

Banking on a Green Home

Sanctuary's guide to energy ratings and mandatory disclosure; or Why the smart money is going green.

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HOUSE ENERGY RATINGS

House energy ratings are a measure of the thermal efficiency of a dwelling. Basically, the stars tell you how comfortable the home will be throughout the year. So how are they figured out?

Energy assessors plug the details of your plans or existing building into a software program such as FirstRate5, AccuRate or BERS Professional. These programs, accredited by the Nationwide House Energy Rating Scheme (NatHERS), analyse the home's layout and orientation, and the construction of the roof, floor, walls and windows.

This information is matched with the local climate to calculate how much heating and cooling you'll need to stay comfortable every day of the year. Homes can score between zero and ten stars. At zero stars, the building does next to nothing to protect against the temperature outside; at ten, it will be nice and snug without any artificial heating or cooling. A five-star home is good, but far from outstanding.

The ratings are one way to comply with the minimum standards for new buildings set out in the Building Code of Australia. It's up to the states and territories to apply those standards – and they tend to do it haphazardly, with their own variations.

The New South Wales government has sidestepped star ratings altogether. Its planning tool, BASIX, contains caps on energy and water use as well as environmentally

sustainable design considerations such as location, materials and fittings.

SIX STAR

Last year, state and federal governments agreed to lift the residential energy efficiency standards from five to six stars (or equivalent), and bring the changes into effect by May 2011.

Six-star homes need one quarter less energy than five-star homes to stay comfortable, says Wayne Floyd, president of the Association of Building Sustainability Assessors (ABSA). "And of course, that reduction translates into lower utility bills."

Despite yelping from the building industry about price hikes, Floyd argues that the higher performance can be reached at little or no extra construction cost. "Orientation is the key factor. If the house is designed correctly for that block of land, it can be cost neutral," he says.

"We're starting to see houses with bedrooms to the rear and living areas to the front, because that gets the greatest solar access. I've looked at projects that achieve over six stars with standard insulation and no double glazing, because they're oriented and designed correctly."

Poorly oriented homes can still reach six stars, but they need top-quality windows and insulation. Even in those cases, Floyd says, "the expense is very minor relative to the total cost of the house."

So the higher standards might not cost

much, but will they make a big impact?

Because the new regulations don't take into account house size, appliances and occupant behaviour, they won't necessarily reduce our overall household energy consumption.

New houses are on average much larger than in decades past, which means they gobble more energy, materials and consumer items, and spit out more waste. Likewise, our habits around the home have a drastic effect on the amount of energy we consume.

Damien Moyses, energy policy officer at the Alternative Technology Association, says that in an international context, the new regulations are far from ambitious. "There are many regions, particularly in Europe, which require the equivalent of seven stars or above," he says. "The UK has a program for zero net carbon homes by 2016."

According to Moyses, in order to reduce the carbon emissions from housing we must target existing homes. "The real trouble with the star rating scheme is that it's generally for new buildings," he says, "and new buildings are a very small percentage of our housing stock."

MANDATORY DISCLOSURE

The good news is that state and federal governments have also agreed to a measure that could lift the energy efficiency of existing houses.

Under new "mandatory disclosure" rules, homeowners and landlords will be required to declare the energy, water and greenhouse

performance of a house when they put it up for sale or lease. That means buyers and renters will be able to compare the environmental impacts and ongoing costs of different homes before they sign on the dotted line. "It will be very good because it focuses on the built environment, not the 'to-be-built' environment," says Wayne Floyd.

The rules are scheduled to be phased in from May 2011, beginning with energy efficiency, but so far no details have been finalised. "It's up to the individual states to adopt it, and each state is working on its own version. I feel that it will be a two or three year process," Floyd says.

Moyes argues that although the added transparency will encourage more people to retrofit their dwellings, the changes could have gone further. "Mandatory disclosure just provides information," he says. "You also need minimum standards to force landlords or homeowners to upgrade their properties."

THE MARKET FOR GREEN HOMES

Buyers are already getting the message about the new regulations, especially in the ACT, where mandatory disclosure at the point of sale was introduced in 1999. A study for the federal government found that in 2005 and 2006, lifting the energy rating of a median-priced house in the ACT by just half a star added about \$4500 to its value.

The study shows that, depending on the specifications of the house, the cost of adding





When Peter Natrass added an extension to his 1920s home in Prospect, Adelaide, the family ensured the original home also received an energy efficiency update. The whole house rating went from around two stars in the original home to six stars.

stars can be far lower than the payoff when it comes to selling.

Danielle King has just founded Green Moves, a sustainable real estate listing website (www.greenmoves.com.au). She says estate agents are split on the importance of eco-friendly features. “Some think that greening up doesn’t make a difference. Others believe it’s becoming more and more significant.”

With tougher regulations coming in, King says it’s unwise for people not to focus on energy efficiency, especially if they’re considering a renovation. “Like it or not, sustainable homes are the future of the real estate industry.”

She points to “green belts” in the inner suburbs of our cities, such as Brunswick in Melbourne, where “properties with sustainable features have been selling at between \$80,000 to \$100,000 more than equivalent properties without them”.

“My view is that homes with good energy performance and lower greenhouse gas emissions will enjoy a noticeable increase at market price. It’s already happening regardless of mandatory disclosure and six stars being in place.”

CASE STUDY: RATE AS YOU RENOVATE

When Peter Natrass and his family decided to renovate their 1920s bungalow in the Adelaide suburb of Prospect, they decided to give energy efficiency pride of place.

In his job as a development assessment planner and sustainability advisor, Natrass had observed that energy rating is usually an afterthought, used only for council compliance. “People think about energy efficiency too late and end up rushing to fix something that’s fundamentally broken,” he says.

The Building Code of Australia applies to new buildings. When it comes to extensions, each state and territory applies the code differently – for details, you’ll need to contact your local authority. Generally speaking, the new portions of the dwelling must meet the code’s specifications, but it isn’t mandatory to lift the rating of the whole home.

“We wanted our extension to lift the performance of the rest of the house,” Natrass says. “We instructed the architect from day one that we wanted a passive solar design and that we would be having it rated as we went.”

He estimates that his original house would have scored about two stars. Based on the

architect’s extension plans, energy assessors Sustainability House rated the home at just below five stars.

“They thermally modelled the whole house and that picked up the weaknesses in our existing home. We then tweaked the specifications,” he says. The family was able to compare the costs and benefits of measures such as ceiling and cavity wall insulation, double-glazing and a planned reverse brick veneer wall.

The process reduced their projected energy needs by another quarter, for very little cost – under \$500 for the initial assessment and advice. “We lifted the whole house up to six star and went for the best bang for our insulation bucks,” Natrass says.

The experience has given the family extra comfort, both physically and financially. “One of the key drivers for us was avoiding the risk of underperforming compared to new homes built to the six star requirements. If you don’t bring the rest of the house up, you could end up disadvantaged in the market when you sell.”