MODERN GREEN HOMES

Sanctuary

INSIDE ISSUE 37 Tiny & tropical style; eco display homes; green facades; local materials; 8.6 Star apartments; SIPs solar extension; future-proofing; concrete floors guide; Passive House in Wanaka NZ + more

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WIN A home battery storage system from Enphase

Offer open to Australian and New Zealand residents only, details p40

Off the shelf

After building their own home from locally sourced materials and using a simple design, Jane and Owen have packaged up their approach for others in their close-knit Tasmanian community.

WORDS Gabi Mocatta
PHOTOGRAPHY Natalie Mendham

Glass doors open to the deck that runs the full length of the house; a carport to the west provides additional shading and protection to the entry. Cladding is cypress macrocarpa – a common tree used for windbreaks in Tasmania, but now often removed and replaced with native vegetation and reclaimed as a building material.

BUILDING A NEW HOME THAT'S environmentally sound is a challenge. There's much research to be done: products to assess, decisions to be made, standards to meet. It's tough work – possibly more so than constructing a home that isn't quite so planet friendly. But what if you could leave all the environmental research and decision making to the designer/builder? What if you could just ask for an extensively researched, environmentally sound, locally sourced, well-designed, beautiful-to-look-at home – and get all that without having to do the legwork? Wouldn't that make building green more attractive, perhaps even to people with less environmental concern? It's just this kind of package that NEAThouse is offering in Tasmania.

"NEAT stands for New, Environmental, Affordable and Tasmanian," explains Owen Thomson, who runs NEAThouse with his wife Jane out of Hobart. Owen and Jane, both with previous careers as professional musicians, design and build complete environmental home packages. These exceptional houses – with high energy

Timber is a feature of this house, with Ecoply used for kitchen joinery and a feature wall in the living space; mixed-species FSC-certified timber is used for the floors. The design requires orientation to the north for best performance, with windows positioned for solar gain in winter. Sliding doors on either side of the kitchen enable the living room to be zoned.

star energy ratings – are all about sourcing locally and sustainably. They're also about creating a healthy, aesthetically lovely home environment, both indoors and out.

"Our approach and philosophy are very much holistic," says Owen. "We build houses that are sustainable from an environmental viewpoint, but we also want to make having an environmental home accessible for people in an economic sense." With their NEATbox display house they also demonstrate how good all of this can look.

This compact house, set in the beach village of Dodges Ferry near Hobart, is a 104-square-metre, three-bedroom home with a study, expansive deck and carport, built in a simple 'box' format to passive solar principles. The home is super-insulated, giving it an 8.1 Star energy rating, and uses recycled, local and sustainably sourced materials, including insulation of largely recycled glasswool, plantation pine framing and cypress pine cladding. The home comes with a stylish Ecoply kitchen, a spacious family bathroom, low-VOC finishes, and harvests all its own water off the wide skillion roof. White vertical boards on the interior walls give the home a beachy feel, and a modular Ecoply feature wall in the living area adds honey-coloured warmth.

As well as being so well insulated, the NEATbox is double-glazed throughout, with a thermal break frame. On a cool spring day as Jane and Owen show the house off to visitors there's no heating on, and yet the north-oriented, sun-soaked living area feels warm. The house smells deliciously of timber as soon as the front door opens. Surprisingly, the base price tag for a little, but spacious, NEAT design is under $173,000, with costs increasing with size.

The study is located adjacent to the generous entry, and doubles as a laundry with ample storage (washing machine discreetly tucked behind cupboards).

Not far away in the same beach-side community, lawyer Tori Hodgman owns a larger NEAThouse, set higher off the ground amongst the native bush, with expansive beach views. Tori looked at many new houses before settling on Jane and Owen's design. "It was the first new-build house that I'd ever walked into that felt like a home," she says. "I think because it's largely built of recycled timbers, it has its own personality. You can tell that this house has been built with a lot of love."

Although Tori bought the house for its design above all, the environmental side of it also appealed to her. "I particularly liked that the building materials were locally sourced. When I bought things for the house, it inspired me to source locally as well." Tori also enjoys her home's energy efficiency. "I've been here for two years, and I have just two panel heaters which I haven't put on more than a few times, just for half an hour on winter evenings," she says. "My winter power bills are $100 a

To reduce openings into the living space, two bedrooms share an entry of a small corridor, while a third bedroom and bathroom share another, which provides a recess for large storage cupboards. The house is highly insulated and no heating or cooling is provided.

This three-bedroom home has one family-sized bathroom, with Ecoply joinery WELS 4-star fittings used for water saving.

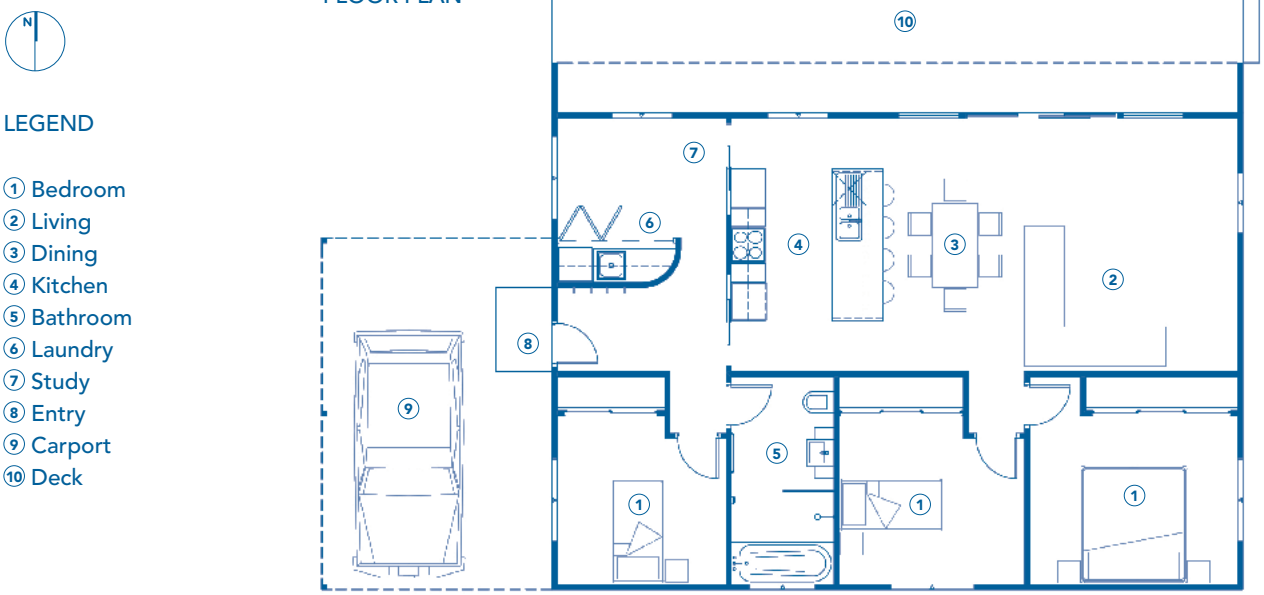
month, compared to $1200 a quarter in my old house. It's opened my eyes to the value of really good insulation."

Tori's house is popular with her friends, many of whom have asked if Jane and Owen will consider building on the mainland, however these buildings are being built only in Tasmania for now. "We've had lots of enquiries asking us to build on the mainland, and although we're not focusing on that in the immediate future, it's definitely at the back of our minds," says Jane.

Meanwhile, things are getting busy in Tasmania for NEAThouse. The company won the HIA 2016 Australian Greensmart display house award, and interest in NEAThouse is booming. "We have put a lot of time into researching sustainability. It's a complex notion. So hopefully people can come and see this house, and take in the whole concept, without having to do all the groundwork themselves," says Owen.

"Or, they can buy a house like this simply because they like it," adds Jane.

FLOOR PLAN



NEATbox

—Specifications

Credits

DESIGNER
NEAThouse Tasmania, with Precision Design and Drafting

BUILDER
NEAThouse Tasmania

PROJECT TYPE
New build

PROJECT LOCATION
Dodges Ferry, TAS

COST
From $172,514

SIZE
House 104 sqm;
Deck 30 sqm;
Land 1036 sqm

BUILDING STAR RATING
8.1 Stars

Sustainable Features

WATER SAVING
- 24,000 litre Tankworld rainwater tank, serving all water needs
- All greywater from septic system retained on site and dispersed to lawn via trenches
- Water efficient Phoenix WELS 4 star tapware
- Novelli WELS 4 star Cara toilet suite.

PASSIVE DESIGN / HEATING & COOLING
- House is north-facing for maximum solar gain
- Carefully considered glazing sizes and positions to maximise natural light
- Living area can be zoned with cavity sliding doors to retain heat
- Battened wall cladding with 25mm air gap to maximise wall insulation efficiency
- Front door features an 'all-round' Stormseal by Raven
- Subfloor enclosed to retain heat
- Energy Imaging Tasmania consulted on early designs to maximise energy efficiency.

ACTIVE HEATING & COOLING
- None installed. It is anticipated that minimal active heating and cooling will be required but will vary according to the needs of the occupants.

BUILDING MATERIALS
- Cladding: Cypress macrocarpa, reclaimed from matured windbreaks, supplied by Timber Wholesale in Glenorchy
- Lining: Plantation-sourced pine lining boards; plywood feature wall made from leftover pieces of Super E0 plywood
- Insulation: Bradford gold batts (80% recycled) R2.5 batts to exterior walls; Total R5.0 batts in ceiling (two layers laid at right angles to minimise gaps) plus R1.3 roof blanket and R3.5 batts under the floor
- Cabinetry: Super E0 plywood in kitchen with island bench; bathroom and laundry. Benches from Super E0 plywood custom-designed by Jamie Roach Joinery
- Flooring: Feature grade FSC-certified Tasmanian mixed eucalypt species
- AFS plantation pine timber trusses from Eco Truss
- Enviroseal ProctorWrap used for external walls for increased vapour permeability
- Nidus stainless steel door furniture reduces use of chrome.

HOT WATER
- Rinnai Hotflo 160 litre.

WINDOWS & GLAZING
- Argon-filled, double-glazed windows with a thermal break frame with low-e glass, from Clark Windows Tasmania.

LIGHTING
- High efficiency LED lighting used throughout from Lights 'n' Lamps
- Feature pendant 'Grandelier' by Tasmanian designer Loz Abberton of Who Did That.

PAINTS, FINISHES & FLOOR COVERINGS
- Livos Alis Decking oil 'Light Teak' to external cladding
- Whittle Wax used on floor and kitchen cabinetry
- Haymes low-VOC paints throughout
- Natural and low-VOC adhesives and glues throughout, including Liquid Nails Fast (water-based, low-VOC), Bostik Ultraset (zero-VOC), and Maxbond Fast Grip (water-based, low-VOC).

OTHER ESD FEATURES
- Materials selected on quality, with the majority locally made and sourced. Where this was not possible materials were sourced from locally owned businesses and chosen to reduce 'product miles' where possible
- Efficient use of space
- The display home site has been landscaped with local and water-wise plants from Wildseed Tasmania in Sorell; raised vegie garden beds (in old apple crates) recycled from a local apple orchard
- Any left-over materials were used on the next project, and separation of recyclable and reusable materials was a particular focus throughout the build.

The display home site has been landscaped with local and water-wise plants from Wildseed Tasmania in Sorell; raised vegie garden beds use old apple crates recycled from a local apple orchard.