



DMN Live Q & A, December 2021

**ABSTRACT**

DMN Member questions together with responses from the NatHERS presenters on the proposed Whole of Home provisions

**Design Matters**

# Whole of Home Q & A

Thursday 2 December 2021

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## Reference Resources:

[NatHERS Whole of Home web page](#)

[Benchmarking tool demonstration video](#)

[Draft Whole of Home NatHERS Certificate](#)

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## Q & A

### 1. How will the actual home occupant see the certificate/documents? Normally only the builder gets it

The homeowner can request their certificate from the builder or assessor. The NatHERS administrator is planning to undertake additional communication and outreach activities to promote the benefits of the scheme to consumers and raise awareness of the certificate. Targeted engagement has also been held with consumer groups during the public consultation period, to seek consumer views.

### 2. If a project was assessed in Accurate or FR5, Whole of Home tool, would the same result be achieved?

Yes, this is the purpose of the benchmark tool (AccuRate) and the software accreditation protocol (SAP), to ensure all tools are calibrated to generate consistent results.

The SAP will outline the requirements and process that new and existing software providers will need to follow to become NatHERS accredited. For more information, have a look at the NatHERS website.

<https://www.nathers.gov.au/nathers-accredited-software>

### 3. Will the Heating and Cooling load targets match the total target for a compliant 7 stars result?

- The NatHERS Star Rating is based on the total annual MJ/m<sup>2</sup> required to keep the dwelling thermally comfortable. It comprises the total calculated amount of cooling energy and the total calculated amount of heating energy, combined.
- The heating and cooling load limits are designed to help ensure a balance of heating to cooling energy for temperate locations by removing the worst 5% of overheating dwellings and the worst 5% of cold dwellings.
- For example, while a house in Brisbane may achieve the regulatory 6 star maximum of 43 MJ/m<sup>2</sup> to achieve six stars, if all of that was cooling load, it would be a pretty hot house in summer. That is why there is a separate cooling load limit of 31 MJ/m<sup>2</sup> for Brisbane. This ensures that at least some of the

total load must also be for heating. Conversely, a house in Brisbane that achieves 6 stars through 43 MJ/m<sup>2</sup> of heating per year would be a very cold home. The heating load limit of 24 MJ/m<sup>2</sup> ensures some of the total load must be for cooling. Houses can, and should, be designed for their climate, so that they do not get too hot in summer or too cold in winter, to protect occupants from extreme weather, particularly as power outages sometimes occur.

- Given that the separate load limits are the separate worst cases allowed, their total adds up to more than the total allowed for 6 stars.

#### **4. What are the key differences between existing BASIX and the new WOH?**

The NatHERS and BASIX teams are continually working together to ensure the tools align as much as possible. The major difference, at this stage, is that BASIX measures building impact using Carbon, where NatHERS and the National Construction Code (NCC) use Societal Cost, which is a combination of costs and carbon impacts.

Other key differences are:

- BASIX covers the energy efficiency of new apartment buildings (including common areas and lifts) and not just the units.
- BASIX covers the water efficiency of new homes:
  - BASIX estimates hot water consumption based on the water efficiency ratings of showerheads and taps. The tool will use the estimated hot water consumption to determine energy consumption from hot water systems.
  - In contrast, NatHERS whole-of-home assumes hot water consumption based on the number of expected occupants to determine energy consumption from hot water systems.

#### **5. The whole of house performance guide goes from 0 to 100. Is 0 based on the energy usage of a 7 stars in that project 'postcode', meaning a project will pass if all appliances are non-rated?**

A Whole of Home rating of zero is not based on the energy usage of a 7 star home. The Whole of Home rating scale will allow for ratings at the lower end of the scale for existing homes, including those with lower thermal performance.

Similar to the thermal performance star rating, the Whole of Home rating scale aims to provide a point that can be used as the deemed-to-satisfy (DTS) provision for NatHERS, to demonstrate compliance with the NCC's proposed Performance Requirement 2 (annual energy use budget) for Class 1 dwellings and J1P3 for Class 2 sole occupancy units (apartments).

If non-rated means no efficiency label, or no efficiency info, they are accounted by default values in the Whole of Home tools.

#### **6. Jo, you said that WOH will show net zero cost - Is this the same as Net Zero Emissions as this is the buzz phrase with the media at the moment. If not, can WOH show what the client needs to do to achieve net zero emissions?**

It is anticipated that the Whole of Home rating scale will include a 'net zero societal cost' marker. Because the Whole of Home rating is based on societal cost, which measures the net cost to society,

including but not limited to, costs to the home user, the environment and energy networks, this marker will not equate to net zero emissions.

However, the new NatHERS Certificate will provide additional information about the greenhouse gas emissions of the home. This will include, how much GHG emissions the house generates with and without Solar PV installed.

#### **7. Is the cost and energy consumption based on State and Territory average? Will this be monitored and updated?**

Costs and carbon factors are based on state-wide averages/representative figures. This will be monitored and updated, however the frequency will depend on which part of the NatHERS outputs are affected by the update. Changes that flow into the rating scale may only be able to be updated in line with the NCC cycle. Changes that flow into the non-regulatory supporting information may be updated in a shorter timeframe, depending on the frequency of updates to that published data and time taken to implement any changes in software tools.

#### **8. Is the checklist included in the 'certificate'?**

Yes the checklist will be included in the new NatHERS Certificate. The Draft Whole of Home Class 1 and 2 certificates are available on the [NatHERS Consultation webpage](https://consult.industry.gov.au/improving-nathers) (<https://consult.industry.gov.au/improving-nathers>) and show the new checklist on pages 3 and 4.

#### **9. Is the training in Whole of Home assessors' 'part' of the Cert IV training or will this be available to existing assessors?**

Whole of Home Continuing Professional Development (CPD) training will be available for existing accredited assessors to enable them to become accredited in Whole of Home. For new assessors undertaking a Certificate IV, the NatHERS Administrator is currently reviewing what changes will be made to the existing course to accommodate Whole of Home. Any changes will be incorporated in time for NCC 2022 changes coming into effect.

#### **10. Will the NatHERS certificate be different in NSW? Will whole of home details form part of BASIX?**

No, the NatHERS Certificate will not be different in different parts of the country.

NSW will continue to use BASIX to satisfy the energy efficiency requirements in the NCC. BASIX already covers a broader scope than NatHERS Whole of Home. For example, BASIX assessments include water energy efficiency, as well as shared services and common areas of new apartment buildings.

BASIX standards on thermal performance and energy efficiency are currently under review to align with the proposed changes to the NCC. Please visit the Building Sustainability Index website (BASIX) website for more information ([www.planningportal.nsw.gov.au/basix](http://www.planningportal.nsw.gov.au/basix))

#### **11. Regarding heating & cooling loads for climate. When will NatHERS fix wrong climate issues throughout Australia?**

New climate files will be included in the NCC 2022 compliant versions of the software. They were created from high quality climate data collected from 1990 to the end of 2016. The current climate boundaries for the 69 NatHERS climate zones will remain. Changing these boundaries would be a very large and difficult project with complex regulatory impacts to manage.

## 12. Comment: Agree on climate zone allocations. So wrong in large swathes of SA

While the NatHERS Administrator is aware of concerns with some of the climate zone boundaries, changing them would be a very large and difficult project with complex regulatory impacts to manage. Other improvement and upgrade projects have been prioritised over a review of the climate zone boundaries.

## 13. As a Designer and thermal assessor, I specify the type of construction to meet the thermal requirements but when I watch the build process, I don't see any check or inspection to ensure it is built as designed. Can we look at a new inspection point similar to a frame inspection. This would also pick up requirements for bushfire construction. I know the builder signs off that they have built it as designed but ....

Building compliance legislation sits at the state and territory level. Building Ministers and the Australian Building Codes Board are working to improve the effectiveness of compliance and enforcement systems for the building and construction industry across Australia. The Shergold Weir Building Confidence Report provides a package of reforms to establish a national best practice model for compliance and enforcement. The NatHERS Administrator is developing strategies to support this work program.

## 14. So NCC appears to be going to require a 7 min stars with a min WOH percentage?

Yes, however the final stringency is still to be formally agreed by Building Ministers in July/August following consideration of the Regulatory Impact Statement for decision.

The NCC 2022 public comment draft included an overview with an indicative timeline found here: [https://consultation.abcb.gov.au/engagement/ncc-2022-public-comment-draft-stage-2/supporting\\_documents/Infographic%20%20Overview%20of%20proposed%20changes.PDF](https://consultation.abcb.gov.au/engagement/ncc-2022-public-comment-draft-stage-2/supporting_documents/Infographic%20%20Overview%20of%20proposed%20changes.PDF).

In addition to the Whole of Home provisions, proposals for increases to the thermal shell provisions are also being considered. The Whole of Home requirements are separate to the thermal shell requirements. Both performance requirements must be met, and you cannot trade off a below-minimum thermal shell with above-minimum Whole of Home results.

NCC Whole of Home performance requirements drafted for class 1 buildings are a societal cost that is 30% lower than a benchmark dwelling. Draft Class 2 requirements are an SOU with a societal cost equal to the benchmark. The benchmark dwelling has:

- 7-star thermal shell
- 5-star gas instantaneous hot water
- 3-star ducted heating and cooling (2019 determination, new Zoned Energy Rating Label)
- 4W/m<sup>2</sup> allowance for lighting

You may use any combination of appliances, above minimum standard thermal shell, and on-site generation required to reduce the societal cost of the building. Regardless of how much you reduce the societal cost of your building, you must still meet the thermal shell performance requirement.

e.g. A 5-star building with very high efficiency appliances and enough solar PV may have a societal cost low enough to pass the whole of home provisions, but the 5-star thermal shell would not pass the thermal provisions.

(Note that the current NCC draft uses the defined term 'energy value' in place of 'societal cost')

**15. Comment: Net Zero cost and net zero emissions are not the same, but NatHERS will give you information on the emissions footprint.**

The new NatHERS Certificate will provide additional information about the cost, energy use and greenhouse gas emissions of the home. This will include, how much GHG emissions the house generates with and without Solar PV installed as well as the GHG emissions, energy use and cost of the homes fixed appliances.

**16. I imagine that if NSW assessors want to do WOH they will need to get the training?**

Any existing assessors who want to be accredited in Whole of Home will need to successfully complete the Whole of Home CPD Training. We are currently working with the AAOs to establish whether there will be any recognition of prior learning that may change the number of WoH units required to complete.

**17. Has the minimum WOH % been set yet?**

No, the final stringency is still to be formally agreed by Building Ministers following development of the Regulatory Impact Statement for decision.

The two levels of stringency under review for whole of home provisions are:

- Societal cost equivalent to a 7-star thermal shell with a set of Benchmark appliances, OR;
- Societal cost equivalent to 70% of a 7-star thermal shell with a set of Benchmark appliances (This is a 30% reduction).

In addition to the whole of home provisions, proposals for increases to the thermal shell provisions are also being considered. The whole of home requirements are in addition to the thermal shell requirements. Both performance requirements must be met, and you cannot trade off a below-minimum thermal shell with above-minimum whole of home results.

**18. Comment: In my understanding Queensland is still with 5-Star NatHERS rating for residential developments and NSW adopted 6-Star rating quite late. VBA may take some time on adopting the NCC 2022 7-star rating for Victorian residential developments.**

State and territory governments are responsible for setting the stringency requirements for their jurisdiction and these may vary from the National Construction Code minimum requirements. The Australian Building Codes Board NCC Handbook provides further information on applying energy efficiency requirements for residential dwellings, see <https://www.abcb.gov.au/resource/handbook/energy-efficiency-ncc-volume-two-handbook>.

**19. Comment: Don't see the CPD as being a big investment. I did the FR5 training on the new evaluation tool yesterday. Pretty straight forward...**

The NatHERS Administrator is developing targeted CPD to ensure assessors have the skills required to undertake Whole of Home assessments. It is anticipated that completing these targeted CPD units will not place undue burden on assessors. As much as possible, Whole of Home assessments have been designed to be simple, quick and easy for assessors. The Administrator is also updating the NatHERS Technical Note and Assessor Handbook to support assessors undertaking Whole of Home assessments.

**20. Comment: On the coal face, as a designer and TPA it is going to be tough to get to 7 stars as it is at the moment.**

A move to a 7 star requirement will create challenges for the industry and some common practices will probably need to change. Many industry experts believe that continuing the practice of asking TPAs to achieve compliance once the design is largely finalised may be unviable at 7 stars. This is because there are very few options open for improvement once the majority of the design is finalised. Such experts suggest that TPAs will need to be engaged at an earlier stage in the design process, when there is still a chance to make fundamental changes (for instance, orientation and layout). Materials will also have to change. For instance, single glazed windows are likely to become far less common. Resources like [www.yourhome.gov.au](http://www.yourhome.gov.au) and **Design For Place** can help industry prepare and adjust to the change.

It is likely that assessors will need to be involved earlier in the design process as optimal orientation and design choices will become more important in getting a building to pass the minimum standards than in previous years.

**21. What is NatHERS doing to protect accredited TPA's from non-accredited persons & DTS pathways, and accredited persons/companies from using Non- accredited- Non Australian offshore persons to complete assessments at third world prices?**

The NatHERS Administrator is currently investigating issues relating to non-accredited assessors participation in the NatHERS program, noting that under the new NatHERS In Home Program assessors must be accredited. In 2022 the NatHERS Steering Committee (which is made up of state and territory government officials) will consider this matter.

Energy assessment work undertaken outside Australia is outside the scope of the NatHERS Administrator and an issue that relates to a wide variety of Australian professions.

Another piece of work that is underway is implementation of the Building Confidence Report recommendations under the auspice of Australia's Building Ministers. It will be rolled out through state and territory governments.