

homestarTM

HEALTHY HOME GUIDE

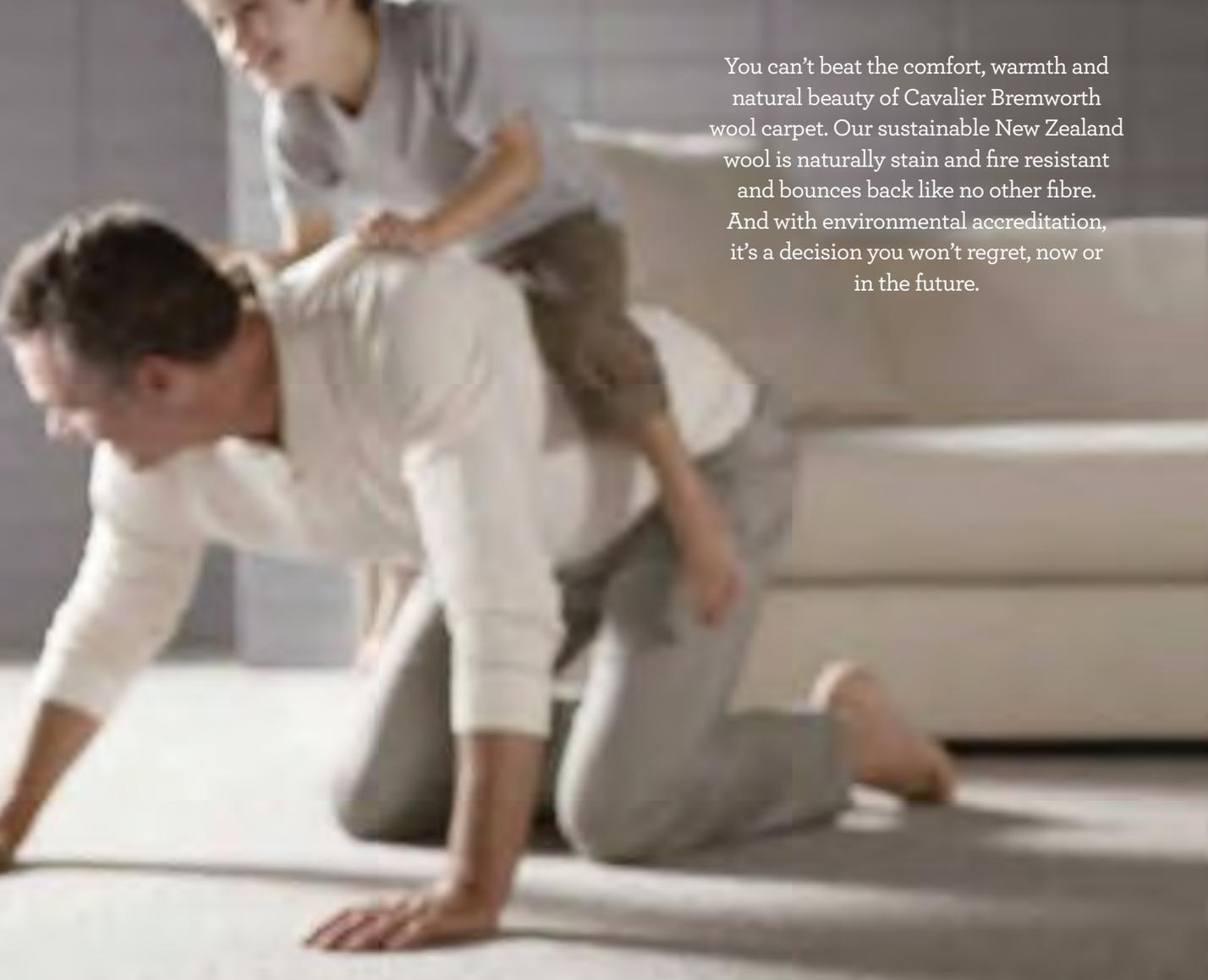
Your guide to a
*warmer, cooler,
drier, smarter home*

**MUST HAVE
GUIDE**
FOR RENOVATORS &
NEW HOME BUILDERS

Visit New Zealand's First
ZERO ENERGY HOUSE

Smarter energy use
**TOP TIPS FOR HEATING
AND VENTILATION**

Hot trends for
COOL LIVING



You can't beat the comfort, warmth and natural beauty of Cavalier Bremworth wool carpet. Our sustainable New Zealand wool is naturally stain and fire resistant and bounces back like no other fibre. And with environmental accreditation, it's a decision you won't regret, now or in the future.

Sustainawool *n.* A natural fibre prized for its unique ability to keep your house warmer and drier, its sustainable production and the fact it keeps our local sheep in jobs.

Browse our full product range and find your nearest stockist at www.cavbrem.co.nz

CAVo249R



**CAVALIER
BREMWORTH**

New Zealand's pure wool carpetmaker.

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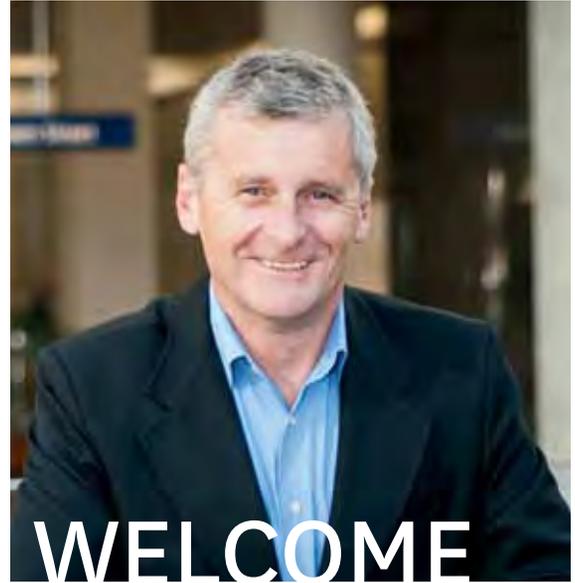
A new standard of healthy, smarter homes

33 Hobson's Choice

Hobsonville Point gets the Homestar tick of approval

Cover image supplied by Hybrid Homes & Living Ltd.

Photographer: Glen Cormier



HEALTHY HOMES ARE WARM, efficient and comfortable. However, nearly a million Kiwi homes are underperforming when it comes to home health, placing greater stress on our families and costing us more to run.

Here at Homestar™ we're passionate about improving the health of Kiwi homes, which is why we've produced this booklet. We've packed it full of advice and tips for people renovating, building or simply wanting to improve the health of their home, making it warmer, drier and smarter.

Start your journey by taking the free Homestar test online at www.homestar.org.nz. This is an independent service that allows you to gauge how healthy and effective your home is. You'll end up with a rating for your home, and recommendations on how to improve your home's rating. It's then over to you to choose what improvements you'll make to best suit your needs. On our website you'll also find contacts for improvement professionals who have been trained by Homestar to offer unbiased advice and practical help if you need it.

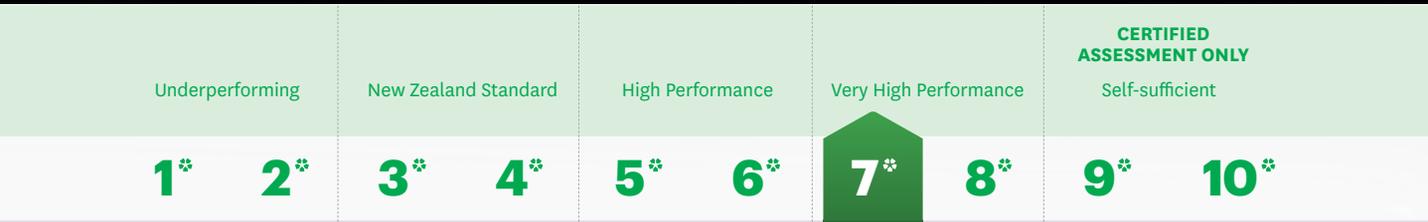
We've included some inspirational best practice examples such as Auckland's Zero House on page 8, and international concepts from Bill Dunster of the ZedFactory - who is a world expert on sustainable communities and developments, and who was recently here in New Zealand.

We hope to inspire you and help you take steps to improve the comfort, efficiency and value of your home.

Leigh
Leigh Featherstone
Homestar Director



ENSURE YOUR HOME PERFORMS BETTER



IS YOUR HOME A HEALTHY HOME? A HEALTHY HOME THAT'S WARM, COMFORTABLE, COST EFFICIENT TO RUN AND GOOD FOR THE ENVIRONMENT TOO. EVERYONE BENEFITS.

WE'D ALL LIKE TO LIVE IN A HOME that performs well without compromising our lifestyle. However, many of us don't know what we need to do to get our home into shape, or how it stacks up when compared to other New Zealand homes. If you're a homeowner, you want to know that the investment you make on improving your home will not only save on running costs, but could add capital value in the long run and help safeguard the environment for future generations.

The free online Homestar™ test, together with help from a Homestar Professional and our product partners, can guide you through design, construction and maintenance of a healthier, more naturally comfortable and eco-friendly home.

Take a virtual tour of a high rating Homestar house to find out what matters. www.homestar.org.nz



WHERE TO START

3 SIMPLE STEPS WITH HOMESTAR

Step 1: Take the online test

Head to homestar.org.nz and take our free online test to rate your home's health. It takes just 20 minutes to complete the questionnaire, and only requires you to make a few simple measurements around your house.

Step 2: Action list and plan for improvements

An Action List report can be printed with results of your Homestar rating and can be used for planning and prioritising your improvements. If you need help understanding the Action List, simply find a Homestar Professional in your area at homestar.org.nz/services, talk to your builder or take your list into a builder's merchant such as PlaceMakers to help plan what to tackle first. There are also lots of tips and advice in this guide which can provide immediate and real benefit in terms of quality of living and running costs of your home, such as installing water and power efficient appliances, extractor fans, LED lighting and of course insulation.

Step 3: Homestar certification

When you have completed your renovation you may wish to get an independently audited Homestar assessment of the energy and performance improvements you have made to your home. You'll be given a Homestar certificate which you can use to help promote or sell your home. Though, with all the changes you've made, you will probably want to be there forever!

THE HOMESTAR ICONS

The Homestar icons throughout the guide, illustrate what needs to be considered to ensure your home performs better.



HEALTH AND COMFORT

Health and comfort assesses how easy it is to keep the warmth in and the moisture out of your home.



ENERGY

The number and efficiency of appliances and products in the home that use power, plus any on-site energy generation present.



WATER

The efficiency of taps, showers and toilets and the need to conserve water, as well as collecting and re-using rain and greywater.



WASTE

How easy is it to manage and reduce waste in the house and during construction?



SITE

Where your home is located and how to make the most of passive solar gain.



MANAGEMENT

Guidance on selecting sustainable materials and keeping track of maintenance on your home.



Find out how you can improve your home at homestar.org.nz twitter.com/HomestarNZ facebook.com/HomestarNZ



homestar TO THE RESCUE

Why a Healthy Home is important

PHOTO: STONEWOOD

YOUR HOME MAY LOOK AS PRETTY as a picture and is the envy of many, but is it a healthy home? You may be surprised to know that nearly a million Kiwi homes underperform in terms of health and comfort. This is simply not good enough. It's affecting our families, leaving them vulnerable to illness, and costing us money in terms of high energy bills and, for some of us, high water bills.

The good news is there are simple, practical things homeowners can do to improve the health of their home.

The first step for homeowners should be to complete the free online Homestar™ test, available at www.homestar.org.nz, and find out how your home could perform better.

GETTING IT RIGHT

Q&A with a Homestar Professional

Q | Why is thermal performance important?

To achieve a 3 Homestar rating or above, a minimum level of insulation must be installed in your home, so that it is warmer and healthier. New houses should be built above the 3 Homestar standard for a healthy home, but houses built before 1978 will require retrofit insulation to be installed to achieve this.

Q | Why is controlling moisture in the house a top priority?

To achieve a 5 Homestar rating or above, as well as having good insulation, your house needs to have measures to control moisture. This should include ducted extractor

fans to remove moisture from bathrooms, laundries and kitchens.

Q | What about improving water efficiency in the home?

To achieve a 6 Homestar rating or above, your house needs to include some water efficiency measures such as installation of dual flush toilets and showers with a flow rate of less than 9 litres per minute. In fact, changing your shower head right now is one of the easiest and most cost effective things you can do to save water.

Q | How can I achieve a very high performance home?

To achieve a 7 Homestar rating or above, the house must have additional levels of insulation and thermal mass, which is more easily achieved in new homes or with major renovations. Examples of how to do this could include wall cavities thicker than the standard 90 mm, which allow thicker insulation to be installed, above-code ceiling insulation and high performance double-glazed windows.

Q | What features does an 8 and above Homestar rating require?

To achieve an 8 Homestar rating requires more than simply adding some energy and water savings features. Very high performance houses reflect international best practice for sustainable design. They cost less money to run, use fewer resources to operate and are good for you and the environment. Find out just how achievable it is by taking a virtual tour of a high rating Homestar house online.

New Zealand housing has been widely described as "old and cold".

Around 60% of the population live in homes built before insulation became compulsory for new dwellings in 1978.

An estimated 84% of dwellings are estimated to have inadequate insulation.

HOW HEALTHY IS YOUR HOME?

RATE YOUR HOME TODAY AT www.homestar.org.nz

When you're at home complete your home health check at www.homestar.org.nz then bring your Homestar™ action list into your local PlaceMakers and we'll work with you to improve your Homestar™ rating.



One of the easiest ways to improve your Homestar™ rating is by insulating your home.

You can arrange an easy obligation-free estimate and see if you qualify for a \$1,300 Energywise™ Grant at www.placemakers.co.nz

\$1,300

TOWARDS THE COST OF INSULATING YOUR HOME



Delivering on behalf of Tasman Insulation

Know How Card Bonus Vouchers not available with this grant. *A one-off grant of 33% off the costs of retro-fitting insulation, up to a maximum of \$1,300. For full terms and conditions see www.placemakers.co.nz/energywise or contact your local store.

PlaceMakers®
Know how. Can do.



NEW ZEALAND'S FIRST OPEN SOURCE ZERO ENERGY HOUSE

WHILE MOST OF THE DISCUSSION in Auckland about housing and real estate seems to centre on hair-raising entry level prices and school zones, there's a new topic that's creating some real waves – energy efficiency. Jo Woods and Shay Brazier, two young and determined engineers, are bringing their vision to life of a home that's energy efficient, while embracing great design and style.

Their new two-storey, three-bedroom home will generate all the energy needed to run the household, though with Jo and Shay's philosophy anything that goes into their home is bound to be well-considered and low energy.

To achieve Zero Energy, the design process was wholly integrated between the architects (A Studio), the engineers and Shay and Jo. "What's typical is a sequential process, where the client briefs the architect, who instructs the builders and specifiers. In our case we worked together at every stage of the journey, tweaking the design to be able to incorporate energy savings to such a great extent," says Shay.

The house exemplifies a very high performing sustainable home, and is targeting an 8 Homestar™ rating. This demonstrates that Kiwis can truly live in a warmer, smarter, drier home that has lower running costs over its life. There are a number of intelligent and sustainable product and design features that are worth applying to all homes.





“Over 12 months our photovoltaic system should generate as much electricity as we need and the connection will mean that should we have surplus energy we can sell it back to our electricity provider. We think that’s a win / win!”

FEATURES OF THE ZERO ENERGY HOUSE TO INCLUDE IN YOUR BUILD

Solar orientation

Carefully consider where best to place the house on the site to maximise solar gain to both the roof and concrete floor slab (thermal mass). Locate all living areas on the north side of the house (with kitchen and bathrooms on the south) to maximise passive solar heating in those places.

The overhang of the first floor can be designed around seasonal sun angles - in summer (when the sun is higher and hotter) it provides shading in the downstairs living area, and in winter (when the sun is lower and colder) it allows sun into the lower floor, heating the concrete slab.

Thermal insulation

The wall framing design has two layers of installation oriented at 90° to each other, allowing for an uninterrupted insulation where the frame passes walls. The Zero Energy House has 50% more insulation than the standard building code which will be fundamental in being able to eliminate the use of heating.

Ventilation

“The cheapest, easiest and most energy efficient ventilation is passive. Dual-tilt windows (from Heirloom Joinery) can be left open, even when you are away from home to keep it freshly ventilated.

The tilt system allows the windows to hinge from the sides and bottom meaning that ventilation occurs at the top of the window, closer to ceiling height, where it is needed most, as hot air rises.”

Materials selection

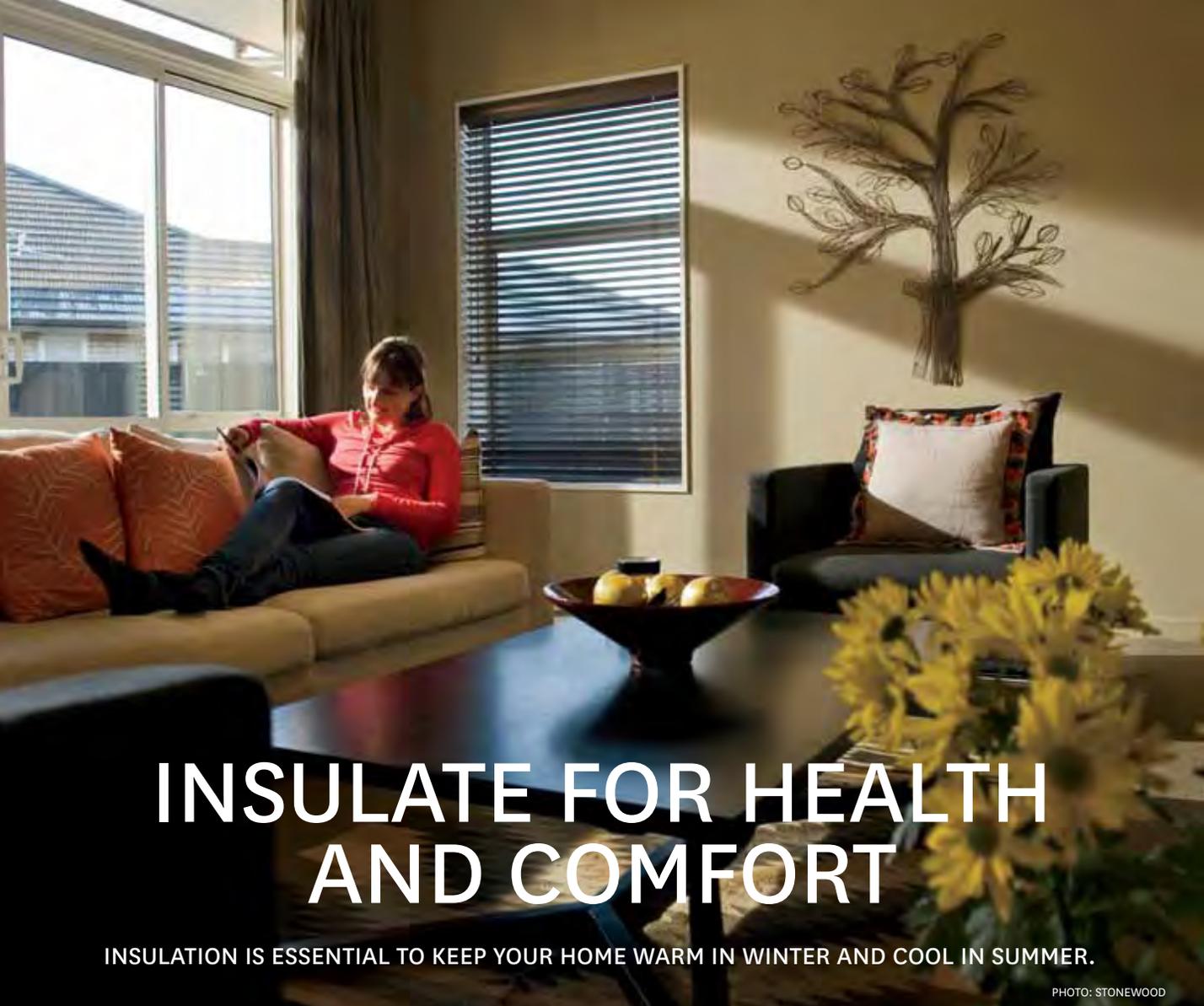
Use recycled timber materials where possible. “We hunted high and low for all sorts of materials – and it was worth it. The support beams are from an old catamaran, while the upstairs flooring is recycled rimu. Our new kitchen bench is made from old decking timber, and the kitchen cabinetry will be made from timber recycled from an old Auckland pub. We’re incorporating a bit of history into our brand-new home,” says Jo. The couple have also used non-PVC pipework to reduce toxicity onsite as well as on-treated macrocarpa cladding which minimises contaminants on site.

Solar energy

Solar systems contribute 70% of the Zero Energy goal. The other 30% is down to the building envelope design which eliminates space heating needs. The solar hot water system (Artline, from SolarCity) is New Zealand-made and has been manufactured in Christchurch for 30 years. It provides almost all of the water heating needs in the house. Solar is becoming a more economic choice for Kiwis contemplating new builds and renovations,” says Shay.

The solar photovoltaic system used on the Zero Energy House is New Zealand’s first integrated PV roofing tile. It replaces the roof and is fixed to roof battens like normal roofing tiles. 88 of them are laid out to cover most of the north-facing roof.

“Over 12 months our PV system will generate at least as much electricity as we consume and the connection will mean that should we have surplus energy, we can sell it back to our electricity provider. We think that’s a win / win!” says Jo.



INSULATE FOR HEALTH AND COMFORT

INSULATION IS ESSENTIAL TO KEEP YOUR HOME WARM IN WINTER AND COOL IN SUMMER.

PHOTO: STONEWOOD

A WELL-INSULATED HOME WILL PROVIDE year-round comfort, and cost less to cool and heat. Insulation also helps to reduce noise levels and condensation. Research has found that installing insulation will lead to health benefits such as reduced incidence of asthma.

While there are minimum requirements for insulation in new homes and additions, it's worth spending a little more to exceed these requirements and get an even warmer, more comfortable home with lower power bills. A Homestar™ consultant, your builder or architect should be able to tell you how much insulation you will need.

There are many insulation materials available including wool, polystyrene, glass wool, mineral wool and paper based insulation.

Most heat is lost through the ceiling and roof, so that should be your top priority. About 42% of heat loss from an average uninsulated home occurs through this area (up to 60% in older houses). Up to 20% of heat loss occurs through the

floor of uninsulated houses. Insulation can easily be retrofitted on the underside of suspended timber or concrete floors as well as on the edge and underside of concrete floor slabs.

About 24% of heat, from an average uninsulated home, is lost through the walls. If you're using a framed construction system, insulation should be placed within the wall framing. If you're building from scratch consider increasing the framing size to fit in more insulation. (See how the Zero Energy House, Pages 8 and 9 has done this.)

Proper installation is critical for making sure insulation works effectively and is safe. While it's essential to avoid creating gaps and spaces, as they will allow warm air to bypass the insulation and escape, in some spaces (such as around many types of downlight fittings and chimney flues) a safety gap is required. You can install some kinds of insulation yourself, such as blanket insulation, but it is recommended you get a professional if you require a lot of safety clearance gaps (for example, where you have a lot of downlights).

1



Seam Cushions made from up-cycled pure NZ Wool blankets, sewn in Wellington, New Zealand by Sue McMillan. www.ikoiko.co.nz
Diver \$79 | Elephant \$79



2

Ledino Luminaires
Suspension Light

With 3x 7.5W integrated LEDs, and in stylish aluminium finish.

RRP | \$499.95 inc GST

HOT TRENDS for COOL LIVING

Hungry Bins | Buy a hungry bin with worms and save! A hungry bin and 500 grams of live worms is all you need to start composting today.
www.hungrybin.co.nz

Hungry bin and 500g live worms
RRP | \$325 plus freight

3



Electrolux 510 L French Door Fridge

Best in class energy efficiency, this fridge has an eco mode to reduce your energy use plus Eco/vacation energy efficient mode and uses a non-synthetic refrigerant, with a lower global warming potential than conventional refrigerants used in most fridges. RRP | NZ \$3,599.95



5



4

Ecostore Laundry Powder

1kg RRP | \$8.89

This plant and mineral based laundry powder is also economically concentrated which means a little really goes a long way, saving you money by cutting down significantly on cost per use.

6

Miranda Brown 'Free The Sea'
Female Baggy T-shirt

This T-shirt is made of organic cotton and dyed with vegetable dyes and print ink. \$5 will go to your chosen organisation.
www.mirandabrown.co.nz

RRP | \$65.00 (Kids range from \$44 - 49, Adults \$55 - \$69)



Giving light a new experience

Philips Ledino – energy efficient lighting that brings a natural sense of beauty into your home

With stylish designs and integrated LED light sources, the Philips Ledino range is perfect for the sophisticated home.

The natural white light creates the atmosphere you want, thanks to state-of-the-art power LEDs. Together, they'll give your home interior a beautiful diffused white accent. And with an energy-efficient light source that lasts up to 20 years, you'll never change a light bulb again.



See what light can do



PHILIPS

sense and simplicity

Available from





LIGHTING THE WAY

LIGHTING REPRESENTS AN AREA for considerable energy savings for many households. New technologies are emerging all the time and the latest to hit our shores is LED (Light Emitting Diode) lighting.

Philips, a world-leader in this area has recently launched the myVision and myAmbiance bulbs designed to give homeowners even more choice and at a lower price point. And why wouldn't you make the switch? The new LED bulbs use up to 80% less energy than incandescent bulbs and can last 15-25 times longer! With lighting making up around 12% of the average New Zealand home's electricity bill, converting to energy efficient lighting is one simple and effective way to reduce overall energy consumption.

One of the concerns many Kiwis have is whether energy efficient bulbs will work with their lights' dimmer switches. Fortunately incompatibility with dimmers is not an issue with LED. The Philips myAmbiance LED Bulb is dimmable and, what's more, uses only 12W of power to generate more light than a standard 60W bulb. Designed to resemble a traditional frosted light bulb, the LEDs fit into existing screw or bayonet cap sockets, enabling an easy transition to LED lighting. All Philips LEDs are mercury-free and produce high quality natural shades of white light.

There's no denying that LED lightbulbs are more expensive than their incandescent equivalents, however this is more than made up for in terms of savings in energy consumed and replacement costs over the average 15-25 year life of a LED bulb. In fact, ENERGYWISE goes so far to say that if every household in New Zealand used efficient lighting, this would save the same amount of power that Hamilton uses each year. See ecca.energywise.govt.nz for more information.

Philips LED bulbs are available nationwide with pricing starting at \$19.99 including GST.

INCANDESCENT BULBS HAVE A TYPICAL LIFE OF 1,000 HOURS, AND COMPACT FLUORESCENTS ABOUT 6,000 TO 8,000 HOURS. LED BULBS MAINTAIN OUTPUT LIGHT INTENSITY WELL OVER THEIR LIFE-TIMES. THEY ARE ALSO MERCURY-FREE, UNLIKE FLUORESCENT LAMPS. LED LAMPS ARE AVAILABLE WITH A VARIETY OF COLOUR PROPERTIES.



LED ENERGY-SAVERS

- Up to 80% energy saving over equivalent incandescent light bulbs
- Very long lifetime of up to 15,000 hours or 20 years
- Minimal ongoing lamp replacement costs
- Cool beam of light
- Instant start
- Comfortable, glare-free lighting

homestar™ CERTIFIED HOUSES HOMES THAT MEASURED UP



THE “RAKAIA” CUBE

FALCON CONSTRUCTION

HIVE Housing Innovation Park, Canterbury
www.prefabnz.com/Hive/Falcon-Construction/

4*

THE CUBE IS BORN! The 4 Homestar™ rated CUBE is a precast concrete system that is earthquake engineered. The basis of the CUBE is an 8 x 4m structure that is connected together to other pods vertically or horizontally with no limits on what the end product can become. It is engineered to construct anything from single to multilevel structures, commercial or residential. Not only does it have great engineering qualities but it is designed to provide a safe warm and low-maintenance environment.

This revolutionary system has the ability to be constructed 4-5 times faster than a traditional build and deconstructed and relocated if required. The first 3-bedroom home was completed in 14 days, which is beneficial, especially to meet the demands of the Canterbury rebuild.

Another key to the CUBE is its ability to be used as either a permanent or temporary structure. The modular structure

can be deconstructed and moved to another site to either replicate the original building or to create an entirely new building design. Much like a giant Lego set!





Providing you with a
“One-Stop-Shop” for
all your Homestar™
needs



Don't leave your Homestar™
rating to chance. EnviroSpec
can offer you the support and
knowledge you need to ensure
an easy, simple and successful
project.

All aspects of Homestar™
covered, including:

- ✓ Basic assessment
- ✓ Professional design advice
- ✓ Official certification
- +
- ✓ Specialised product knowledge
- ✓ Database of compliant products

BROAD OAKS

Private Home
Designed by
RUSSELL DEVLIN

6*

John and Margaret Hayman, Huntsbury, Christchurch

The 6 Homestar™ rated home designed by Christchurch based solar architect Russell Devlin has:

- > Four bedrooms spread over two levels
- > A total floor area of 240 square metres, including a spacious double garage with internal entry
- > Inclusive design with wide entrances and an internal structural wall that can accommodate a chair lift in the future if required
- > A clever use of tiles for thermal mass adjacent to floor-to-ceiling windows on the sunny aspects
- > Specifically chosen light fittings allowing a full layer of insulation to be laid safely across the ceiling
- > A central, structural block wall to increase thermal mass within the home
- > Easy care maintenance with a comfortable range of temperature and humidity
- > Half the average energy consumption of a New Zealand home

CALL TODAY
09 889 2190
OR VISIT

www.envirospec.co.nz

homestar™ CERTIFIED HOUSES HOMES THAT MEASURED UP



6*

YOUNG WAY

YOU CAN SEE WHY this beautiful Hybrid Home, which targeted a 6 Homestar™ rating, was recently awarded the winner of the prestigious Registered Master Builders Category within the Nelson district Sustainable Homes \$500K-\$1m category.

Their brief was to deliver an efficient, modern home with all the mod-cons and unique design features. The owners are delighted with the result, as their home boasts stunning design, use of space, comfort and is so efficient that they can retire with peace of mind about running costs.

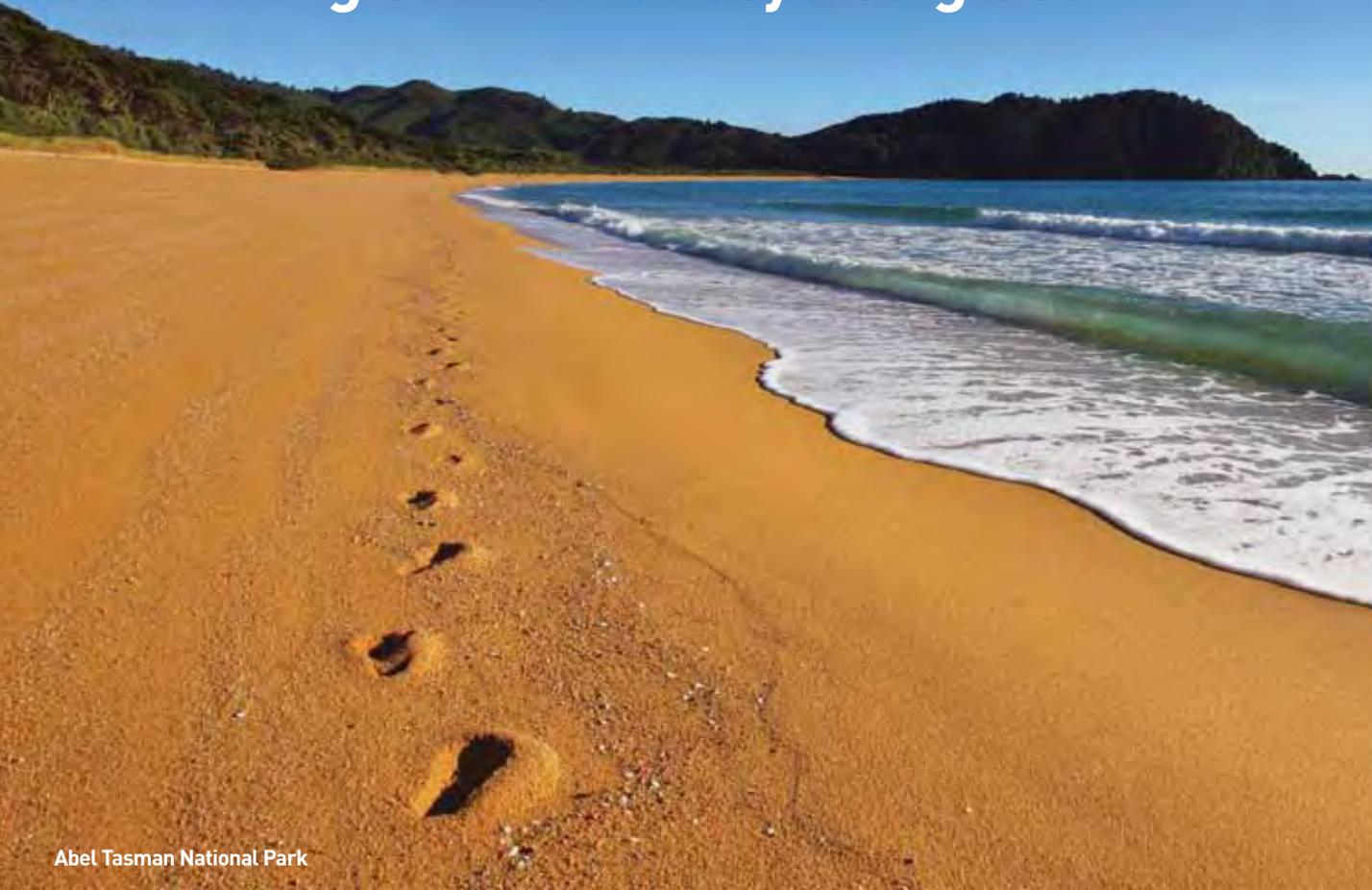


Design and efficiency features include:

- > Passive solar design to capture natural heat from the sun
- > Ultra efficient building systems
- > Solar grid connect system and solar hot water
- > Rain water collection
- > Grey water recycling
- > Water and energy efficient appliances
- > Locally sourced products (where possible)
- > Non-treated Douglas fir framing (where possible)
- > Used non-toxic glues and resins
- > Used low VOC paints and finishes
- > Natural wool carpets
- > New Zealand and Australasian fit-out materials such as Caroma and Methven

The house is designed with a series of electric windows to allow for air circulation and a sensor operated skylight in the central hallway which acts as a natural ventilator.

Leave a lighter environmental footprint with the only New Zealand made insulation containing over 80% recycled glass



Abel Tasman National Park

For the last decade we have been manufacturing our product from up to 80% recycled glass, but from the beginning of 2012 our Auckland plant became one of the first in the world to consistently make insulation using 83% recycled glass content. Our Christchurch plant will soon follow, recycling excess broken glass from some of the city's iconic buildings, that might otherwise go to landfill.



Visit our website to learn more about
Pink® Batts® Insulation and Sustainability.

www.pinkbatts.co.nz

SUBLIME SUSTAINABILITY



THIS EXQUISITE HOLIDAY HOME is 'sustainability' personified. The clients worked with their architect and local tradespeople and builders to create a home that truly celebrates the space it occupies and protects the spirit of Great Barrier.

Although architect Paul Clarke had pretty much free rein to come up with a suitable design, the owners, Kim and Frances, had a firm notion that the house was to be environmentally sensitive.

"This place, indeed all of Great Barrier Island, is a very special place. We wanted to ensure what we did helps keep it that way."

The house rates very highly on some key Homestar™ points including orientation to the sun, use of natural and sustainable recycled materials, energy efficiency and waste and site management. "The house, with the help of sun and rain, hums along in a perfect synergy with no assistance from the outside world," says Paul Clarke.

Focus on sustainability

The exposed and oiled cedar was supplied by Herman Pacific based in Silverdale and met FSC (Forest Stewardship Council) certification. The external open deck and internal floors were made from sustainable Vitex timber from the Solomon Islands. In July 2007 a major storm hit Auckland and Northland. Great Barrier Island was hard hit: thirteen blackwood trees were blown over. The resulting timber has been incorporated in the house in furniture and fixings.

A major feature of the house is the exterior fixed windows and sliding doors. The glass used consists of two 5mm glass sheets laminated together with 0.38mm of PVB laminate making it a safety glass manufactured with a permanent transparent coating which is glazed to the inside of the house.

The owners chose Resene Zylone Sheen VOC free painted tinted to Alabaster which is an Environmental Choice approved product.

As Great Barrier Island has no mains power or water supply, alternatives have to be found by residents. Water is heated through two roof mounted solar panels and stored in a large heavily insulated cylinder, reaching as much as 82C.



The electrical system comprises some 1050Kw of photovoltaic cells. All electrical appliances meet the criteria for low energy consumption. The Jetmaster fireplace is fuelled by trees which have been blown over or pruned. The house is lined with wool-based and other building code mandated insulation.

LED lighting is used extensively throughout the house – it's effective and keeps power consumption to a minimum.

All water used in the house comes from rainwater with filtration mechanisms including a UV sterilisation system for drinking water. The septic tank system filters effluent through a sand filter and pumps the highly purified liquid into pipelines in the regenerating bush to the north of the house. Plants and trees are irrigated using an automated irrigation system supplied by water pumped from the adjacent stream into a holding tank on the hill.

Any advice from Kim and Frances for others thinking of employing the same sustainability principles? “Oh yes, we think as owners you need to spend time to learn as much as you can about the options available and compromise only when there is no practical alternative.”

“The house, with the help of sun and rain, hums along in a perfect synergy with no assistance from the outside world,”
PAUL CLARKE



Before you renovate your place, visit our place

Visit our website to find out about all the things you can do to use less energy every day. Find out how to make your home warmer and healthier, get some energy efficiency renovating tips, make smart lighting and appliances choices, get lower power and fuel bills and more. It's all at www.energywise.govt.nz

www.energywise.govt.nz



THE GLAZING ON TOP

Double Glazing

BETTER WINDOW INSULATION will add comfort and energy efficiency to your home all year round. You'll enjoy the benefits of less noise, a warmer house in winter and cooler house in summer, reduced energy bills and a healthier home.

What is double glazing?

Double glazing is made from two or three glass window panels sealed together with an air filled space. Double glazed windows will help keep generated heat inside, keeping your home at a more consistent temperature - cutting down your power costs. They also help to reduce sound transfer and condensation.

Benefits of double glazing

- > Warmer in winter
- > Cooler in summer
- > Reduces condensation
- > Reduces energy usage
- > Reduces noise
- > Enhances resale value

Maximise thermal insulation of your double glazing

The air filled space between glass panels can be replaced with argon gas, a naturally occurring non harmful gas, to increase the insulation performance by up to 15%. Using a combination of argon gas and low-E, or low emissivity glass, you will receive ultimate insulation performance.

Although single-glazed low-E glass can offer some increase in thermal performance, the following should be noted:

- > Low-E glass is extremely hard to clean and can show finger marks
- > Low-E glass is a coated glass and the coating can be scratched or damaged
- > Low-E glass is normally more expensive than a standard Double Glazed window
- > Low-E glass has less thermal performance than standard Double Glazing
- > Low-E glasses have different R values, and some types may not meet the 0.26 requirement of the new Energy Standard

There are of course circumstances when single-glaze low-E glass is suitable, however you need to carefully consider why you would use this over double glazing. When used as one skin of a double glazed window the benefits are real, without the hassle of these issues.

Do you have an older home and don't have the budget for double glazing?

Metro-Fit double glazing is the process of replacing your existing single glazing with insulating glass units. The process is quick and unobtrusive. Thermal backed curtains will also help to reduce heat loss. The only difference you will notice is a more comfortable temperature all year round.

HOME SAFETY CHECKLIST

Your home should also be a safe and secure place for you and your family, follow these quick steps to ensure your home is as safe as you want it to be.



CHECK OFF THE FOLLOWING SAFETY FEATURES

- > A well-defined main entrance showing house name / number clearly visible from the road
- > A clear view from the house to the street or road frontage (e.g. fences of less than 1.2 metres in height that allow people inside the house to view the street)
- > Outdoor security lighting fitted with motion and daylight sensors
- > Secure locks and catches on all ground floor doors and windows
- > Laminated or toughened safety glass on all windows and glass doors that are below 1m in height
- > A fire extinguisher in an easily accessible place in the kitchen (tested and in date)
- > Working smoke alarms within 3m of all sleeping areas or a domestic sprinkler system
- > Secure child resistant storage for hazardous substances and medicines (cupboards above 1.5m in height and/or fitted with child resistant locks)



MATERIALS MATTER

PROTECT YOUR FAMILY HEALTH AND THE ENVIRONMENT BY CHOOSING BUILDING AND INTERIOR FURNISHING MATERIALS CAREFULLY.

The best materials for your building and home interior will be:

- > non-toxic
- > durable and strong
- > make your home more comfortable and efficient
- > sourced sustainably, independently certified, reusable and/or recyclable

Materials used in home construction and home interiors can contain chemicals that may be harmful to human health as well as the environment, such as solvents and volatile organic compounds (VOCs). VOCs are chemicals that become airborne (and therefore breathable) at room temperature. They are present in many household cleaners and hairsprays, carpets and textiles, engineered timbers such as medium density fibreboard (MDF), glues, paints and many other materials used in our homes. VOCs have been linked to health problems, including asthma and skin conditions. Some chemicals that give off VOCs - for example, benzene, which is used in polyurethane - can be carcinogenic. Some timber treatments use toxic chemicals such as chromium and arsenic that may leach out when exposed to weather. Materials may have longer or shorter durability depending on maintenance. For example, timber weatherboards require painting - provided this is done, they have good durability.

Choose products that have eco-labels or environmental certification schemes to show that they have been produced in a sustainable way and are not harmful to health. Look for eco-labels and certification that are independent and have government backing, such as Environmental Choice New Zealand. For more information on eco-labelling schemes in New Zealand, see rating and labelling schemes.



Focusing on paint with Resene

Since Resene launched the first waterborne paint in New Zealand in the 1950s, they have always been keenly aware of the need to reduce the risk products may present to customers and the environment. Resene joined the Environmental Choice programme in 1996 and now has an extensive range of waterborne low VOC paints and VOC free paint and tinters

suitable for decorating projects inside and out. By choosing a waterborne paint rather than solvent borne paint for your project you can significantly reduce the VOCs emitted and enjoy the lower odour and easy wash up in water.



Why is glass wool the most popular insulation material in New Zealand and the world?

Insulation products made of glass wool possess a number of characteristics that natural fibre and polymer based products do not have.

- > Glass wool is manufactured mainly from recycled glass, originally derived from abundant natural minerals such as sand. Products such as polyester and polystyrene are made from chemical derivatives of oil industry products
- > Mineral wools such as glass wool are non-combustible, meaning they won't catch fire even when continuously exposed to a flame
- > Reputable glass wool insulation is also bio-soluble and has been independently researched over the last 50 years to be safe for use as insulation.

Fresh
as a daisy



Freshen up your next paint job with Resene Zylone Sheen VOC Free, which combines the popular low sheen of Resene Zylone Sheen without the unwanted volatile organic compounds (VOCs) for better indoor air quality.

Improved air quality can help prevent headaches, asthma, nausea, respiratory complaints and allergic reactions. And to suit all tastes, Resene Zylone Sheen VOC Free is available in a wide range of popular Resene colours using Resene non VOC tinters.

Now that's fresh thinking.



Get inspired with a
Resene The Range
fashion colours fan deck
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the paint the professionals use

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homestar

Keep your place

cooler

with a Resene CoolColour™



Ever thought a house or building would look great painted in a sleek, dark colour – then had to shelve plans for fear of the heat damaging the substrate or the building getting unbearably hot in summer?

Well, forget all that. Resene CoolColour™ technology makes painting exterior surfaces in dark colours both easier and safer. It can be used on all sorts of exterior materials and applications, from weatherboards and concrete to windowsills.

A Resene CoolColour is designed to reflect more of the sun's energy than a standard colour reducing stress on the coating, substrate and building keeping them cooler.

Simply bring this ad into your local Resene ColorShop and we'll give you the latest Resene The Range fashion colours fan deck brimming with colours designed for 2013 and beyond.

Limited to one The Range fashion colours fan deck per advertisement at Resene-owned ColorShops only until 30 May 2013 or while stocks last.

WRAP YOURSELF IN NATURE

Health & Comfort

IT'S ALL VERY WELL HEATING THE HOME, but unless you have proper insulation and ways of trapping heat, it's a highly ineffective and costly exercise. Look to partner good insulation and heating with materials that are effective, safe and sustainable.

Where do I start?

We're lucky in New Zealand, as we can simply choose products that carry the Environmental Choice New Zealand mark. The mark means that products meet best environmental practice standards in terms of materials used, energy consumed, water conserved, waste produced and discharged, and emissions.

Consider health implications when choosing linings, pipework, paint, carpet, glue and sealants that make up and decorate your home. Many materials give off pollutants over time that can affect the health of you and your family. Choose materials that use less energy to produce or are made from renewable sources.



Wool carpets and rugs act as a natural humidity regulator – keeping your house warmer in winter and cooler in summer and they reduce moisture, which in turn minimises condensation and mold. With New Zealand's expertise raising sheep we have an abundance of wool, making woolen carpets and rugs the sustainable choice.

Wool is fully biodegradable and can be recycled. Recently Cavalier Bremworth introduced a world-first with its new Flashbac carpet backing made entirely from recycled wool carpet. This is being introduced to all Cavalier Bremworth carpet ranges and is expected to divert more than 120 tonnes of waste carpet away from landfill each month.



Wool and Wood-rich Fibre Carpets
Licence No. 0467029

Partner insulation and heating with effective, safe and sustainable materials by choosing products that carry the Environmental Choice New Zealand mark.



SMARTER ENERGY USE IN YOUR HOME

STREAMLINING YOUR ENERGY USE MEANS SAVINGS FOR YOU AND LESS IMPACT ON THE ENVIRONMENT. TAKE SOME SIMPLE STEPS TO CUT YOUR ENERGY WASTE, MAKING YOUR HOME HEALTHIER, SMARTER AND MORE COMFORTABLE.

ECCA APPROVED ENERGY SAVING TIPS

WATER HEATING

Water heating typically accounts for a third of your electricity bill, and is the largest energy expense in your home. Cutting out hot water waste will lower your energy bills and your carbon footprint.

There are three ways to cut your water heating bills:

- › Use less hot water. Use cold water for washing your clothes as this uses 75% less electricity than hot water washes and, at four loads a week, could save you around \$50 to \$75 each year
- › Set your water heater's thermostat correctly. It should not be more than 55° Celsius at the tap and 60° Celsius at the cylinder to prevent the growth of Legionella bacteria
- › If you have an electric hot water cylinder, insulate it. Wrap your cylinder and hot water pipes with special insulation wraps available at your hardware store

HOUSE HEATING

- › Installing or upgrading your home's insulation is one of the most effective ways to have a warm home, reduce your energy waste and therefore reduce your bills
- › An envelope of insulating materials in ceilings, floor and walls keeps a house warm during winter and cool during summer, and helps control moisture
- › You may also be entitled to the government's *Warm Up New Zealand: Heat Smart* insulation subsidy to help with the cost. Check it out on the ENERGYWISE website:

www.energywise.govt.nz/funding-available/insulation-and-clean-heating

- › Heat loss through windows can account for 10% to 25% of your heating bill. If your home has singlepane windows, as many New Zealand homes do, consider replacing them with new double-glazed windows. At the very least, make sure you hang them with thick, thermal-lined curtains, and draw these as soon as the sun goes down
- › There are lots of energy efficient, clean heating devices available these days, including modern wood and wood-pellet burners, ENERGY STAR qualified heat pumps, and high star-rated, flued gas heaters

APPLIANCES & REFRIGERATION

- › When it comes time to replace your old appliances, use the ENERGY STAR and the energy rating label to help you choose the most energy efficient new model to suit your needs
- › Appliances like fridges use a lot of energy, are on all of the time and tend to be held on to for a long time. The average New Zealand fridge is 16 years old and costs \$200 a year more to run than a modern, energy efficient model. If you want to know at a glance which are the most energy efficient, follow the ENERGY STAR system. The blue ENERGY STAR mark is awarded to products that are amongst the 25% most energy efficient in their category
- › If you want to compare the annual energy use of one product to another,

similar product, use the energy rating label. The red and white stars on the energy rating label shows at a glance how energy efficient a product is, and the average expected annual energy use of an appliance over a year is given in kilowatt hours per year

- › Use the sun to dry your clothes rather than a dryer as much as possible. This could save you around \$200 each year

COOKING

- › Make sure you have good extraction systems in the wet areas in the home (bathroom, laundry and kitchen). Fans or extractors need to vent to outside your house, not just recirculate damp air inside your ceiling space
- › Extractor fans need to be sized and located properly to cooking equipment such as stove tops

LIGHTING

- › Making improvements to your lighting is one of the fastest ways to cut your energy bills. An average household dedicates 12% of its energy budget to lighting. Using new lighting technologies can reduce lighting energy use in your home by 50% to 75%
- › Turn lights off when a room is empty
- › Use natural light as much as possible
- › All outdoor lighting should be fitted with integrated daylight and motion sensing controls
(See tips in *Lighting the Way*)

GO GREEN & GROW

Renovate using 'green' concepts and increase the value of your home

WHETHER YOU'RE LOOKING AT BUILDING a new home, a wholesale home makeover or just a tidy up, it certainly pays to look into ways to make your home both look and work better. You'll certainly benefit in the long run.

Orientation to the sun and good insulation were selected as the two top priorities for house hunters according to a recent study released by realestate.co.nz, more so than

a fabulous granite kitchen bench! Consider factors that improve your passive (no cost) warmth by room positioning and cost effective heating solutions.

Remember the free online Homestar™ tool is available, or pay a Homestar Professional to give you clever ideas for saving energy, creating warmer and healthier surroundings and smart ways to save water and reduce waste.

HOMESTAR TOP 10 THINGS TO CONSIDER WHEN BUILDING OR RENOVATING

01 INSULATE

Top of the list is to invest in insulation; Ceiling insulation, exterior and interior walls and under floor. Initiatives like Warm Up New Zealand provide subsidised home insulation meaning warmer homes are now more affordable.

02 PLUG THE GAPS

Many of our older wooden homes tend to have lots of little gaps. These gaps, which can be found under doors and around old window frames, can all add up to be a sizable hole – letting warmth out and chilly air in.

03 WARM THINGS UP A LITTLE

Choosing effective heating options such as energy efficient heat pumps, modern wood burners and externally-flued gas heaters can make a big difference to the power bill.

04 INVEST IN EFFICIENT APPLIANCES

Choose products that have the blue Energy Star mark including white ware, home electronics, heat pumps, and lighting. The Energy Star is only awarded to the top 25% most energy efficient appliances in a category. Old fridges and freezers can be a silent but significant load on power consumption.

05 RETHINK YOUR LIGHTING

Compact fluorescent light bulbs (CFL) use less power and last longer than regular incandescent bulbs. Replacing twenty bulbs could save the average homeowner around \$300 in the first year alone. New to the market is LED lighting – even more efficient than compact CFLs.

06 GO FOR COMFORT

Including carpeting in a renovation is a way to instantly change the look and feel of a home, and to add immeasurably to comfort. There are so many great natural and allergen-free choices on the market today. Not only does carpet transform a room, it also provides yet another layer of insulation.

07 FREE WAYS TO SAVE

Washing your clothes in cold water and drying clothes outside are simple and free ways to save both electricity and money.

08 WATCH THE WATER

For most New Zealand homes heating water is the biggest energy expense. Reduce water heating costs by checking that the water temperature is no more than 55°C.

09 BEAUTY IS MORE THAN SKIN DEEP

Consider using materials that will absorb and store the sun's warmth effectively. A home's exterior that is made of heavy and dense materials such as concrete, stone and brick will do this best. Including heat-absorbing materials in building and renovation plans can really make a difference on a home's heating costs.

10 WASTE NOT, WANT NOT

When planning your garden consider planting your own vegetable and herb garden and employing composting techniques. It's so rewarding to see how using waste matter better, results in healthier, flourishing gardens.



renovate

the right way

BRANZ, New Zealand's leading research, testing, consulting and building knowledge company have just launched their new "Renovate" website.

This website complements the existing Renovate Series of publications detailing everything you need to renovate homes from different eras.

Offering tools to assist planning, regulation and compliance requirements with crystal clear drawings highlighting typical construction methods.



www.renovate.org.nz

WARMER, DRIER, SMARTER

Incorporating eco-friendly and sustainable design ideas into renovation earned this house a 7 Homestar™ rating.



WHEN EDIE AND HILLARY VAN UDEN chose to renovate their ex-state 1950's home in Auckland in 2009, they challenged themselves to make it as sustainable and energy efficient as possible.

This process was no easy feat when you take into consideration that state houses in New Zealand were built primarily for function and generally lacked comfort, insulation and sun orientation. However, Edie using his considerable skills as an architect, knew he had a great opportunity to showcase to others what could be done to improve the quality of any home in New Zealand, even an 'ex-stater'.

The original 87 square metre brick and tile house initially scored a 2 Homestar rating out of the possible 10 in terms of efficiency. By enlisting the services of a Homestar Practitioner and incorporating eco-friendly design principles into the

home such as passive heat gain, cross ventilation, high-grade insulation, solar panels and more, Edie and Hillary's home turned into a 7 Homestar, 140 square meter stunner.

How did they achieve a 7 Homestar rating

- > Sliding doors and windows were added to the north-facing side of the house to let in as much sun as possible, with the house eaves built to the right depth so that hot summer sun is blocked, while winter sun is allowed in
- > To improve wall insulation, the bricks were removed and insulation was added to thicker-than-usual walls. The entire house was also wrapped in a fibre-cement wall underlay and reclad in timber weatherboards
- > Passive solar design was incorporated with the additions being constructed on solid concrete foundations and floor slabs covered with tiles, giving the vital solid mass required to capture the sun's warmth during the day, slowly releasing it at night
- > Rain water tanks store water for improved storm flow management
- > The back garden was overhauled and is now dominated by fruit trees and raised vegetable gardens

The results speak for themselves with the van Uden's average water consumption dropping down to 170 litres per day (Watercare states two-person households as averaging between 225 and 401 litres a day). Even with a fully operational home office and general household electricity consumption, their house uses an average of 10kWh per day with a total consumption of less than 3600kwh for the first year. This is less than half the average for a normal two-person household.

"It's such a comfortable house. In summer, indoor temperatures stay below 25°C even when the outside temperature is 29°C plus. On sunny days in mid-winter, the living area temperature seldom drops below 20°C, even if it's below 10°C outside. The house is much drier and there's never any condensation on the windows."

Eddie van Uden



PASSIVE HOUSE PRINCIPLES - BUILD SUSTAINABILITY INTO YOUR NEXT HOME

Passive House is a specific way of building that has strict performance requirements. While this standard may not be for everyone, the basic principles of getting and keeping warm 'passively' should be applied to all homes.

THE PRINCIPLE OF USING THE SUN'S ENERGY to keep your home warm and dry is worth considering for all homes. By combining good design with effective insulation, you can collect and store the sun's energy to provide your home with warmth day and night, throughout the year. Using the sun to heat your home (passive heating) can slash your heating costs, reduce condensation and dampness, and make your home healthier and more comfortable.

Passive heating principles can influence every aspect of the design of your home. Ideally, you'll start thinking about it before you've bought a property or started planning your home or renovation. For the best results, you'll need some part of the property facing north. The most obvious way to achieve a warmer home is by installing extra insulation in your ceilings, walls and floors. You can also reduce heat loss by double glazing your windows, replacing poorly-performing windows and sealing up draughts.

Thermal modelling can be used to improve the passive design performance of your home, by calculating how much heat will flow into and out of a building. If you know where

the building is going to be located and what materials it will be made of, you can determine the likely temperature changes and energy requirements.

If you're planning to build or schedule a major renovation, make sure you ask your designer for an energy analysis. And if they can't provide you with one, you might want to consider contacting a Homestar™ Practitioner who'll be able to point you in the right direction. Getting your design right before you submit your plans for consent could not only save you thousands in running costs per year, it could also help guarantee a warmer, cooler, drier and healthier home.

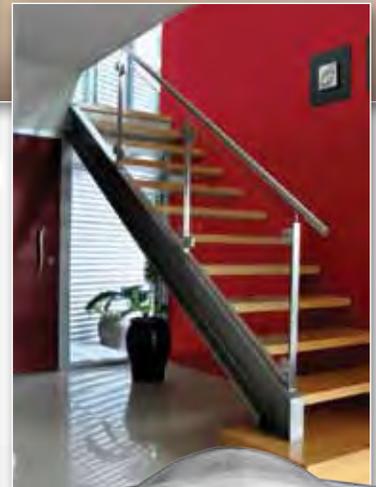
THE 'PASSIVE HOUSE' OR PASSIVHAUS STANDARD IS A RIGOROUS AND VOLUNTARY SET OF CRITERIA RELATING TO THE ENERGY REQUIREMENT AND AIR TIGHTNESS OF A BUILDING. ORIGINATING FROM SWEDISH AND GERMAN FOUNDERS, THE PASSIVHAUS INSTITUTE IS LOCATED IN GERMANY. THE FIRST NEW ZEALAND CERTIFIED PASSIVE HOUSE, PICTURED HERE HAS BEEN CERTIFIED THIS YEAR AND IS TARGETING AN 8 HOMESTAR RATING.

WIN \$75,000*

PRIZE PACKAGE FOR YOUR HOME

Includes \$1,000 worth of Homestar professional services to ensure your home renovation performs better

- A Mazda2 1.5L Classic Auto valued at \$24,645 MAZDA
- \$10,000 worth of kitchen or laundry appliances FISHER & PAYKEL
- \$10,000 of carpet including underlay and installation from CAVALIER BREMWORTH
- \$7,500 solar water heater SOLAR GROUP
- \$5,000 voucher can be spent on paint, wallpaper or curtains from RESENE
- \$3,500 Fujitsu heat pump ABSOLUTE AIR CONDITIONING
- \$3,000 New Build Quality Tracker programme from REALSURE
- \$2,875 Financial Immersion Workshop LOVE TO GROW
- \$2,000 worth of tapware of your choice from FORENO
- \$2,000 worth of Premier A Grade Glasswool ceiling or underfloor Insulation PREMIER
- \$1,000 worth of oak timber flooring KARELIA
- \$1,000 worth of Homestar consultation services
- 2 fully installed Showerdome to eliminate steam and moisture plus a bathroom gift basket. Total value \$1,000 from SHOWERDOME
- A property inspection report from REALSURE
- A VIP package valued at \$700 AA FINANCIAL SERVICES
- One annual Home Series subscription from TRENDS



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PHOTO: STONEWOOD

BUILDING NEW

THE INCREASE IN BUILDING CONSENTS in both Auckland and Christchurch offers a huge opportunity for Kiwis to build healthier, smarter homes.

Stonewood are one of the New Zealand's biggest home building companies, and have recently developed a new show home in Christchurch. This is a great example of a home built to specifications that classify it as a 7 Homestar™ rating home, and is set to become a national benchmark. The home is beautiful and smart – the new owners will enjoy a very comfortable and healthy home, plus will reap the rewards of lower energy bills.

Features of this 7 Homestar Stonewood home include:



- 
 - > Double layered ceiling and wall insulation
 - > Insulated foundation perimeters that keep the home warmer and drier
 - > Chemical free framing
 - > Thermally broken window joinery to retain warmth
 - > Vented extractor fans in all wet areas create a drier home
 - > Foam sealed windows reduce heat loss
 - > Poly insulated internal doors keep the warmth where it's needed
 - > Sustainable timber and recycled cement
 - > Sound insulation to main living area
- 
 - > Non-toxic paint
 - > 100% pure wool carpet helps keep the home warmer and drier by naturally absorbing and releasing moisture
 - > Surface mounted low energy lighting that reduces heat loss
 - > Overheight doors for passive heat transfer
 - > Energy efficient appliances that keep power bills down
 - > Future proofed wiring for keeping pace with technology
- 
 - > Rainwater harvesting to toilets, laundry and irrigation
 - > Water efficient plumbing fittings that conserve water
- 
 - > Responsible contracting kept construction waste to a minimum
- 
 - > Level entry to exterior doors gives easy access to buggies and wheelchairs
- 
 - > Smoke alarms installed close to bedrooms and secure locks fitted



A beautiful home for you ...
A better future for them

Stonewood Homes have just built the very first 7 star Homestar™ showhome in New Zealand!

A home that's packed with products and innovations guaranteed to ensure your home will be warmer, drier, healthier and better – for you, the environment, and the future.



Contact us now for more information about Homestar™



The home you deserve

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THINK BIG BUT START SMALL



Artist's impression of Zed Factory high density cityscape in Dalian, China. They delicately place the landscape over the top of the housing creating an integrated form.



WORLD-RENOWNED ARCHITECT and founder of ZEDFactory, Bill Dunster, was recently in New Zealand talking about the impact of sustainable communities.

He specialises in low energy developments including BedZED - one of Britain's largest mixed-use sustainable communities. "Houses within our low-carbon projects in the UK have garnered a premium over those in neighbouring areas," Dunster says. "Developers realise they will get higher prices when they sell homes in new low-carbon developments."

Dunster thinks big. His vision for sustainable communities incorporates ingenious concepts such as e-trees for charging electric cars, ensuring that communities are serviced by local markets and businesses and integrating work and living spaces.

Dunster's ZEDFactory, ('zero (fossil) energy development') is aiming to move the world towards a zero carbon and zero waste life on a large scale.

If Kiwis employed even some of his thinking in town planning and home renovations we'd be well on our way to reducing our carbon footprint and improving the health of our homes.



HOBSON'S CHOICE

WHERE THE ONLY CHOICE IS THE BEST

Hobsonville Point gets the Homestar™ tick of approval

SET TO BECOME ONE OF THE MOST sought-after destinations on Auckland's Waitemata Harbour, Hobsonville Point is a new community, offering the ideal location for those looking to escape the commotion of city life.

Built with a strong focus on quality sustainable urban living, developers Hobsonville Land Company and AV Jennings have committed to creating a community where what matters most are the warmth, comfort and efficiency of the homes. When Homestar was launched they could see a good fit with their clever designs and sustainable building practices.

One of the Hobsonville Point show homes has recently been certified a 6 Homestar rating by a Homestar Assessor. (To contact an assessor in your area log into www.homestar.org/services.)

This compact two storey 4 bedroom home sits on a 280 square metre section and has been orientated and designed to optimise heating from the sun. Double glazed windows feature throughout the house and energy efficient wall and roof insulation has been installed to ensure a warmer and drier property year round.

Photovoltaic solar panels have been installed on the roof and solar hot water connected to an electric storage cylinder. All lighting inside the house consists of highly efficient LED light fitting which can use up to 80% less energy than incandescent bulbs and can last 15-25 times longer.

Maintaining the sustainable practices outdoors has also been a strong focus at Hobsonville Point and the house has been fitted with an outdoor washing line, vegetable garden, rainwater collection and worm farm.

Hobsonville Point gets the Homestar mark of approval

- › Well connected to local town centres and Auckland's CBD by bus and ferry and to the wider world via fibre to the home infrastructure
- › Schools, community facilities and parks within easy walking distance of all homes
- › Using eco-sourced native plants to vegetate the coastal edge
- › Increasing bird, insect and vegetation diversity and abundance
- › All homes are designed to be energy and water efficient, including rain tanks for all homes
- › Streets designed to make walking and cycling convenient and fun
- › All storm-water treated before discharge to harbour
- › On-site renewable generation demonstration projects
- › Public recycling systems and construction waste recycling programme
- › Community garden and fruit trees planted in public spaces

Our People Understand Sustainability



Here at Opus, we are committed to acting in an environmentally, socially, culturally, and economically responsible manner both internally and externally.

We have active or emerging Sustainability Steering Groups in all of our core sectors:

- Asset Management
- Buildings
- Transport
- Water

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HOMESTAR™ PROFESSIONALS

To get advice on your renovation plans or new builds from one of our Homestar Professionals in your area please refer to: <http://Homestar.org.nz> and refer to our "Services" section.

Professional Homestar advice is only a few clicks away.

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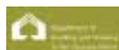
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Start your journey today, by taking the free online Homestar test at www.homestar.org.nz and improve the comfort, efficiency and value of your home.



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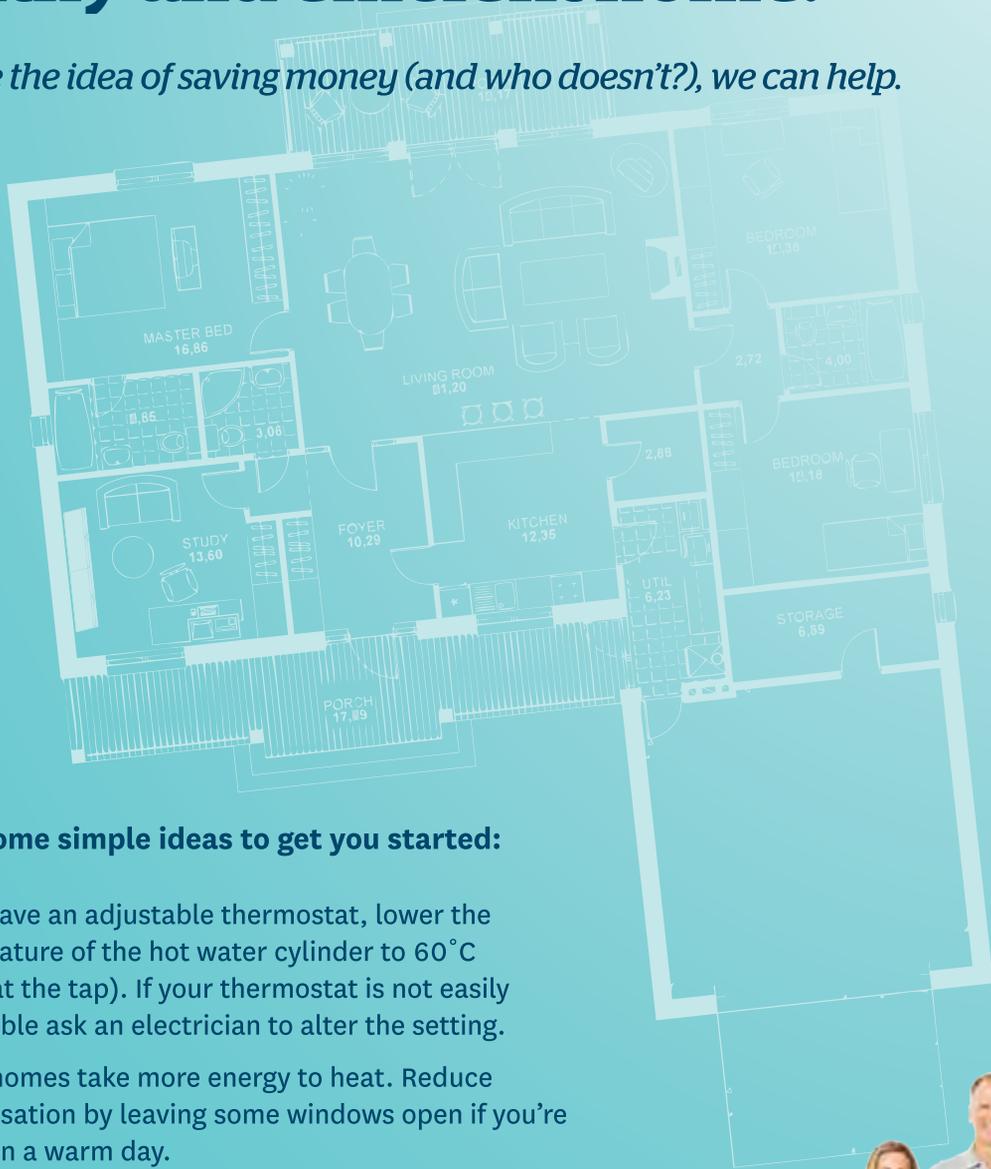




meridian

We want to help you have a healthy and efficient home.

If you like the idea of saving money (and who doesn't?), we can help.



Here are some simple ideas to get you started:

- ✓ If you have an adjustable thermostat, lower the temperature of the hot water cylinder to 60°C (55°C at the tap). If your thermostat is not easily adjustable ask an electrician to alter the setting.
- ✓ Damp homes take more energy to heat. Reduce condensation by leaving some windows open if you're home on a warm day.
- ✓ Replace old light bulbs with new energy efficient options. Just replacing the four bulbs you use most frequently could save you around \$80* in the first year, and more over the lifetime of the bulb.

* Savings figure sourced from energywise.co.nz and is an estimate that is indicative only.



For more ideas on how to save, visit operationpowersave.co.nz

To become a Meridian customer, visit meridian.co.nz or call us on 0800 496 496.

“ Our family is warmer and healthier thanks to Metrofit ”

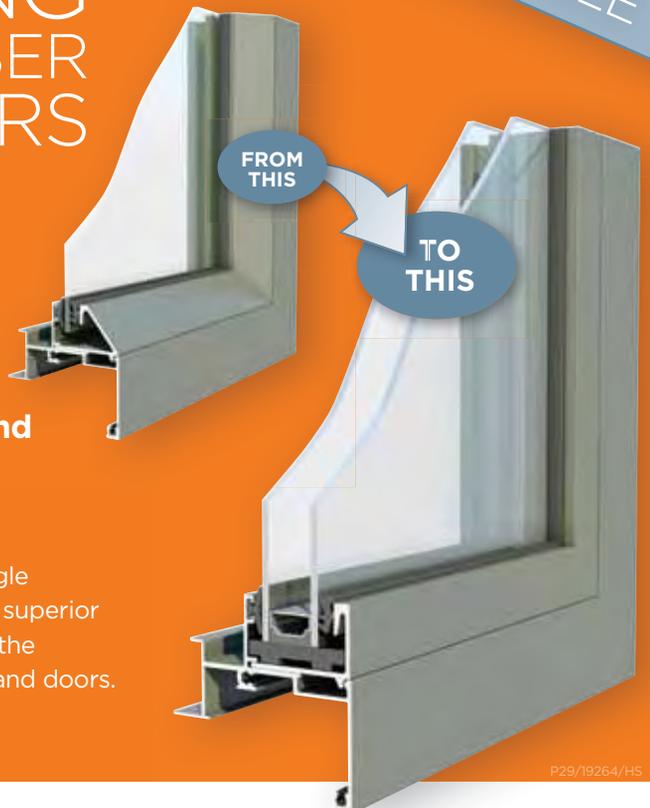


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- ▶ **A more comfortable home all year round**
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