Victorian Residential
Efficiency Scorecard
STAR RATING

Fact Sheet 11

Comparing Scorecard and NatHERS

There are a number of tools and programs available to rate the energy efficiency of a home. One of the best-known is the Nationwide House Energy Rating Scheme (NatHERS). This document compares the similarities and differences between NatHERS and the Residential Efficiency Scorecard (the Scorecard).

How does the Scorecard work?

The Scorecard is a unique program that provides an energy star rating for your home. In the same way as a fridge or washing machine has a star rating, a Scorecard rating represents the energy cost of the fixed appliances in your home.

The Scorecard:

- was developed for existing homes, providing a rating and upgrade options
- can be used for new homes from plans
- is voluntary and not part of any regulatory program or the building code
- assesses major fixed appliances along with the building shell.

Under the Scorecard program, every assessed home receives a certificate. This provides information on the elements that make up the home's rating and ways to improve the rating.

Scorecard assessors provide advice on how the householder can reduce energy bills, improve the home's thermal comfort, guide renovations or make simple changes to the way the house and appliances are used.

The Scorecard program aims to make improving the energy performance of existing homes as straightforward as possible.

- Trained assessors walk through the house and enter data. House plans are not required unless it is a new home or renovation.
- All the data collected must be visible or verifiable, avoiding subjective assessment.

How does NatHERS work?

NatHERS is a program that provides an energy star rating for homes that are yet to be built or undergoing significant renovations. The program focuses on assessing the thermal performance of the building shell using one of several accredited simulation tools, including AccuRate, FirstRate5 and BERS Pro.

NatHERS:

- was developed for new homes and extensive renovations, providing a rating to demonstrate that it meets minimum energy performance requirements
- is most commonly used for regulatory purposes under the National Construction Code of Australia
- assesses only the building shell.

Under the NatHERS program, every assessed house receives a certificate. This provides a star rating and details of construction elements for the house.

NatHERS assessors can provide advice on how to improve the rating, but do not usually interact with the householder and do not usually discuss appliance options as appliances are not part of the assessment.

The NatHERS program aims to improve the energy efficiency of new homes.

- Trained assessors enter data from house plans and specifications. Any changes to house plans must be reflected in the assessment.
- The NatHERS star rating indicates how much energy a householder would use to keep the house comfortable. The rating does not aim to represent energy costs, nor consider different fuel sources.

How do the tools compare?

Each tool has features that the other does not have, because they service different needs. For example, the Scorecard includes appliances such as hot water systems and provides upgrade options or recommends solar PV. NatHERS tools don't do this. NatHERS provides a very flexible tool to design a new home to ensure the building shell (for example, window locations and building materials) performs well.

Both tools treat the building shell similarly. The Scorecard building shell rating is a simpler version of a NatHERS rating and has been correlated against NatHERS to confirm the two tools are consistent. A home with a good NatHERS building shell rating should also rate well under the Scorecard building shell elements.

Scorecard

Technical details

The Scorecard star rating considers the building shell, heating and cooling appliances, hot water appliances, lighting, pools and spas, and solar PV systems.

The assessor enters details of each element based on what they can see in the home and on any available documentation, such as star ratings or model numbers of appliances.

Data is entered into zones, usually a room. Heaters and coolers are assumed to heat and cool the zones they are in and any other zones which cannot be isolated from the appliance.

Energy requirements are calculated using climatic data for the home's location. Energy costs for each fuel are based on average prices.

Behaviour assumptions

Heating and cooling thermostats and usage patterns are based on an average profile. Hot water use is based on occupancy, which is derived from the floor area of the home. Occupant behaviour is standardised to produce a consistent, comparable result.

Outputs

The Scorecard's overall star rating is from 1 to 10 stars. This represents the energy cost of running the fixed appliances.

A 10-star home would typically generate more than enough energy to cover the cost of running the major fixed appliances.

The Scorecard certificate shows the relative cost of running each fixed appliance, so it is clear what is driving the overall costs and star rating.

The hot weather rating gives the home a score out of five for its performance in hot weather, in the absence of any mechanical cooling.

The Scorecard certificate also provides efficiency ratings for each of the fixed appliances and the building shell, as well as suggested improvements for all elements.

NatHERS

Technical details

The NatHERS tools assess the thermal shell of a home and do not consider appliances or onsite power generation such as PV systems.

The assessor enters very detailed information on all aspects of the building shell. For instance, wall insulation is entered to an accuracy of R0.1. Wall constructions are defined by describing the material and thickness of each layer, including air spaces. The position of each window relative to the wall is entered as well as its size, orientation and other aspects.

NatHERS tools split a home into zones, and each zone has a particular use, such as living room or bedroom. The zone type sets assumptions for each zone for thermostat settings, internal heat gains and hours of use.

Energy requirements are calculated using climatic data for the home's location. There are no energy costs associated with a NatHERS rating. The star rating indicates how much energy is required to heat and cool the house.

Behaviour assumptions

NatHERS assumes a user behaviour to model how the home will perform in all seasons. Living areas are heated and cooled during the day and evening, bedrooms are assumed to be heated and cooled in the evening and overnight.

NatHERS calculates the heating and cooling energy required to keep the home comfortable, but does not consider the fuel type or efficiency of any heaters or coolers. Occupant behaviour is standardised: windows are assumed to be opened and closed when appropriate and blinds lowered and raised.

Outputs

NatHERS gives the home a star rating for its thermal performance. This shows how much energy is required per square metre of floor area in each zone to keep the home comfortable. The energy, in megajoules, is the amount that needs to be added by heating or removed by cooling in a year.

How do the star ratings compare?

Scorecard

The Scorecard star rating represents the energy cost of the home under average conditions. It covers the fixed appliances, the building shell and on-site energy generation from solar panels. These are the elements that drive energy bills, have a relatively long life, and stay with the home whoever lives there.

The Scorecard certificate includes a hot weather rating showing how the house performs in heatwaves without cooling and how to improve this rating. This important feature helps householders improve summer performance when they have no cooling, or when the power fails.

Householders can use the Scorecard information to improve home comfort, reduce energy bills or support other goals such as reducing greenhouse gas emissions.

NatHERS

The NatHERS' overall star rating represents the thermal building shell performance of a home. The rating does not include any appliances, nor does it reflect the cost of energy to run the house.

The NatHERS tools can be used to model the building performance in hot weather, giving an indication of how much energy will be required to cool each zone. They can also be used to test potential changes to the building shell that might lead to improvements in performance.

Builders, architects and home owners can use NatHERS information to improve the thermal performance of the building in hot weather, cold weather or both.

In Melbourne, an average size house (220 m^2) with a 6-star NatHERS rating and market average appliances (5-star instantaneous gas hot water, 4-star gas ducted heating, ducted evaporative cooling) is likely to be a Scorecard 6-star house.

Summary

	Scorecard	NatHERS
How many stars?	Out of 10 stars	Out of 10 stars
Housing type	All houses, new or existing	Predominantly new build or renovation (at design stage)
Measure	Energy costs for fixed appliances	MJ/m^2 per annum required to heat and cool the house
Data source	Information must be discoverable on walk through	Information taken from detailed plans
Includes	Fixed appliances (heaters, coolers, hot water systems and lights) and PV systems and pools.	No appliances, pools or solar PV
Customer interaction	Assessors provide tailored advice for each customer and answers any questions that they have about their house	Often the customer is the building designer or architect; sometimes householder interaction can occur
Uses	Improvement options are generated by the tool and included in the certificate. Easy to run upgrade scenarios. Cannot be used for National Construction Code Compliance.	Usually used to meet minimum standards, occasionally for above standards. Is used for National Construction Code Compliance.

More information

To find out more about Scorecard, visit: www.victorianenergysaver.vic.gov.au/scorecard.

You can also call 136 186 or email scorecard@delwp.vic.gov.au.