Laundry



Landscape Areas



Community room



Communal Garden



Reuse of Heritage Building

PARKING SCHEME



No parking provision



Parking provided



Shared Parking

ENVIRONMENTAL DESIGN



Sustainable Urban Typology



Water Harvesting



Passive Design



Sustainable Building Materials



Solar Energy



Renewable Energy Production



Low Waste

Typology

- Double storey townhouses in a garden setting.

Social and environmental initiatives

- Homes are designed to have a NatHERs 7+ stars rating with high water efficiency and using environmentally conscious construction materials
- Common facilities, such as the dining room, increase spaces available to residents outside of their private home while boosting community connection.

Participation in Design

- The project is co-developed, co-designed and co-organised through participatory processes
- Base design solutions can be refined to suit residents' needs while designs aim to be adaptable post-completion.



Source: Realm Studios Landscape

NIGHTINGALE BALLARAT, VIC ALTERNATIVE URBAN HOUSING

Location	Davey St, Ballarat Central Victoria
Architect	Breathe
Partners	Nightingale Housing and a community housing provider (CHP)
Completion Date	2022
Typology	Apartments
Legal form	Privately-owned / 20% of homes pre-allocated to a CHP
Residential units	29
Inhabitants profile	Diverse age groups and household structures: Apartment Mix: 6 x 1 BR; 19 x 2 BR; 2 x 3 BR; 2 x Commercial
Number of floors	5
Lot size	Approx. 962m ²
Price Range	\$689,000 to \$709,000 (April, 2023)
Common space	Communal ground floor areas, rooftop space with laundry facilities, productive gardens and communal social spaces

DWELLING TYPOLOGY



Detached single-unit housing



Townhouse



Apartments



Mixed-Use

AFFORDABLE HOUSING SCHEME



Lower cost housing



Affordable Housing



Social Housing Model

SHARED AREAS



Kitchen Dining Areas



Laundry



Landscape Areas



Community room



Communal Garden



Reuse of Heritage Building

PARKING SCHEME



No parking provision



Parking provided



Shared Parking

ENVIRONMENTAL DESIGN



Sustainable Urban Typology



Water Harvesting



Passive Design



Sustainable Building Materials



Solar Energy



Renewable Energy Production



Low Waste

Overview

Nightingale Ballarat is the first regional Nightingale project from Nightingale, an innovative developer who has driven new infill, medium to high density typologies in inner Melbourne. Nightingale's approach densifies housing while being sensitive to surrounding heritage and existing contexts. Nightingale Ballarat houses 29 residential units on a lot that could hold around two conventional family dwellings for Ballarat.

Ethos

Nightingale Ballarat aims to be "an example of how community-centric buildings can be created in regional contexts".¹ It also aims to provide an alternative to the environmental and socially unsustainable urban sprawl endemic to regional cities.²

1 <https://www.nightingalehousing.org/project/nightingale-ballarat>

2 Interview with James Senior, Nightingale Housing; Cansdale, D. 2019. <https://www.abc.net.au/news/2019-07-20/melbournes-urban-sprawl-issues-spreading-to-the-regions/11320692>

Typology

- A five storey apartment building in Ballarat with communal laundry and landscaping features.
- 20% of apartments were allocated to a community housing provider. Priority balloting helped prioritise housing for vulnerable groups such as women over 55 and key workers.
- Resale price is capped at the original 'at-cost' price, plus the percentage increase in median house prices of the suburb.

Social and environmental initiatives

- Sustainability has been considered holistically from the construction materials (reduction of embodied energy use, double glazing and high-quality insulation) through to the approach to reducing car-dependency and parking.
- Homes are designed to have reduced excess spatial uses like second bathrooms, individual laundries and car parking to reduce energy consumptive floor space redundancies. These are replaced with communal facilities such as communal laundries and social spaces.

Engagement/Advocacy

- Future residents have the ability to contribute to some decision around their spaces through for examples, surveys, to guide development.



Prior to works - existing context (site shown to the left)
Source: Google Maps



Source: nightingalehousing.org

NARARA ECOVILLAGE, NSW DEMONSTRATION VILLAGE

Location	Central Coast, NSW
Architect	Masterplan by Hill Thalys, houses by multiple
Partners	22 original founders contributed \$7.5 million to buy and develop the site originally.
Completion Date	Ongoing (1 of 3 stages complete)
Typology	Low density detached houses Townhouses Secondary dwellings Tiny homes
Legal form	Community title Registered co-operative and community association Multiple options for legal ownership and collaborative living
Residential units	40 units with 43 new lots proposed
Inhabitants profile	Multi-generational, primarily home owners but new
Number of floors	1-2
Lot size	67 hectares
Price Range	\$480,000 (2 bedroom) \$395,000 - \$430,000 (1 Bedroom) (April, 2023)
Common space	Some communal facilities, shared gardens, some elements of co-housing shared spaces

Overview

The Narara Ecovillage is an intentional ecological village aimed at increasing community within a sustainable settlement. The site for the ecovillage was previously the Gosford Horticultural Institute and was purchased from the NSW government in 2012, funded by an original financing members of the Narara Ecovillage Co-op. This development started off with a vision for a cooperative way of living sustainably and evolved over time, gathering more members. More mixed uses have been incorporated into this development as it has progressed.

DWELLING TYPOLOGY



AFFORDABLE HOUSING SCHEME



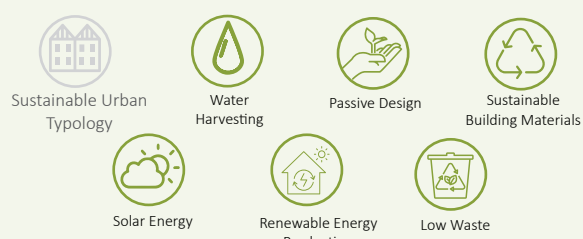
SHARED AREAS



PARKING SCHEME



ENVIRONMENTAL DESIGN



Ethos

Narara Ecovillage's core mission is to create a sustainable ecovillage for an "environmentally, socially and economically sustainable world".¹

¹ <https://nararaecovillage.com/masterplan/our-vision/>

Typology

- The project is characterised by a cluster of low-density, single unit dwellings, townhouse developments and tiny homes on the edge of Narara.
- There are housing models used from cohousing, tenants in common, cooperative ownership and private home ownership among others. Smaller lots and tenants in common arrangements to allow tiny homes on sites with houses help increase the affordability of lots.
- There is a business centre, members lounge, visitor's centre, café and co-op as well as shared camp grounds, greenhouses and agricultural areas. Much of the site remains in a conservation forest.
- A registered co-operative, with members expected to pay a membership fee of \$30 000 before joining the co-operative and developing their own house on a purchased lot.



Source: <https://www.northernbeachescohousing.org/examples>

Social and environmental initiatives

- The ecovillage received funding from the Australian Renewable Energy Agency to implement a Smartgrid and community battery to help the ecovillage become self-sufficient.



Source: <https://arena.gov.au/projects/narara-ecovillage-smart-grid/>

WITCHCLIFFE ECOVILLAGE, WA DEMONSTRATION VILLAGE

Location	Witchcliffe, Western Australia
Architect	Multiple
Partners	Sustainable Settlements & Perron Group
Completion Date	On-going (building commenced in 2020)
Typology	Low density detached houses Townhouses
Legal form	Privately owned Multiple clustered survey strata schemes surrounding community spaces
Residential units	Estimated number of dwellings is 328.
Inhabitants profile	Diverse – options for families, single-person households, shared accommodation, senior populations as well as backpackers and tourists.
Number of floors	1-2
Lot size	119.1ha
Price Range	From \$455,504 (2 bed 2 bath) (April, 2023)
Common space	Community centre, commercial centre, creative hub, shared office spaces, village square, playing field, park.

Overview

The Witchcliffe Ecovillage is a unique residential development located in Western Australia's South West region that which has a high level of self-sufficiency in renewable energy, water and fresh food produce. The project is a demonstration project as it aims to increase education and awareness of different housing models and how to live more sustainably.

Ethos

Witchcliffe Ecovillage is envisaged to "cultivate a strong sharing economy, innovation, entrepreneurship and, above all, community cohesion".¹

DWELLING TYPOLOGY



Detached single-unit housing



Townhouse



Apartments



Mixed-Use

AFFORDABLE HOUSING SCHEME



Lower cost housing



Affordable housing*



Social Housing Model

SHARED AREAS



Kitchen Dining Areas



Laundry



Landscape Areas



Community room



Communal Garden



Reuse of Heritage Building

PARKING SCHEME



No parking provision



Parking provided



Shared Parking

ENVIRONMENTAL DESIGN



Sustainable Urban Typology



Water Harvesting



Passive Design



Sustainable Building Materials



Solar Energy



Renewable Energy Production



Low Waste

¹ <https://www.ecovillage.net.au/about/project-history/>

Typology

- The development is comprised of low-density, single unit, detached private homes.
- Architecturally-designed homes which are constructed consistent with the sustainable building codes of the project.
- There is not a focus on housing affordability although smaller, attached dwellings are offered to reduce housing costs for residents with lower incomes.

Social and environmental initiatives

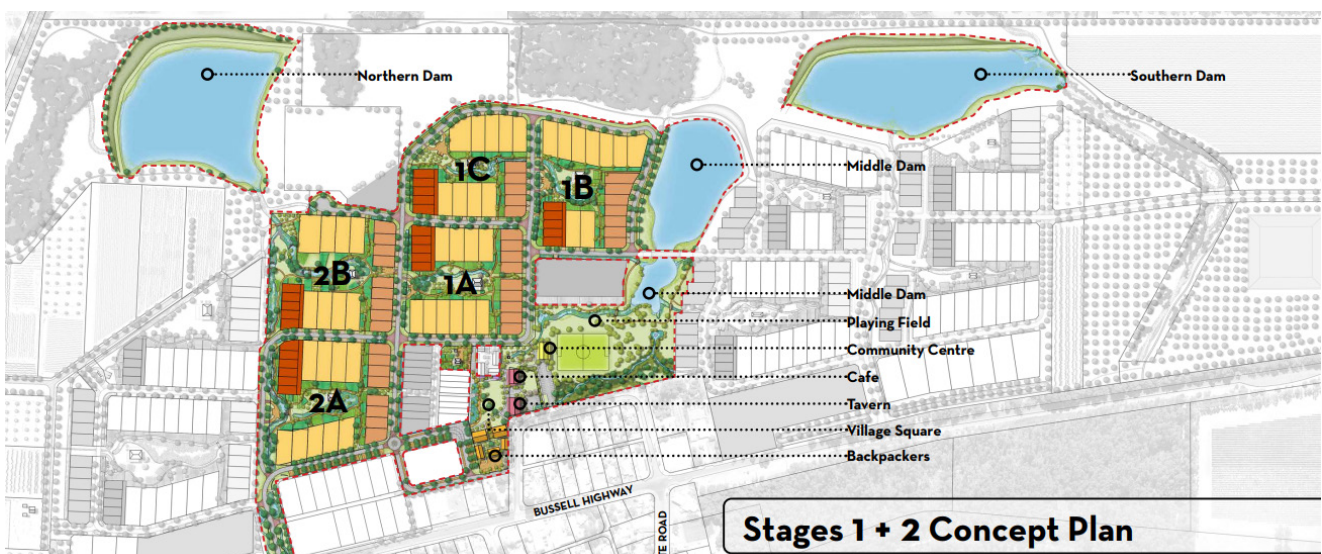
- Water self-sufficiency with centralized wastewater treatment system which provides recycled water
- Wildlife corridors, preservation of 50% of the existing site, revegetation and regeneration of native vegetation has increased the wildlife presence on the site.
- There is a Reduce, Reuse and Recycle Centre.

Engagement/Advocacy

- Some local food production occurs in the household gardens, greenways and a community garden which contributes to Oz Harvest.



Source: facebook.com



Source: ecovillage.net.au

6. ASSESSMENT OF THE CHARACTERISTICS OF ECOVILLAGE MODELS

This chapter describes the characteristics of ecovillage models, which is an adaptation of Table 7 in the Main Report (p. 43). The characteristics are not an exhaustive description of the potential features of these models but aim to outline their main features.

from the Main Report. The ecovillage models have great variability within them, with some ecovillage projects showing diverse characteristics. Characteristics specific to particular projects are indicated by naming the project in parentheses.

The models have mainly been defined using the case study projects in this Addendum and some projects

	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES
DWELLING TYPOLOGY & RESIDENT PROFILE	<p>Generally low-density housing in rural or semi-rural contexts. May include detached and attached homes and incorporate tiny homes or prefabricated housing.</p> <p>Generally located on rural farming land, often adjoining/nearby an existing settlement.</p> <p>Housing is typically interspersed with green private and communal spaces.</p> <p>Site area varies considerably, with The Paddock Ecovillage having a total lot size of 1.39 hectares and the Ecovillage at Currumbin has a site area of 121 hectares.</p> <p>Resident profile is mixed but often older generations who have sufficient equity to buy in given the high land and construction costs.</p>	<p>Usually medium density, ranging in typology from attached townhouse designs (Brougham Street) to mid rise apartments (Assemble Brunswick, Nightingale Ballarat).</p> <p>Housing diversity is generally incorporated through the provision of a mix of studio, 1, 2 and 3 bedroom housing.</p> <p>These developments can occur in regional, suburban and urban locations on infill sites in high amenity, walkable locations.</p> <p>Residents are generally diverse, with younger couples and families present alongside older generations.</p>	<p>Primary low rise and lower density detached housing, some townhouses, granny flats, tiny homes and group housing. Generally located on rural or outer suburban land.</p> <p>A multitude of tenures can exist; smaller homes for rent (Witchcliffe Ecovillage), tenants in common, cooperative ownership and private home ownership (Narara Ecovillage).</p> <p>Can feature some commercial uses.</p> <p>Residents are generally older generations who are able to afford initial costs to join the ecovillage with a range of families, middle and older generations present.</p>

	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES
ENVIRONMENTAL DESIGN	<p>Lower-density, isolated forms of housing can be more car dependent.</p> <p>Innovative forms of sustainable housing design, green infrastructure and permaculture can be adopted and produce positive environmental outcomes.</p> <p>Projects underpinned by circular economy principles, including sustainable energy generation, water harvesting, sharing of community amenities and potentially carpooling initiatives increase the potential to reduce environmental impacts.</p> <p>Can use land for agriculture as well as promoting land conservation areas.</p>	<p>Well located medium-higher density urban form supports walkability, combats urban sprawl and reduces car dependency.</p> <p>Developments can include a reduction of embodied energy of housing through the elimination of excessive individual spatial requirements such as individual laundries, the use of sustainable materials and quality construction.</p> <p>Reduction of lifecycle energy usage through passive environmental design and quality servicing.</p> <p>Food production areas are typically limited to roof tops or small courtyards.</p>	<p>Lower-density, isolated forms of housing can be more car dependent, however may be offset if the project scale supports on-site facilities.</p> <p>Housing designs often achieve high environmental standards with low carbon building design targets to maintain a carbon negative status (Witchcliffe Ecovillage).</p> <p>Sustainable energy generation can be created through PVs, a smart grid and community battery (Narara Ecovillage).</p> <p>Often include land for agriculture or permaculture as well as land conservation areas.</p>
SHARED AREAS	<p>Some shared areas will incorporate commercial facilities such as cafes, markets and businesses.</p>	<p>Shared gardens, laundries and communal spaces can help reduce individual housing footprints and costs while building social connections.</p> <p>Retail space can be provided to activate the ground floor and contribute to the community's offerings.</p>	<p>Shared community gardens, agricultural commons and recreational areas are provided as a minimum but can expand to include communal dining spaces/hub, kitchen, meeting rooms.</p> <p>Larger scale villages can include commercial spaces, eateries and spaces designed to host community events/markets etc.</p>
CAR PARKING SCHEME	<p>The rural or semi-rural nature of these developments may see a high demand for car parking spaces as part of this model.</p>	<p>Car parking provision can range from limited or no parking provided in high amenity locations to standard car parking on-title (Brougham Street).</p> <p>Considerable space is typically set aside for bike storage and car sharing can be promoted.</p>	<p>Parking is usually provided either on-site or in communal parking lots.</p> <p>The rural or semi-rural nature of these developments may see a high demand for car parking spaces as part of this model.</p> <p>Some projects include car share schemes and electronic car charging stations.</p>

	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES
AFFORDABLE HOUSING SCHEME	<p>Housing is not automatically affordable due to high land and construction costs.</p> <p>Typically the ecovillages are not located to support the provision of affordable housing for people with low incomes who may require access to services, public transport and employment.</p> <p>Some affordable housing can be provided, with one project receiving government funds to construct affordable housing units (Findhorn Ecovillage).</p> <p>Efficient energy consumption and the production of food on site can reduce cost of living ongoing.</p>	<p>The affordability of housing depends on the development model, tenure and planning requirements applicable to a project.</p> <p>High potential for inclusion of affordable housing products noting the urban context of this model and ability to provide smaller product.</p> <p>The ongoing cost of living can be reduced through the sustainability measures and the minimisation of individual units' extra spaces such as second bathrooms.</p>	<p>Housing affordability is not guaranteed due to high land costs and the unconventional nature of the development and funding model.</p> <p>Social or affordable housing was not provided in either of the project examples in this research.</p> <p>Joining these developments may require upfront costs for things like land purchase, home construction and community membership.</p> <p>Housing costs can be reduced through the smaller lot housing or agreements such as tenants in common (Narara Ecovillage).</p>
WHO IS DELIVERING/ FUNDING	Varies to include individuals/ friends, private developer, or a builders funded via philanthropic organisation.	Private developer, not-for-profit private developers or co-operative advisory services.	Private developer, not-for-profit private developers or co-operative advisory services.
EXTENT OF PARTICIPATION	Some can be highly participative and socially empowered, others can have little or no community participation.	Some projects can be ran by the co-operative (Brougham Street), some have a strong community ethos and may feature participation design input at the initial stages of the development.	Can be run as a sociocracy with high levels of community participation (Narara Ecovillage) or standard private subdivision with a strong community building ethic (Witchcliffe Ecovillage).

7. OTHER MODELS

This section explores other models which could respond to housing affordability issues within Byron Shire.

Land Lease

Land lease housing models decouple the value of land from the cost of the home. Tenants of land lease models generally own their home but lease the land which the house is sited on. While this model is often manifests itself as caravan parks and mobile home parks, in more recent years more carefully planned sites and an improvement in the design of smaller homes has made it more appealing and available to elderly people looking to down size as well as young couples looking for more affordable housing options.

The land lease model is defined differently across planning jurisdictions but is commonly seen to have two common factors being that the homes are relocatable (although they are designed to not look as such) and there are some on-site communal facilities provided.



Source: jardongroup.com.au

Case study: Lifestyle Wollert - Land Lease Community

Lifestyle Wollert is a land lease community in Melbourne, Australia that is specifically designed for individuals aged over 50 and retirees who are interested in downsizing. The community is located just 25 Km north of Melbourne CBD and 5 Km north of Epping, offering easy access to local cafes, restaurants, medical centers, and shopping centers.

Lifestyle Wollert is run by Lifestyle Communities, a company which offers affordable housing by separating the ownership of the land from the ownership of the home.¹ When residents buy a home at Lifestyle Communities, they enter into a long-term (90 years) secure lease on the land on which their home is situated. This way, residents own their homes, live independently, and have a long-term secure lease on the land.

The house prices at Lifetsyle Wollert vary depending on the type of home, starting from \$523,304 to \$542,324.² Additionally, Lifestyle Wollert offers a range of amenities for its residents, including both indoor and outdoor swimming pools, a spa, billiards, a bowling green, and a croquet court.

¹ <https://assets.lifestylecommunities.com.au/prod-v2/Everything-you-need-to-know/Wollert-FAQs.pdf>

² <https://www.realestate.com.au/buy/property-house-in-wollert,+vic+3750/list-1>

Moveable/Manufactured Housing

Tiny homes have emerged as a typology which provides a small but efficient footprint and can be decoupled from land prices, making it a more affordable option. The employment of prefabrication techniques can further reduce the costs associated with construction. Whilst planning challenges have arisen with the location of the tiny homes as they have been situated in the rear of existing homes reducing the available open space, on large sites with no adequate services, these matters can be dealt with via policy to outline where tiny homes would be best suited.

¹ Mendis et al. (2016) A centre at the leading edge, Built Offsite, issue 1, <https://builtoffsite.com.au/emag/issue-01/profile-arc-training-centre-advanced-manufacturing/>.

While prefabricated housing accounts for 70 to 80 percent of housing stock in some European countries, only 3 percent of Australia's construction investment is towards prefabrication.¹ This demonstrates significant potential of this sector to grow with the high efficiency and reliable processes of prefabrication capable of substantially reduce costs associated with housing construction.



Source: www.sowelotinyhouses.com.au

Case study: Sowelo Tiny Houses

Sowelo Tiny Houses is a tiny house builder in Australia that offers three prefabricated tiny house models: the Sowelo Tony House, the Zen Tiny House, and the Glamping Model. They also offer a custom build and design process for clients, and all builds comply with the Building Code of Australia and the Australian Design Rules.¹

Sowelo Tiny Houses is located in Brogo, New South Wales. Their tiny houses can be delivered to different locations in Australia. The company have a display 8m Sowelo Tiny House that is available for accommodation stays.

The Company aims to produce an environmentally friendly home that doesn't minimize on all the luxuries of modern life. Their custom-built tiny houses are built using 100% renewable energy and are fully equipped with all the necessary amenities. The cost of a tiny house from Sowelo Tiny Houses ranges from \$70,000 to \$130,000.

Sowelo Tiny Houses' homes are built on engineered trailers to avoid the cost of building permits and development applications. The company also offers accommodation stays which is fully off-grid and solar-powered.²

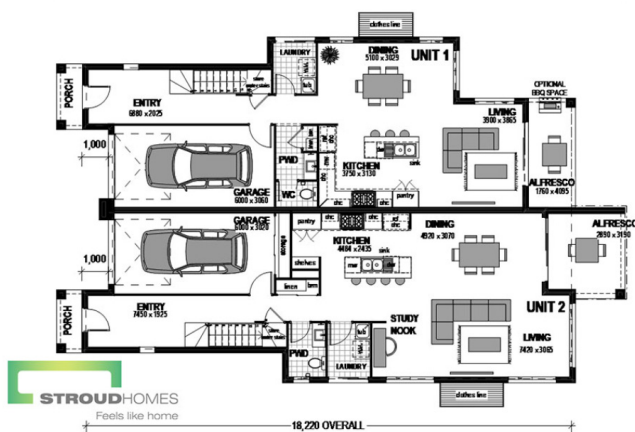
¹ <https://thetinylife.com/australia-tiny-house-builders-guide/>

² <https://www.sowelotinyhouses.com.au/>

Dual Key Housing and Accessory Dwellings

Dual key housing is where existing homes are split into two or more dwellings with separate entrances to accommodate for multiple occupancies of these spaces. Australian houses have some of the largest footprints in the world¹ – these large houses may be unaffordable for the growing share of lone person (23%) and couples without children households (23%) in Byron Shire (Australian Bureau of Statistics, 2021). Dual key housing enables greater housing diversity and provision through infill within existing areas without needing to construct new dwellings.

¹ Stephan and Crawford, 2016, Size does matter: Australia's addiction to big houses is blowing the energy budget, <https://findanexpert.unimelb.edu.au/news/5136-size-does-matter--australia's-addiction-to-big-houses-is-blowing-the-energy-budget>



Example of Dual Key Housing. Source: stroudhomes.com.au

Future Homes

The Future Homes project responds to Melbourne's continuing population growth and has been created to enable gentle density increases in the suburbs through high-quality development. The Future Homes project is a joint initiative between the Department of Transport and Planning and the Office of the Victorian Government Architect aimed at delivering better quality apartments to future Victorians.

Future Homes makes it easier to build better apartments, providing ready-made architectural designs backed up by a purpose-built, faster streamlined planning process to get you building quicker.

There are four site-less Future Homes designs for purchase, each with different design and layout. The designs (sometimes referred to as the Exemplar Designs) are for three-storey apartment buildings and can be easily adapted across various neighbourhoods and sites.

Plans can be purchased at a cost of \$15,000 (excluding GST) which provides a package of architectural designs and access to the new

streamlined planning process.

There will be costs associated with appointing a designer to adapt the selected Future Home design to your site. These fees should be discussed with your technical team.

When you purchase a Future Home design, you will be provided with a faster, streamlined planning process (approx. 4 months) which has four phases as follows (Figure 3):

- Phase 1: adapt the design to your site and attend a design direction review meeting with DELWP and the OVGA
- Phase 2: refer your adapted design to DELWP and other referral authorities, prior to planning lodgement
- Phase 3: lodge endorsed design package to the responsible authority and undertake usual notice requirements
- Phase 4: receive a permit decision under delegated authority.

This process provides benefits and certainty of purchasing read-made apartment designs.

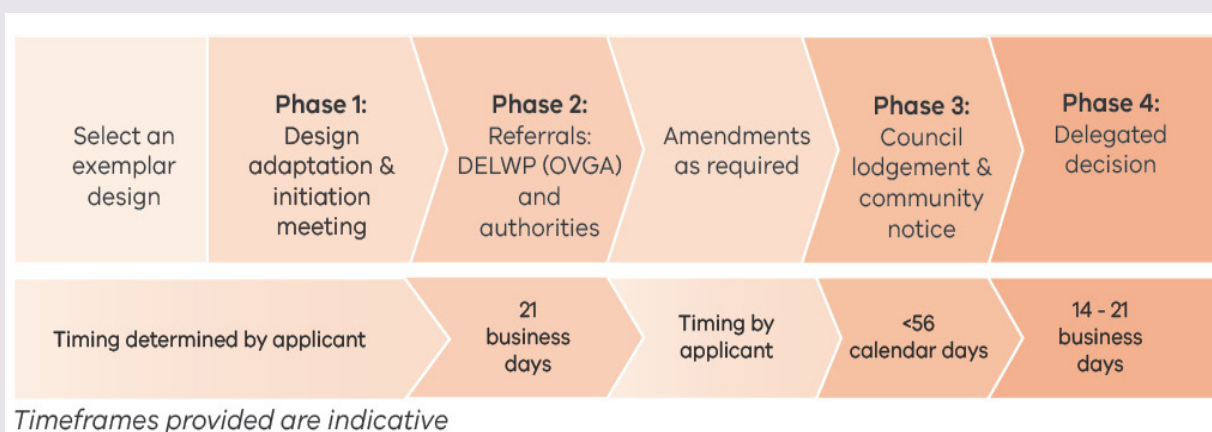


Figure 3: Future Homes Streamlined Planning Process. Source: Building Future Homes Adaptation Guide, DELWP, 2022

Climate Resilient Planning

In recent years, Byron Shire has been heavily impacted by natural disaster events. Urban planning and policy can play a role in increasing the community's resilience to future events. Ensuring resilience-building actions help to mitigate against climate change and also consider social equity so that the whole community experiences the benefits of resilience planning.¹

Building in flood resilience

Flood resilience is the “the ability to prepare for, live through, and recover from a flood event with the least amount of damage and financial stress on homeowners as possible”.

Planning for climate resilience can involve proactive risk avoidance strategies, in particular, by concentrating efficient forms of urban growth in areas that are not risk prone while curbing development in flood prone areas. For urban development, this may take many forms from increasing medium density development in existing urban areas with low-flood risk while adapting existing housing and environments in outer suburban/greenfield locations, through to identifying and fast-tracking approvals for new serviced villages outside of existing towns on existing cleared land and above flood levels could help with providing disaster resilient housing.

Retrofitting existing urban areas for flooding at a large scale can involve introducing green resilient infrastructure (GRI) to increase the environment's capacity to direct and absorb excess rainwater in flood events. GRI interventions include bioswales, using parklands for flood overflow and raingardens. This infrastructure can also be planned for in new developments in rural/hinterland locations and integrated as part of staged delivery of a new community.

At the household scale, housing retrofitting methods can include elevating housing, wetproofing or dry proofing homes through a combination of interventions such as increasing permeability in gardens, raising power points, cabinetry and appliances above the flood line and replacing wall, floor treatments and doors with water resistant materials.²

Emergency Housing and relocation

Climate resilient planning should also consider housing solutions for vulnerable populations who may need emergency accommodation options or to be relocated entirely.

The provision of more social and affordable housing stock is essential for crisis rehoming strategies. Providing mixed-use, diverse, smaller social and affordable dwellings centrally located and situated above ground level can help increase resilience against climate events.

The Independent Flood Inquiry notes that in the Northern Rivers, caravan parks are one of the limited options for more affordable housing and often permanently house vulnerable segments of the community including the elderly and infirm residents. However, caravan parks are often developed in disaster prone areas, making these sites particularly vulnerable to flooding and evacuation and residents then returning to poor housing conditions. The Independent Flood Inquiry recommended that permanent residency at caravan parks located below risk-based flood planning levels be prohibited. The use of relocatable housing is a tool available for emergency management scenarios as well as ongoing affordable housing but they need to be planned on sites which are not flood prone.

Long-term rehoming options following a climate disaster ought to take place in genuine communities with suitable infrastructure rather than for emergency housing to become a permanent housing solution as it is not its intended purpose.

1 Hurlimann, A & Moosavi, S & Brown, G (2020) Urban planning policy must do more to integrate climate change adaptation and mitigation actions. Land Use Policy. 101.105188.10.1016/j.landusepol.2020.105188
2 Melbourne Water (2020) Flood resilient guide to retrofitting your home, <https://www.melbournwater.com.au/media/15581/download>

8. APPRAISAL OF THE MODELS

This chapter provides a high-level appraisal of the ecovillage, land lease and movable housing models against key policy outcomes provided by Byron Shire. The appraisal has been informed by interviews and questionnaires undertaken as part of this research, reviews of project examples/case studies and a brief literature review in accordance with the Project Brief.

Due to the variation of project outcomes within the models and their application to different contexts, the appraisal is based on the case studies, publicly available information and anecdotal observation from developers and residents and should be considered in that context. The appraisal aims to assess the alignment of each of the models with Byron Shire policy outcomes without taking into account the specific locational application of these models outside of the general rural, suburban and urban locational categories.

"I knew that buying a house on my own would perhaps feel isolating for me. Nightingale's model of community connection, I knew, would be great for me in Ballarat. The sustainability aspect and beautiful design also attracted me"

Nightingale Ballarat resident

"Its successful future will depend on whether the management structures and people involved will work effectively to build community and appropriately manage communal spaces/essential infrastructure."

Quote from Shire of Augusta-Margaret River on Witchcliffe Ecovillage.

POLICY OUTCOME	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES	LAND LEASE AND MOVABLE HOUSING
<p>PROVIDING AFFORDABLE AND SECURE HOUSING</p> <p>(see further discussion in Section 7)</p>	<p>This model does not typically provide affordable housing due to a range of factors including:</p> <ul style="list-style-type: none"> Requirement for large landholding or land acquisition to create a community of scale, noting Byron Shire's high land costs. Need for upfront equity to fund or join a project High design quality of homes Embedded sustainability measures (reduces cost of living long term but requires upfront investment). Ongoing costs for maintenance if a Cooperative or CLT and 'sweat equity' not employed. <p>Whilst it varies, house/land packages in rural lifestyle villages range between \$900,000 (The Paddock) to \$1,850,000 (The Ecovillage at Currumbin)¹ which is well above the bracket of affordable housing for low income earners in Byron Shire.</p> <p>Use of prefabricated housing models or tiny homes could be employed in some settings to bring costs down for homes owners or renters.</p> <p>As noted in the Main Report, these housing models are not generally considered to be affordable, but they provide good value</p>	<p>This model has potential to provide homes in well serviced locations and help address the lack of housing supply in Byron Shire.</p> <p>The density which can be achieved is an efficient way (ie value for money) to provide housing in Byron Shire taking account of land constraints.</p> <p>Some features to increase the affordability of alternative urban housing include:</p> <ul style="list-style-type: none"> Priority balloting to key workers and vulnerable demographics Build-to-rent tenure (eg: Assemble Brunswick) to create a pathway to home ownership for people in the moderate income bracket. This also provides security of tenure for renters. Inclusion of affordable housing as part of an urban development facilitated through the application of an Affordable Housing Scheme. Partnerships with Community Housing Providers from the outset. <p>Requirements for the provision of affordable housing within a development typically has a lifecycle of 5-10 years at which time the apartment/dwelling can return to the</p>	<p>This model does not typically provide affordable housing due to a range of factors including:</p> <ul style="list-style-type: none"> Requirement for large landholding or land acquisition to create a community of scale. Need for upfront equity to fund or join a project High design quality of homes Embedded sustainability measures (reduces cost of living long terms but requires upfront investment). Ongoing costs for maintenance if a Coop/CLT and 'sweat equity' not employed. <p>Because social equity is often a pillar or principle for demonstration villages, partnering with a CHP could be planned for at the outset of a project.</p> <p>Community Land Trusts often decouple the costs of housing with the cost of land, reducing the initial upfront payment to access secure housing. Caps on the resale value of housing helps reduce costs to access the CLT for homebuyers.</p>	<p>The decoupling of land and house costs in land lease developments reduces the cost of housing but requires a funding intervention. Upfront home purchase costs within land lease communities could range from \$300 000 up to around \$810 000 in Victoria.</p> <p>Along with high upfront payments, there could be high weekly fees charged as part of a land lease community. Providers could also increase fees over time depending on agreements, bringing some uncertainty to the long-term costs of this option.</p> <p>There are tax and financial benefits for land lease communities such as eliminating the need to pay stamp duty and rent payments being eligible to be assisted through Commonwealth Rental Assistance.</p> <p>For both these models, housing is usually pre-fabricated and manufactured off-site, enabling a reduction of the costs and risks of construction. Movable housing also has a smaller footprint and therefore, reduces costs through spatial efficiency and reduced space that requires servicing.</p> <p>Planning policy generally limits the location of movable housing to be situated either in a land lease context or on a</p>

1 <https://www.realestate.com.au/news/currumbin-ecovillage-rare-treehouse-hits-the-market/>

POLICY OUTCOME	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES	LAND LEASE AND MOVABLE HOUSING
<p>(CONT.) PROVIDING AFFORDABLE AND SECURE HOUSING</p> <p>(see further discussion in Section 7)</p>	<p>for money and boast other social and environmental benefits superior to conventional housing models.</p> <p>Moreover, given their rural locations, they are unlikely to be well suited to provide affordable homes for low and very low income groups given they are not typically close to services, facilities and employment opportunities.</p> <p>Many ecovillage/co-housing projects are privately financed and subsequent resales are done on the open market without caps on resale prices. However, some co-housing groups make special arrangements to ensure perpetual affordability or their members (eg, the Murundaka project).</p>	<p>market without an ongoing need to remain affordable.</p>		<p>property with a primary dwelling as a secondary dwelling. There are almost no means to mandate the provision of secondary dwellings for affordable or social housing tenants. Moreover, secondary dwellings and movable homes have been shown to exhibit informality in tenures, with many homes being non-compliant and sub-standard.</p>

POLICY OUTCOME	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES	LAND LEASE AND MOVABLE HOUSING
CREATING SOCIAL/ COMMUNITY BENEFITS THROUGH CO-LIVING	<p>This model can provide a range of community and social benefits for residents. The scale of the sites means there is typically ample space to provide communal facilities, foster a strong connection to nature as well as contributing to onsite projects such as veggie patches and building outdoor spaces etc (eg Ecovillage at Currumbin).</p> <p>The planned amount of shared space is therefore a good indicator of the potential societal benefit of a project.</p> <p>Other projects demonstrate social benefits and empowerment in day-to-day life via the operation of a strong collective decision-making framework (The Paddock), with participation and social activities central to the community model (Findhorn Ecovillage).</p>	<p>The projects include differing levels of communal spaces and co-living principles. Some projects have a cohousing ethos to increase resident interaction and participation (Brougham Street). Other models support organic interaction embedded through the provision of communal spaces (such as workshops, lending libraries, retail space and rooftops such as Ballarat St, Assemble) and by the design of the buildings to promote daily interactions.</p> <p>The denser alternative urban housing projects may increase social benefits beyond the individual building by enabling residents to be near services, amenities and activities and part of broader community life.</p>	<p>This model has a significant capacity to create social and community benefits due to its commitment to integrating communal spaces, on site food production, and a range of gathering spaces.</p> <p>Diverse housing options in this model enables a wider demographic mix to form part of the community and create a more balanced social outcome.</p> <p>Partnerships with aged care cooperatives as part of these models could further improve the social inclusion outcomes.</p> <p>The internal governance systems in these models provide community empowerment through participation. The governance and participation can range from sociocracy (Narara Ecovillage) through to community guidelines and enabling optional involvement in the management of bodies (Witchcliffe Ecovillage).</p> <p>The issue of connectivity with the broader community can be minimised in the larger scale demonstration projects by providing activities/land uses which draw tourist or the broader local community to the site and facilitate interaction with residents.</p>	<p>Land lease communities can provide a range of community facilities such as pools, clubhouse, cinemas and social events which could provide social benefits to residents.</p> <p>Land lease communities are often targeted at older generations, enabling a specific cohort to live in close proximity and socialise.</p> <p>This might however exclude other age groups in need of housing or in who could benefit from accessing a land lease community. It might also affect the diversity of the community being cultivated within land lease communities.</p> <p>Movable homes have the potential to increase infill in existing high amenity urban areas but do not seek to provide extra community benefits beyond the provision of housing.</p>

POLICY OUTCOME	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES	LAND LEASE AND MOVABLE HOUSING
IMPLEMENTING SUSTAINABLE PRACTICES (SUCH AS RAINWATER HARVESTING, CAR SHARE AND COMPOSTING SCHEMES)	<p>This model typically includes more environmentally sustainable housing to help mitigate against climate changes. Housing generally includes features such as a passive design, sustainable servicing and net zero design codes.</p> <p>However, although having a high environmental standard, the footprint of individual homes may be very large, increasing the embodied energy and servicing demands of these developments (eg. Currumbin).</p> <p>Villages that are operated via a coop have greater control over building and renovating (choice of materials, design landscaping etc) to ensure strict adherence to environmental objectives (eg. Round the Bend Conservation Cooperative).</p>	<p>This model includes highly sustainable housing features such as:</p> <ul style="list-style-type: none"> • Minimum NatHERS 7.5 stars (Nightingale Housing, Assemble Ballarat) and 7 stars ratings (Brougham Street) • Low embodied energy materials • Rainwater collection • Hydronic heating • 100% renewable electricity energy • An onsite bio-composter <p>This model's strength is recognising the positive impact of reducing the size of individual homes by providing more communal facilities, reducing embodied and lifecycle energy consumption of the building.</p>	<p>This model has seen high levels of sustainability incorporated from the outset.</p> <p>Projects such as Witchcliffe aim to be entirely self-sufficient and require no outside energy inputs or water whilst another project incorporates a community smart grid (Narara Ecovillage).</p> <p>Houses generally feature:</p> <ul style="list-style-type: none"> • Minimum NatHERS 7 stars (Narara Ecovillage and Witchcliffe Ecovillage) • Low water use • Recycled and locally sourced materials • A smartgrid • Solar PV panels to exceed annual energy demand • An onsite water management system <p>Demonstration ecovillages are typically grounded in permaculture principles, with organic community gardens, agricultural lots and revegetation and conservation areas.</p>	<p>Housing can be constructed off-site, allowing for sustainable methods of construction and reduced waste.</p> <p>For movable housing, homes can readily be oriented north to enable maximum solar access and passive heating with awnings or plantings which could temper solar access.</p> <p>Other features which are possible include:</p>

POLICY OUTCOME	RURAL LIFESTYLE LIVING	ALTERNATIVE URBAN HOUSING	DEMONSTRATION VILLAGES	LAND LEASE AND MOVABLE HOUSING
EMBEDDING CLIMATE CHANGE RESILIENT DESIGN IN THE DEVELOPMENT (I.E., CREATING A COMPACT WALKABLE NEIGHBOURHOOD/ REDUCING CAR USE)	<p>This model could have the capacity to integrate climate change resilient infrastructure and nature-based solutions simply by virtue of:</p> <ul style="list-style-type: none"> • The large land scale • The capacity to build in drainage, open space, engineering systems from the outset. <p>To achieve the climate objectives of the Byron Shire, the above opportunities/benefits would need to be balanced against potential negative climate impacts by allowing development on important agricultural land and/or increasing dependence on private vehicles for transport.</p>	<p>Medium density housing is fundamental to increasing infill to reduce the environmental impacts of urban sprawl and concentrate development in climate resilient areas.</p> <p>The urban setting of this model allows for increased active and public modes of transit for the occupants and would align with principles of creating compact and walkable neighbourhoods. Cycling infrastructure is usually provided with safe cycle parking and other facilities to help incentivise cycling.</p> <p>The very high environmental standard of these apartments and townhouse projects also mean that more housing can be provided at a greater environmental standard in more climate resilient areas.</p>	<p>This model could have the capacity to integrate climate change resilient infrastructure and nature-based solutions by virtue of:</p> <ul style="list-style-type: none"> • The large land scale • The capacity to build in drainage, open space, engineering systems from the outset • A commitment to innovation in environmental practices • A focus on sustainability at core community and highly motivated to achieve outcomes. <p>To achieve climate objectives of the Byron Shire, the above opportunities/benefits would need to be balanced against the potential negative climate impacts by allowing development on important agricultural land and/or increasing dependence on private vehicles for transport.</p>	<p>Land lease communities generally have a similar urban form to typical suburban subdivisions, with the provision of some communal facilities as part of the estate. Therefore, the urban form can be walkable but is generally lower-density and detached single homes.</p> <p>Land lease estates could also face additional flood or bushfire risks and insecurity due to planning “loopholes”¹ enabling them to be situated on sites that would not generally enable conventional development.²</p> <p>As an infill strategy, secondary dwellings and movable homes can increase the density of urban areas by intensifying housing provision without requiring subdivision. This could have positive benefits for the densification of housing in climate resilient areas without requiring apartment-style higher density development.</p> <p>However, the reported informality of movable and secondary homes could see many of these homes being unregulated for environmental standards, risking the proliferation of unsustainable housing outcomes which require excessive servicing among other concerns.</p>

¹ AHURI Final Report No. 378, Alternative housing models for precariously housed older Australians, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/378>

² Towart (2020) Supply and location drivers of Australian retirement communities, PhD thesis, Macquarie University, Sydney, NSW, accessed 28 September 2020, , <http://hdl.handle.net/1959.14/1275840>.

9. CHALLENGES AND OPPORTUNITIES IN DELIVERY ALTERNATIVE HOUSING MODELS

The difficulty in progressing housing models which are not mainstream, and which are greatly affected by context, scale and individual preferences is that they do not naturally 'fit' within an agreed town planning definition. Tensions between the aspirations of a community project and the parameters of the planning system often arise.

It is apparent from the literature review and interviews conducted with residents, developers and councils that there is no clear benchmark, site scale, or perfect governance solution for ecovillages and other forms of alternative housing models. To get off the ground, many projects have had to compromise outcomes to meet planning/building regulations or simply due to the cost of land and the need to recoup costs – and these have often come at the expense of achieving goals relating to sustainability or affordable housing.

The case studies, interviews and brief literature review has shown that the development of ecovillages and the other identified housing models provides significant opportunities but there are also some inherent challenges when seeking to do things differently. Some of the key challenges and opportunities are documented below as well identifying the capacity (if any) of local government to maximise these opportunities.

Challenges:

Land scale, cost and constraints

The cost of land often dictates the scale and density which needs to be achieved in order to make a project viable. Whilst some ecovillages projects may have a community scale in mind, it may need to adapt in response to rising land costs. This can result a larger community size than envisaged or the need to deliver smaller lots than intended (eg, Narara Ecovillage). These factors can compromise community aspirations in relation to sustainability, social integration and the extent of communal spaces etc.

At the other end of the spectrum, there are constraints on the availability of land large enough (and without significant environmental constraints such as flooding) to provide a community of scale sufficient to support the establishment of on-site facilities.

In alternative urban housing examples, rising land cost have resulted in the need to create taller and larger development outcomes. For example, Nightingale have noted that a five-storey building would provide the preferred scale/community scale in urban area but there has been a need to maximise height (ie, produce a seven-storey development with more apartments) to offset the cost of land and, in more recent years, the escalation of construction costs.

The cost of the land and the required project scale can therefore be at odds with project aspirations.

Securing affordable housing

The ability to provide affordable housing within ecovillage proposals remains difficult. Whilst ecovillages typically provide housing of high environmental standards and low life cycle servicing costs, most ecovillages are not affordable for rent or purchase from the outset.

Most projects still require upfront land purchase and the associated home construction costs which may make them unaffordable for younger, lower income and vulnerable populations. Even small house lots and clustered housing models within ecovillages often have high house and land prices, as evidenced in the project examples. Whilst the provision of affordable housing could be facilitated through government grants and partnerships with CHPs, as part of ecovillage models, there are some key challenges with this approach including:

- It can be difficult for development or resident groups to form project partnerships with a CHP due to the planning risk associated with any given project. A CHP typically seeks most (75%) funding through a government subsidy process which is not a consistent funding stream. As such CHPs are forced to predict the need/timing for the subsidy against the likely timing of planning approvals. The high level of uncertainty in the planning process for alternative housing models makes these projects difficult, high risk and often not suitable for a subsidy program. As a result, if subsidies cannot be relied upon the partnership opportunities are lost.
- CHPs typically require a certain number of dwellings to be provided to enable their cost-effective management. Project scale is therefore a limiting factor.
- Location of the project impacts the likelihood of receiving grants, with urban locations (close to services) being better placed than regional and rural locations.

Of the projects examples reviewed, most did not include any affordable homes (based on the definition in the Act) or provide them in perpetuity, but some have sought to introduce more affordable housing products as the project evolved and the need for upfront equity was reduced.

In most of the project examples, there was a significant cash injection by future residents to either:

- purchase the land (such as Narara Ecovillage)
- further develop their existing land parcel (such as the Paddock) or,
- via a starter fund provided by philanthropists (eg Witchcliffe).

In each of these cases there was an ability to draw down on existing equity to provide project finance.

In the long run, the resident cashflow approach provides benefits in reducing the need for bank finance, reducing interest payments, providing financial stability and in ecovillages with high sustainability measures, a lower cost of living. However, the need for upfront equity excludes large sections of the community who are not able to access it.

In the alternative urban housing project examples, the inclusion of affordable housing within the project has occurred as a result of planning permits requirements or via uplifts for rezonings. The current Nightingale model (applied at Nightingale Ballarat) sets aside 2 out of 10 apartments, or 20%, across its projects for affordable housing which is transferred to a community housing provider to manage. However this is only for a period of 10 years at which time the apartment can be sold.

Witchcliffe Ecovillage also partners with an aged care housing cooperative to provide more affordable and diverse housing options for older generations in the context of the ecovillage. While this is not a core component of Witchcliffe Ecovillage's housing provision, it demonstrates that partnerships with cooperative or not-for-profit organisations could be embedded into a project to improve the affordability of ecovillages.

Addressing affordable housing

Many cities and regions across Australia are facing a generational housing affordability crisis driven by higher house prices, lower levels of new housing supply, and an increasingly difficult policy, financial and regulatory environment.

The housing affordability crisis is having an impact at all points in the market and is impacting all housing types, worsening over the past few years due to factors such as shortages of construction materials and labour and the rising cost of living.

Steps to address housing issues are occurring at macro and micro levels ranging from the establishment of the National Housing Supply and Affordability Council, new policy directions, contribution schemes and government-led house building projects at a state/regional level through to the delivery of individual projects at a local level. Freeing up government land for social housing and partnerships with CHPs is also occurring on an ad hoc basis. It is likely that a combination of these actions will be required to properly address the issue. Within the urban planning context there are a number of options across the macro-micro spectrum which can be considered:

- **Inclusionary zoning** – is a planning intervention which mandates or incentivises the inclusion of affordable housing provided by the developer as part of the development. This would best be implemented at the state level, in combination with a clear growth strategy for the state or regions. This is applied in many locations across Europe and the UK, with rates in the order of 15-35% for affordable homes.¹
- **Uplift mechanisms** – a voluntary incentive model, where new affordable housing is encouraged by reducing costs for developers or enabling a larger development outcome above what would normally be approved if affordable housing is provided. Incentives can include:
 - Modifying planning standards based on performance criteria—for example, increasing site yield to encourage low-cost housing like boarding houses, student accommodation, and retirement villages in designated areas.
 - Bonus systems which relax development controls, typically height, density, setback or parking controls, in exchange for constructing dedicated affordable housing.
 - Planning process incentives where projects

¹ Scotland has a national policy for 125% affordable housing – Brodies Insights (brodies.com/insights) For larger sites private-led schemes generally can access the Fast-Track route if they provide 35 per cent affordable housing. There is growing consensus that these higher affordable housing requirements are being factored into land values and it is therefore assumed that 35 per cent will become the typical level of affordable delivery on larger, private-led sites by 2022/23. The 2022-2032 Affordable Housing Funding Requirement for London.

that include affordable housing attract special treatment in the planning process such as fast track approvals, reduction, exemption, or a refund of application fees, infrastructure charges or rates.

These types of incentives are available but have mixed outcomes depending on the way they are expressed in the planning scheme and the context in which development occurs. To ensure their success, uplift schemes should be:

- Clear in their purpose to incentivise the provision of affordable housing only. If there are easier ways to gain uplift or negotiate additional floor space, developers are less likely to undertake the risk and expense of providing affordable or social housing.
 - Provide simplicity and certainty for developers about how to engage with an uplift scheme and what the stipulations are for the provision of affordable or social housing, eg, how long should it be provided, with what legal agreements, who will own and manage it.
 - Pragmatic given the market in which they are implemented. There must be demand for the additional floor space for developers to want to gain the uplift and therefore provide affordable or social housing.²
- **Preparing and implementing Affordable Housing Contribution Schemes** – Councils can seek contributions for affordable housing via specific schemes. The Byron Affordable Housing Contribution Scheme seeks a 20% contribution from new developments which have received an uplift to the value of their land through a rezoning process. The ability for developers to provide this contribution as land, monetary value etc provides flexibility for the development industry and enables Councils to direct homes to the most appropriate location, if not within the development itself. This is a successful approach, however a balance between seeking the contribution and seeking to set out its application (ie, exact location of the new homes, CHP, dwelling type, resident profile etc) is required. CHPs advise that they ought to make decision on these matters rather than local Council or developers.
 - **Establishment of co-operatives and CLTs** – homes which may be somewhat more affordable due to a decoupling of land and housing prices with rising home values kept in check via the limitations on the resell value.

With all these options, the viability of the project overall (which may include conventional housing delivery) must be understood to ensure that the affordable housing can be delivered and maintained.

² Echelon Planning, 2023, Confidential Report

Securing finance

Obtaining debt for a development always requires a clear strategy and project vision and this is even more so if a development doesn't follow a conventional financial structure or housing model.

There are two major stages in the development process that require funding—land purchase and the construction phase. These stages can be funded by a combination of equity and debt. Equity and debt reflect varying risks and, therefore, command varying investment returns.¹ Typically for larger developers, such as publicly listed Australian Real Estate Investment Trusts, accessing finance is not a key determinant of whether developments are undertaken. However, for small and medium-sized developers and those undertaking a less conventional pathway, borrowing on a project specific basis can be more challenging.²

For any given project, it is never possible (or preferable) to obtain 100% debt and typically debt is sought to fund (excluding GST) of the loan to cost ratio. In this scenario, the developer would fund the remaining debt.³

The maximum debt available is typically sought for either conventional or alternative development projects as equity finance is more difficult to obtain than debt. For alternative housing projects such as ecovillages or cohousing projects, a development company is often separately created so that finance can be sought for a company rather than individuals, given this is seen as less risky for the banks.

In seeking debt for an alternative housing project, a number of matters are considered by banks including:

Market conditions/minimising risk – Lending is highly susceptible to market conditions, cycles and events. As such, the risk profile for development and the ease at which finance can be obtained for any development can differ substantially. Lenders make finance decisions which seek to minimise risk by employing strategies such as reducing the proportion of debt finance available to any one project, lending to developers with an existing relationship to the financier, lending into 'safe' development and tenure types with a proven sales record and where there are precedent projects in which to calculate comparable sales. This has historically been

a barrier to getting alternative housing projects off the ground as there were limited precedent sales to draw on, but as alternative projects become more prevalent, anecdotally this seems to be easing.

Understanding of the models – When seeking finance for an alternative housing project (such as cohousing or an ecovillage) it is even more important for the project vision, staging and loan repayments to be clearly understood by the lender. Some lenders and business bankers are more familiar and confident with alternative housing models than others and this can greatly affect their capacity to lend for these types of development projects. Without a strong relationship and understanding of an alternative housing model such as cohousing or an ecovillage a business banker would commonly take a less risk averse approach.

Scale and location – Whilst demonstrating value of the project is first and foremost, lenders will consider the location and scale of a development. Typically, lower risk settings are those such greenfield development where the planning risk is understood and the likely development outcomes and staging can be assumed. Smaller scale developments in either infill or regional settings (ie, rural ecovillages or alternative urban projects) typically have a higher risk profile.

Clear metrics – With alternative housing projects, it is important for any lender to be given clear metrics in which to value the project. This includes understanding project delivery timeframes, construction costs and timing for liquidity event/s. Given that alternative housing models are less understood (and vary significantly), having clear metrics for each project is imperative to securing finance.

“One of the barriers to growth in this area is a reluctance of banks to lend money to alternative products. An important role of government is to demonstrate that such models are effective and can be low risk investment opportunities.”

AHURI, 2014⁴

1 Brueggeman W & Fisher J 2008, Real estate finance and investments, 13th edn., McGraw Hill, New York. Bryant L 2012, 'An assessment of development funding for new housing post GFC in Queensland, Australia', Journal of Housing Markets and Analysis, Emerald Publishing, vol. 5, no. 2 pp.118–33.

2 AHURI Final Report, The financing of res dev in Australia, pg

3 Interview with Tim Riley, Property Collectives

4 Rowley, S., Costello, G., Higgins, D., and Phibbs, P. (2014) The financing of residential development in Australia, AHURI Final Report No. 219, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/219>.

Service Provision

The scale of ecovillages differ substantially, depending on their community vision, availability of land and the ability (or intention) to provide community services within the project. Despite the scale differences, rural ecovillages are typically located outside of urban areas where larger sites may be available, land is productive and there are ecological and landscape values to leverage. In these rural locations, an ecovillage may be anything from a small hamlet (up to 50 dwellings, such as Narara Ecovillage), a new small settlement (50-200 homes, such as Findhorn Ecovillage) or a new new/enlarged settlement (upwards of 200 homes, such as Witchcliffe Ecovillage). Service provision within these projects ought to reflect the scale of development, which will determine whether an ecovillage can be self sustaining.

A rule of thumb for infrastructure provision is to plan for a community size which can support base level services such as a primary school, recreation space, community facilities/MCH and convenience retailing.¹ This community size is circa 3000 dwellings (6000-10000 people) in a greenfield setting. Catchments of less than 3000 dwellings would be challenged to support the establishment of local services and would be reliant on facilities in nearby townships. Access to employment is also a factor to consider for key workers who are not able to work remotely.

For conventional developments this rule of thumb can readily be applied in planning for new growth areas and communities to understand service provision requirements for local councils and state government.² However, in an ecovillage context where there are typically communal facilities provided and sometimes a community led approach to service provision,³ these catchment benchmarks may need to be adapted.

In planning for ecovillages, their scale and intended infrastructure provision needs to be understood from the outset. If there is a long term plan to create a large settlement such as Witchcliffe Ecovillage, then it will be necessary to set aside land for facilities in the masterplanning of the site and ensure that:

- the catchment will be of sufficient size to support the construction and ongoing management of the public facilities – or

- a clear undertaking if there is to be private/community run facilities in lieu of public facilities.

Planning Hurdles

The difficulty for alternative housing projects to meet planning standards has been raised by those seeking and developing alternative housing projects, as found in the interviews with project representatives.⁴ Typical standards relating to matters listed below are often a cause of tensions in developing alternative housing models:

- Open spaces – standards relating to the size and location of private open space are often contrary to the intention of an ecovillage in providing more communal spaces.
- Car parking – the requirement to provide car parking for each dwelling in line with planning scheme rates despite many of the residents not owning/using a car, or there being a specific direction of a project to reduce individual car ownership.
- Common areas – ecovillages and co-housing projects typically include common areas and these spaces can range in scale and type from maker spaces and office/meeting rooms, through to communal kitchens and living spaces. The ecovillage proponents seek to retain flexibility with the communal spaces to enable adaptation over time to respond to residents needs, however tension can arise with Council requirements to define (and set) the land use type, hours of operation and ensure spaces are only for the residents. This exposes the inherent lack of flexibility in planning schemes for land use adaptation over time.
- Non-residential uses- given the remote location of some ecovillages and the rise of working from home and out of office locations, there is benefit in ecovillages including non-residential uses to be primarily for the residents which could include a cafe, small convenience shops or co-working spaces. Whilst these uses are proposed primarily for residents, there is the need to consider external impacts of the project/community and this means that the supporting uses could become unfeasible (i.e., due to the need to provide additional car parking/services and the application process itself).

Local councils have identified an issue with understanding

1 VPA PSP guidelines

2 Benchmarks are minimum best practice standards and more detailed structure or local area planning in respect of any new cities, towns and villages may require higher standards that are more suited to the specific circumstances of a particular locality. While benchmarking provides some useful indicators of the type and quantity of social infrastructure within a given area, or to serve a given population there are a range of other factors that need to be considered.

3 Note how some projects include onsite courses and leverage the expertise of residents.

4 Project interviews with Tim Riley, Lyndall Parris and James Senior, 2023

the intended ultimate outcomes of alternative housing models, and note that that proponents need to provide a clearer picture from the outset of the intended land use mix, staging and ultimate scale of the development so the council is able to properly assess the infrastructure requirements, and ensure the housing mix and facilities are planned in line with the ultimate vision.

The issue of density and height for ecovillage proposals can also be challenging as a certain scale may need to be achieved to make the project viable and generate an adequate community scale. Whilst this scale and feasibility varies based on upfront capital and the vision for any given project, common issues are:

- Rural ecovillage/demonstration village – the need for large parcels of land to enable a community of scale to be built and support facilities. Finding sites of a suitable scale can be challenging especially when considering land constraints such as flooding and bushfire and avoiding areas of high ecological or agricultural value.
- Alternative urban housing – given infill sites are typically of a smaller size (and high land cost) there is a need for some height to achieve a community of scale and to contemplate the provision of affordable housing as part of the mix. Planning controls therefore need to identify locations (such as in town centres) where this density can be delivered.

Time Horizons

One of the major barriers of rural lifestyle living and demonstration ecovillages is that they can take a significant amount of time to come to fruition and contribute substantively to housing supply. Ecovillages may take more time to acquire land, source funding and develop a plan, especially those funded and designed through communal means. Starting a self-funded ecovillage community could require hosting multiple forums and education events over years to have future residents commit to joining the ecovillage before even acquiring land. The participative and intentional processes of ecovillages, while a strength for the community, may mean that these developments require more community input into the initial stages of the land acquisition and development process which could extend timeframes.

Different ecovillages have different timeframes for new residents joining and leaving the ecovillage. Some ecovillage communities may have not have screening processes, but one ecovillage example in particular noted that it could take up to a year to be accepted into the

ecovillage and a year to leave the ecovillage.⁵ While these internal governance systems may help ensure resident alignment on community values, they may add significant delays and friction to providing housing for those that are most in need.

Additionally, the reliance on self-constructed housing may add inefficiencies to the development process in some ecovillages. In precinct development approaches, economies of scale could be gained for both timing and costs through consolidating professional fees and labour expenses, maximising material efficiencies and gaining planning approvals collectively compared to an individual self-constructed approach.⁶

⁵ Grounded, 2023, Make Your Own Rules - Explorations in Governance Webinar.

⁶ Murray et al., 2015, AHURI: Processes for developing affordable and sustainable medium-density housing models for greyfield precincts - Appendix 2

Opportunities, Benefits and Facilitating Outcomes:

There are a range of benefits in the delivery of ecovillages (rural lifestyle living, alternative urban and demonstration models) as part of an overall housing supply equation. Rural lifestyle living and demonstration ecovillages could provide housing supply in locations which would not be suitable for conventional residential densities. Ecovillages also provide unique lifestyle housing options for residents who are committed to living in a highly sustainable and communal environment. They can be sites of innovation for sustainable housing design, with many aiming for NatHERS 7 stars or more.

And whilst the case studies demonstrate that the rural lifestyle living and demonstration ecovillage models are not generally 'affordable', they provides an alternative to the conventional housing solutions and can have positive environmental and social impacts.

The Main Report includes an assessment of the characteristics and assumed benefits of a range of alternative housing models considering matters such as affordability, sustainability and climate resilience. The Addendum Report addresses these matters specifically for ecovillages models at Chapter 8 and establishes that there are many benefits in their development as part of the housing mix.

There are a range of opportunities available in promoting or facilitating the establishment of rural lifestyle living and demonstration ecovillages or other more affordable models such as alternative urban housing, land lease and movable homes within the Shire. Some of these opportunities are outlined below:

Advocacy

There are many ways that local governments can influence the affordability and diversity of housing in their municipalities, ranging from indirect methods such as advocacy right through to direct investment in housing. These are detailed in the Main Report considering advocacy, planning, support services and financial assistance. As such, these are not repeated in this Addendum and remain available for the Shire in their capacity as local policy creators.

The Shire has been active in the debate around future housing policy. It can continue to advocate for a better performing housing system and create a culture of change by the promotion of demonstration projects to show what can be achieved and what innovations may be able to be translated into real outcomes in Byron Shire.

Advocacy and facilitation of ecovillage and alternative models could continue include discussions with the housing industry, building groups, landowners, CHPs, other non-profits, businesses etc.

Defining Successful Outcomes

Whilst is difficult to define exactly what constitutes an ecovillage, a local council could set out what outcomes need be achieved for it to be considered as an ecovillage and subject to a particular lens of planning assessment and consideration.

These performance outcomes or thresholds could be set for different scales and settings ranging from a rural ecovillage hamlet (eg less than 50 homes on a large lot with farming practices), a large rural/demonstration village or an alternative urban housing typology. The performance outcomes could address matters such as:

- Extent communal spaces
- Sustainability measures
- Onsite services/ treatments
- Climate resilience
- Community/social interaction
- Potential for inclusion of low cost housing
- Empowered governance models

If the performance measures and thresholds are met, councils could determine whether to allow residential proposals to be considered on land not currently identified for residential development. This would have the benefits of:

- Signalling that ecovillages are a supported form of housing in the Shire if they meet the performance outcomes, thresholds and design guidelines.
- Reducing uncertainty within the development process for future residents and removing some friction in the planning process.
- Reducing uncertainty will also have a positive impact on assessment for lenders and the chances of that development going ahead.
- Creating value uplift on sites to enable the application of the Byron Affordable Housing Contribution Scheme to be applied and homes to be delivered.

Reviewing Policy Settings

To support the delivery of ecovillages and alternative housing models more broadly, there would be a need to vary policy settings. This could include:

Reviewing height controls to enable greater density -

Given infill sites are typically of a smaller size (and high land cost) density is required to achieve a community of scale, provide a range of apartment sizes to respond to need and to create economic conditions where an affordable housing component is delivered. This could take the form of low-rise apartments in locations which are well serviced. Height and design controls in town centres would need to be reviewed to allow density to be achieved.

Flexible land use – To cater for the needs of a ecovillage community, evolution of a project over time may be required. Providing some flexibility in planning approvals to allow for innovation and onsite facilities such as co-working spaces, maker spaces, farmers markets/selling produce from the land, small function spaces (for hire/funding for onsite projects) would allow a project to adapt over time and meet social connection goals.

Partnership - Local government can facilitate alternative outcomes where possible by creating joint ventures to help reduce potential development risk, making a scheme more attractive to potential lenders, and also to ensure that social and affordable outcomes are achieved and put forward as part of a demonstration project. Joint ventures could be structured in a number of ways and could include the use of local government owned land.

Such joint ventures can not only help government meet their housing targets and deliver a range of affordable housing options but can make developments that lenders may not previously have funded feasible.



e info@echelonplanning.com.au
a 3 Prentice Street, Brunswick 3056
t 03 9862 3470