

# Signed, sealed and delivered

LOCATION Jindabyne, NSW • WORDS Rebecca Gross • PHOTOGRAPHY Jonathan McFeat



## At a glance

- 7-Star off-grid home
- Three prefabricated timber-framed modules
- 5.3kW solar system with battery storage

**Prefabricated modular construction provided a simple and stress-free solution for this off-grid home on a spectacular site in the Snowy Mountains, New South Wales.**

“It had to be sustainable, quick and on time – and Ecoliv hit it,” say Chris Read and Suzanne Pelley of the house perched above the Mowamba River on their 48-hectare Jindabyne property. The couple wanted the design and build of their house to be as simple and stress-free as possible, while still providing a warm, comfortable and inviting home.

The relatively remote location of Suzanne and Chris’s land proved difficult for builders, so the couple approached companies offering prefabricated modular houses and engaged Ecoliv Sustainable Buildings. “We didn’t want any hassles or delays, and compared with building entirely on site, Ecoliv is much quicker,” says Suzanne. Ecoliv guaranteed it could deliver on budget and on time, with a fixed-price contract and locked-in delivery date. Its standard range takes 14 to 16 weeks to build in the workshop (custom designs take an additional three to four weeks), and generally just two weeks are

required on site to connect services and install decks and steps.

Chris and Suzanne’s brief was for an off-grid house with a design that nodded to alpine architecture, and with minimal disturbance to the land. Ecoliv director Ashley Beaumont visited the site, assessing possible locations for the house and settling on a secluded hill overlooking the river. He also nussed out the delivery and installation details during the design phase to ensure the process ran smoothly and without unexpected costs or difficulties. “We have a very detailed design and documentation process so that clients know exactly what they’re getting for their fixed-price contract,” he says.

The house comprises three 4.5-metre-wide modules, with the lengths in 900-millimetre increments to minimise construction waste. The open plan kitchen, dining and living area is in the central module, bookended by modules containing bedrooms, bathrooms, a study and music room. The structural components are built with plantation timber, which allows flexibility for internal changes.

It was a two-day operation to transport the modules from Ecoliv’s construction site in Victoria. Access proved challenging – and exciting – for the delivery, with the





house to be located on a tight, steep site and the road being bumpy with trees to manoeuvre around. It took three trucks, three escort cars and three police cars. “It was exciting to watch the sections being brought down the hill,” says Suzanne. The modules were craned into position, and then the services connected and decking, ramps and steps installed. Chris and Suzanne plan to live in their home for the foreseeable future and wanted ramps as well as wide openings and hallways to allow for any mobility issues that may arise later in life.

Being off-grid, the house has a 6.9-kilowatt solar PV array on the roof with 74.5 kilowatt-hours of batteries and on-site wastewater treatment. Riparian rights enable Chris and Suzanne to use water from the river; powered by a separate solar system, the water is pumped into a 100,000-litre tank and gravity fed to the house.

Given its Snowy Mountains location, Chris and Suzanne’s house needs to withstand extreme changes in climate, from snowfall in winter to temperatures of over 30 degrees Celsius in summer, as well as comply with a BAL-29 bushfire rating. “This house upped the ante in terms of being off-grid, so we had to make sure it was very efficient,” says Ashley. It achieves a 7-Star energy rating (all Ecoliv builds are 7-Star or higher). The living area, which enjoys spectacular views across the river, has glazing along the east and west sides to bring in sunlight and facilitate cross

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The three modules that make up Chris and Suzanne’s house were built and fitted out in Ecoliv’s factory in Victoria before being transported by truck to the Jindabyne site and craned into place.

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Materials and finishes were chosen for sustainability and low maintenance, and the house is well insulated for thermal performance and energy efficiency.

ventilation, and a roof over the east-facing verandah provides shade and creates a sheltered courtyard. A reverse-cycle air conditioner is used occasionally on very hot days, and one wood-burning stove warms the whole house in winter. “It’s not considered the eco-friendliest, but we have an excess of firewood on the property,” says Suzanne. Along with the solar system and water tank, the double glazing is a standard inclusion for Ecoliv projects.

Materials and finishes are sustainable and low maintenance, with the house being clad in silvertop ash that will silver with time, blending into the landscape and surrounding vegetation as it grows. Internally, the house features low-VOC paints, LED lights and water-efficient plumbing. The stainless steel and black kitchen cupboards don’t show dirt, and benchtops in the kitchen, bathrooms and laundry are Caesarstone.

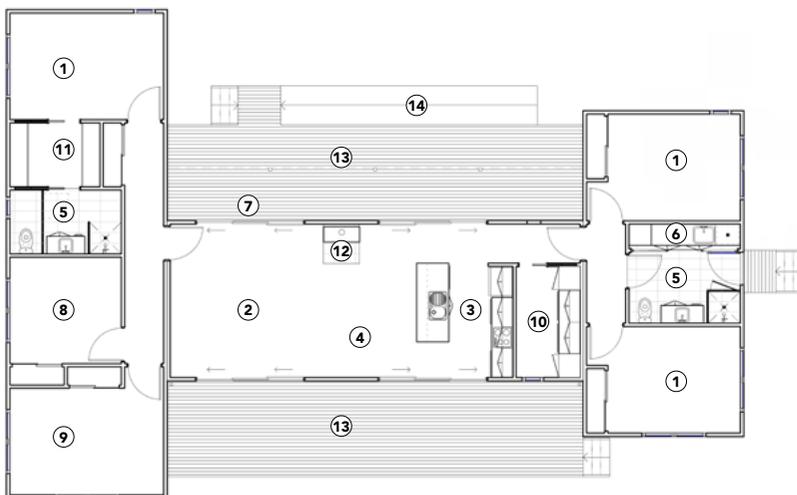
“The house is beautifully finished and well insulated. Ashley told us they could do it on time and budget and he delivered,” says Chris. 5



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The house has beautiful views to the west over the Mowamba River valley.

### FLOOR PLAN



### LEGEND

- ① Bedroom
- ② Living
- ③ Kitchen
- ④ Dining
- ⑤ Bathroom
- ⑥ Laundry
- ⑦ Entry
- ⑧ Study
- ⑨ Music room
- ⑩ Pantry/store
- ⑪ Walk-in robe
- ⑫ Wood stove
- ⑬ Deck
- ⑭ Ramp

# HOUSE SPECIFICATIONS

## HOT WATER

- Apricus 22-tube solar thermal hot water system with 250L tank and electric boost

## RENEWABLE ENERGY

- 6.9kW off-grid solar PV system consisting of 21 x high-yield LG Neon 2 panels with SMA solar inverter and battery management system and a 74.5kWh VRLA battery bank, supplied by Snowy Regional Solar

## WATER SAVING

- 100,000L galvanised steel water tank
- Lorentz PS2-600 solar-powered pump with 3 x 275W Jinko solar panels to pump water from the river
- WELS 4 star water-efficient fixtures

## PASSIVE DESIGN, HEATING & COOLING

- Optimised northern glazing
- Natural cross ventilation paths
- Shading provided by partially roofed eastern deck and retractable awnings to western deck

## ACTIVE HEATING & COOLING

- Panasonic 2.5kW reverse cycle air conditioner in living area
- Masport Redwood wood-burning heater

## BUILDING MATERIALS

- House prefabricated in three modules
- FSC-certified plantation timber frame
- Cladding: radially sawn silvertop ash and James Hardie EasyLap fibre cement sheet
- Trimdeck Zinalume roof
- Insulation: Knauf Earthwool batts to internal and external walls (R2.5), underfloor (R4) and ceiling (R6)
- Bradford Enviroseal vapour-permeable membrane for airtightness
- Silvertop ash decking

## WINDOWS & GLAZING

- Double-glazed aluminium-framed windows and doors supplied by Talum Windows

## LIGHTING

- Optica 10W recessed LED downlights

## PAINTS, FINISHES & FLOOR COVERINGS

- Haymes low-VOC paints
- Parmate engineered oak flooring (FSC- and PEFC-certified)

## OTHER ESD FEATURES

- No gas use in the house
- No MDF joinery

## DESIGNER

Ashley Beaumont

## BUILDER

Ecoliv

## PROJECT TYPE

New build

## LOCATION

Jindabyne, NSW

## COST

\$675,000

## SIZE

House 156m<sup>2</sup>  
Land 48 hectares

## ENERGY RATING

7 Stars

## ENERGY ASSESSOR

Jamie Bonnefin Certified Energy

## BUSHFIRE

### ATTACK LEVEL

BAL-29



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A ramp for access, wide doorways and generous circulation spaces accommodate ageing in place. The silvertop ash cladding will grey over time, allowing the house to blend into its landscape.