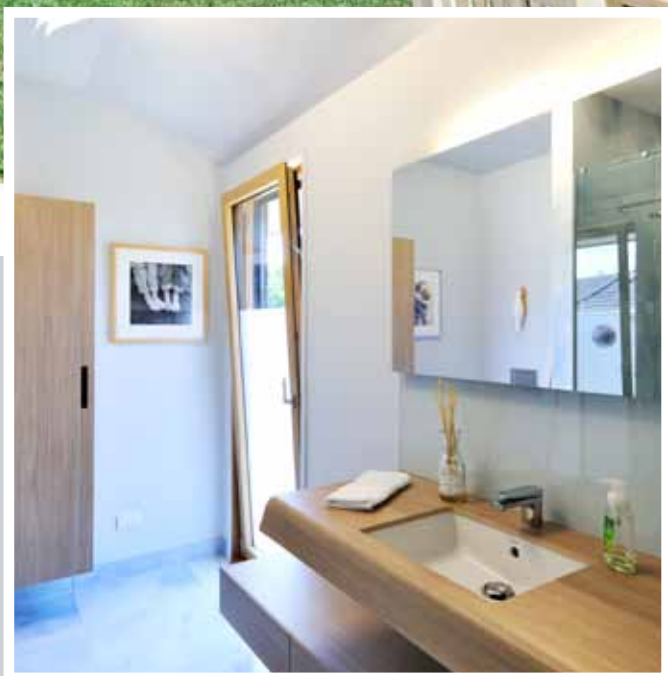



one of
a kind



Top The house's cladding is multi-layered and is finished in Resene Waterborne Woodsman CoolColour tinted to Resene Treehouse. The house was designed by architect Darren Jessop and built by Chris Foley of Luxury Living.

Above The serene ensuite has walls painted in Resene SpaceCote Low Sheen paint tinted to Resene Quarter Powder Blue. The vanity is from Metrix.

 Resene Quarter Powder Blue

A house that looks beautiful, feels great and costs little to run – meet our first certified passive home.

High-rating insulation, double glazing, air-tight internal wrapping – we all know we need them for healthy, warm housing but still, we lag behind when it comes to incorporating such features.

This was a shock to Philip and Carolyn Ivanier when they emigrated from North America where some of these elements are standard. So with two young children and the opportunity to build a new home, they went quite a few steps further – creating New Zealand and Australia's first certified passive home.


With a design by Jessop Architects already in hand, Philip became a man on a mission. Hours were spent researching the types of products he would need to achieve the correct standards. Many were not available locally so were imported, including the profiles for the stunning oak window and door joinery. It's a truly global house. >

passive homes

The term 'passive house' refers to a voluntary building standard developed in Germany in the 1980s that saves up to 90% on space heating and cooling energy. The focus is on minimising the building's energy loss while ensuring a healthy living environment for the occupants.

The first passive house was built in Germany by Dr Wolfgang Feist, after which he developed a tool, The Passive House Planning Package, that can predict energy use for any building before construction starts. This enables an accurate evaluation of the building, without over-specifying for little or no gain.

Key components to passive homes include correct foundations and wall construction; window placement, frames and glazing; orientation and shading; airtightness and ventilation.

Resene
Kandinsky 

Resene
Bleach White 

Resene Waterborne Woodsman
CoolColour Treehouse 

did you know...

that Resene CoolColour paint reflects more of the sun's heat than standard paint, to reduce stress on the coating and surface? It's ideal for darker colours used on exteriors.

The kitchen is part of an open-plan living space. The couple chose A-rated appliances like the Liebherr fridge. The walls are Resene Bleach White.



The house may look stunning but as Philip points out, the products used are considered mid-range in Europe and America. He estimates that to include passive house technologies and products costs just 10-15% more than normal. "My theory is that if you took 10% off the size of the house, then you could afford to build this way without having to increase your budget."

Or you could just consider the payback on running costs. Despite the 300sq m house having many floor-to-ceiling windows and an open-plan living area with a vaulted ceiling, the winter electricity bills are just \$60 a month. There are no heating appliances in the house and its design keeps the house at a comfortable 20°C all year round.

Says Philip: "We can get away with these big windows and large spaces here in Auckland but you might have to rethink the design if you lived in Christchurch, for example."

The large sliding doors that face north and lead off the main living area close with an airtight locking mechanism so that no warmth escapes. Some of the windows open inwards rather than out with side hinges, but then also tilt from top to bottom for ventilation and security. In summer, external electronic shutters glide across the windows to block the sun's heat.

The cladding is multi-layered including two air cavities, insulation, the external cedar weatherboard and an eco-ply with bracing properties.

The exterior of the house is finished in Resene Waterborne Woodsman CoolColour stain tinted to Resene Treehouse. Inside, Resene Zylone Sheen VOC Free paint was chosen for better indoor air quality.

A home ventilation system that is certified for use in a passive home comes from Europe and is key to providing clean, pollen and dust free air and eliminating moisture and odours. It refreshes the air while keeping the internal temperature stable.

Keeping the house up off the ground is important – if the ground temperature is 15°C and you want the inside of the house to be 20°C, you're effectively heating up the ground as well. The house's concrete foundations and floor slab are therefore isolated from the ground by continuous insulation made of high-density polystyrene.

The beauty about passive house principles is that they can be applied to any house design – be it a bespoke designer home like the Ivanier's or a modest off-the-shelf cottage. The couple's dream is to influence central government to use passive home principles in new social housing to not only reduce running costs for low-income occupants but to keep their families healthy. **H**

words Sharon Newey
pictures Mark Heaslip