

# Cape Paterson Ecovillage



Image credit: Cape Paterson Ecovillage

## Overview

Planned over more than eight years, the Cape Paterson Ecovillage will begin construction in 2013. The project aims to deliver a step change in how low-density residential communities are designed and operated. Located immediately to the west of the existing Cape Paterson township, with strong pedestrian and cycling links to the town, the project will see the development of approximately 190 new homes, a community garden, conference facility, barefoot bowls club and. A significant biodiversity restoration and maintenance project will be undertaken on the remainder of the site, covering around a third of total land.

The project has been driven by a collaboration between passionate conservationist Brendan Condon and Mike O'Mullane, a real estate and development finance specialist. The over arching objective of the project is to develop a new model of viable, highly sustainable and liveable community. The project has drawn on a range of leading organisations and individuals for advice and analysis. A key output of this consultation and analysis was the preparation and publication of the *Zero Carbon Study Peer Review*, a peer reviewed study into the true impacts, costs and benefits of developing the project in line with best practice sustainability principles. This study, authored by Anthony Szatow, has been used to refine key aspects of the proposed development including building size and design, on-site energy generation and operational management approach.

A series of ten architecturally designed house designs have been released, developed by a

panel of carefully chosen architects, which will be available to purchasers of land within the development. These designs achieve a minimum of 7.5 stars under the FirstRate5 thermal performance rating system, representing a significant increase on the current regulatory minimum of 6 stars. A key requirement was to develop these designs in the most cost-effective manner. This has been aided by a deliberate reduction in floor areas, ensuring floor plans are more efficient with their use of space as well as less costly to construct and operate.

## Sustainability features

### Smaller, more efficient homes

Recognising the broad range of influences on the efficiency of new homes, the project has specifically targeted a broad range of elements within efficient design. These include:

- dwelling size and layout
- lot orientation
- dwelling orientation
- shading
- glazing ratios and construction materials
- landscaping

Purchasers will have the option of using one of the ten designs already released, working with one of the panel of architects chosen by the project team, or bringing their own design. Regardless of the approach, non-negotiable standards have been set to ensure all homes actively implement the project vision.

## Sustainable energy system

The project's ambitious target of being carbon neutral in operation will require an innovative approach to how energy is generated and used. All homes are required to have a solar PV array with a minimum 2kW capacity. No natural gas connections will be provided, with electric induction cook tops to be used in kitchens and efficient electric heat-pumps to be used for the minimal heating and cooling requirements. Electric vehicles and associated charging infrastructure will be supported, to give residents the option to use zero-emission vehicle transport by charging the car using solar power.

Additional power required to supplement solar power generated on-site will be sourced via certified Greenpower drawn from the grid.

## Restoring biodiversity values

The site's condition prior to development, typified as under utilised cleared farm land with little remnant native vegetation, will be significantly improved by a comprehensive biodiversity restoration project covering a large portion of the site. This will draw heavily on the experience of Australian Ecosystems, founded by Cape Paterson director

Brendan Condon, to restore areas of the site closest to remaining areas of native vegetation immediately south of the site.

## Local food production

With a strong appreciation of the importance of supporting local food production, the design ensures residents at the project will be able to supplement their own private gardens with produce from a shared community garden. Irrigated with rainwater collected on-site, the community garden will become an important piece of social infrastructure, as well as producing low-impact food for residents.

## Government support

The project has been entirely driven by its private sector proponents. A small grant was provided by Sustainability Victoria to support the development of the *Zero Carbon Study Peer Review*.

## Implications for planners

### A new model for low density residential development

An explicit aim of the Cape Paterson Ecovillage is to demonstrate a new model for residential development in regional and suburban fringe areas. Given the large proportion of housing developed that falls into this category, the project has significant potential to influence the approach of other developers. Planners practicing in such environments may be exposed to an increasing number of developments seeking to replicate the approach.

### Technical understanding of sustainability initiatives

The wide range of sustainability initiatives incorporated into the Cape Paterson Ecovillage plan present a potential challenge for planners with regard to technical understanding. Additional skills and knowledge may be required for planners preparing or assessing similar proposals to ensure a genuine appreciation of the project's merits can be achieved.

## Connection to Clean Energy Future package

Cape Paterson Ecovillage represents another significant step in the shift towards more sustainable approaches to urban development, particularly in the low-density residential market. The support and economic reform contained in the Clean Energy Future package has the potential to be influential in further improving the business case and demand for development of this type.



### Carbon price mechanism (CPM)

The CPM is creating economy-wide change. As the drivers of this policy are recognised by the property and construction industry, models of development like those implemented as part of the Cape Paterson Ecovillage are likely to become increasingly viable and attractive to the mainstream market.



### Renewable and low carbon energy (RLCE)

Cape Paterson Ecovillage has set an ambitious target of being carbon neutral in operation, and to support this will take the significant step of not providing natural gas connections to properties. As a result, on-site generation will be critical in providing affordable, zero carbon energy. The project may seek to add to individual roof top systems with a shared renewable energy system, something the RLCE components of the package may support.



### Energy efficiency (EE)

Cape Paterson Ecovillage will be a national leader in establishing progressive minimum requirements for residential building energy efficiency. The package's measures aimed at improve the efficiency of transmission and distribution networks, may intersect with the project's desire to establish an innovative and interactive sustainable energy system.



### Land sector measures

The project's commitment to restoring a large section of the site to native, indigenous vegetation represents a leading approach to biodiversity in property development. The land sector measures contained in the Clean Energy Future package, including support for biodiversity restoration and management, may support future projects in taking on a more proactive role in this space.

## Further reading

- Project website: <http://www.capepatersonecovillage.com.au/>