wise but wonderful

It’s hard to find the balance between beauty and environmental awareness but Stevens Street has the scales aligned.
Open-plan areas allow residents freedom to create their own space.

When you drive past a construction site it’s not out of place to see piles upon piles of rubbish; bricks, wood and plasterboard all overflowing out of a skip bin. But not with the Stevens Street project, which is all about how much can be recycled, reused and refreshed to create not only an environmentally friendly construction site but also a carbon-neutral building for now and the future.

Set to the backdrop of Fremantle, this subdivided block boasts four three-bedroom, two-bathroom homes, each with its own garage and private guest entrance.

For developers Francis Burke and Louisa Barnacle, the project was one close to their hearts. Not only was it their company EarthCare Developments heading the project but the site had also been their home for more than 10 years.

EarthCare is a Fremantle-based company specialising in environmentally friendly approaches to the needs of the construction industry, so it was only natural when Francis and Louisa wanted the property to reflect their beliefs of taking care of the environment and planning for a sustainable future.

In addition to incorporating their own beliefs, Francis and Louisa wanted the home to be a reflection of the area — industrial, modern and creative.

Local architecture firm, Officer Woods, was given the task of designing the environmentally superior homes. Contemporary design, courtyard living and flexible living arrangements were all on the brief, as well as the important carbon-neutral features.

“We attempted to present a single identity to the street, similar to a large house in the maisonette tradition, rather than expressing each dwelling separately,” explains architect Trent Woods.

“The houses are designed so that they may be internally divided to yield more than four dwellings should the local density code change in the future,” adds fellow architect Jennie Officer. “The typical dwelling has been designed to facilitate multiple modes of occupation over time with only minor modifications required.”

For Francis and Louisa to reach their carbon-neutral goal, they needed to approach the design and build more dynamically than just recycling and sourcing products locally. It was here that Perth-based company eTool came into the equation.

Created and run by Alex Bruce and Richard Haynes, eTool is a lifecycle assessment software system that measures the carbon impact of a house from its build to its demolition. Through this assessment, eTool and the project team can then plan how to create a low- or no-carbon building.

“We aimed to achieve a zero-carbon outcome in a financially sensible fashion. This was to include not just the operational energy...
Each garden space has a contemporary feel while remaining environmentally conscious.

but a full lifecycle assessment to include everything from the materials used to assembly and maintenance over the building’s entire design life,” explains Alex.

“From a preliminary review of the design we felt that this could well meet the ambitious ‘zero-carbon’ outcome. I guess this gave us a huge amount of motivation to help with the design and build one of the first truly ‘zero-carbon’ set of dwellings in Australia.”

The team became highly conscious of every element of the build — every piece mattered right down to the nuts and bolts. Even the materials from the block’s old house were incorporated into the new buildings.

“The passive solar houses are constructed oframmed recycled masonry, plantation timber and recyclable materials. Built on recycled fill, black concrete slabs were thickened on the north and coupled with high-mass walls on the southern boundaries to provide thermal storage as well as retaining acoustic and fire separation,” explains architect Jennie.

“Each dwelling is provided with a generous linear courtyard allowing for optimum winter solar access to living areas. Cooling systems are entirely passive. Rainwater is collected and used, and the houses are pre-plumbed for greywater installation,” adds Trent.

EarthCare Landscapes chose plants that created a low-maintenance and water-wise outdoor environment, as well as retaining and relocating a majority of the mature trees from the block. Creating garden areas with communal fruit trees and herbs, it gives the project a sense of community. Artist Mark Grey-Smith was commissioned to create unique aluminium gates and number 58 artwork to add to the property’s street appeal.

With the testing from eTool, and the architects’ dedication to the project, Francis and Louisa achieved their goal — carbon-free homes.

But the most impressive thing about the homes is that even though they are carbon neutral and consist mostly of recycled product, there is no sign anywhere to show it. Each of the homes is warm, welcome and contemporary, and no detail has been spared to turn each from a house to a home. What the developers have turned out are homes that are chic, as well as environmentally conscious.