



Nationwide House Energy Rating Scheme (NatHERS)

Overview of technical updates



Department of Industry, Science, Energy and Resources



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Acknowledgement of Country

We acknowledge that we meet today
on many Aboriginal lands.

We acknowledge the traditional
custodians of the lands and
we show our respect for elders past,
present and emerging through
thoughtful and
collaborative approaches
to our work.



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NatHERS IS EXPANDING

Overview of the updates to NatHERS

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THERMAL PERFORMANCE RATINGS - UPDATES

- Updates to the climate files
- Thermal bridging

03

INTRODUCTION TO WHOLE OF HOME PERFORMANCE RATINGS

Taking the Thermal shell calculations and adding appliances

04

INTRODUCTION TO IN HOME PERFORMANCE RATINGS

Energy performance ratings for existing homes using an 'in home' assessment



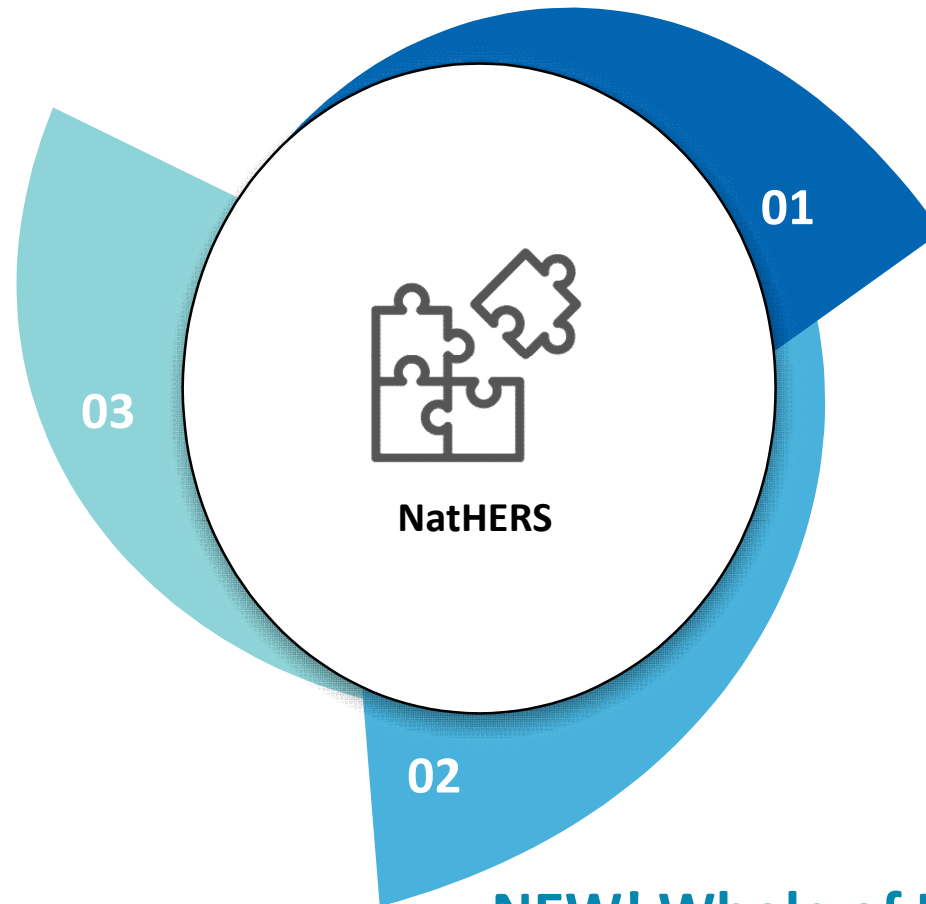
NatHERS is expanding

**Overview of the extensions and
expansions of the current scheme**

NatHERS is changing

NEW! In Home

Assessment for existing homes using an 'in home' assessment process and provision of recommendations for improvements



Updates – Thermal

Assessment of the home's thermal performance and star rating for new homes

NEW! Whole of Home

Assessment of the home's appliances and solar PV and a new whole of home rating



**Updates to the existing
Thermal Assessment**

Climate Files and Star Bands

Thermal Bridging

Climate Files and Star Bands

New Climate Files

- More recent and accurate weather data from 1990 to 2015
- New files cover all 69 Climate Zones across Australia

New Star Bands

- Minimise impact of new climate files
- Majority of home types will have, on average, zero change to their star rating



Thermal Bridging

Objective:

- ❖ To improve the accuracy of predicting the thermal resistance of the building envelope
- Metal framed construction to match the thermal performance of timber
- NatHERS able to assess thermal bridging impacts, as per ABCB requirements
- More information including summaries, FAQs, and full technical reports
www.NatHERS.gov.au



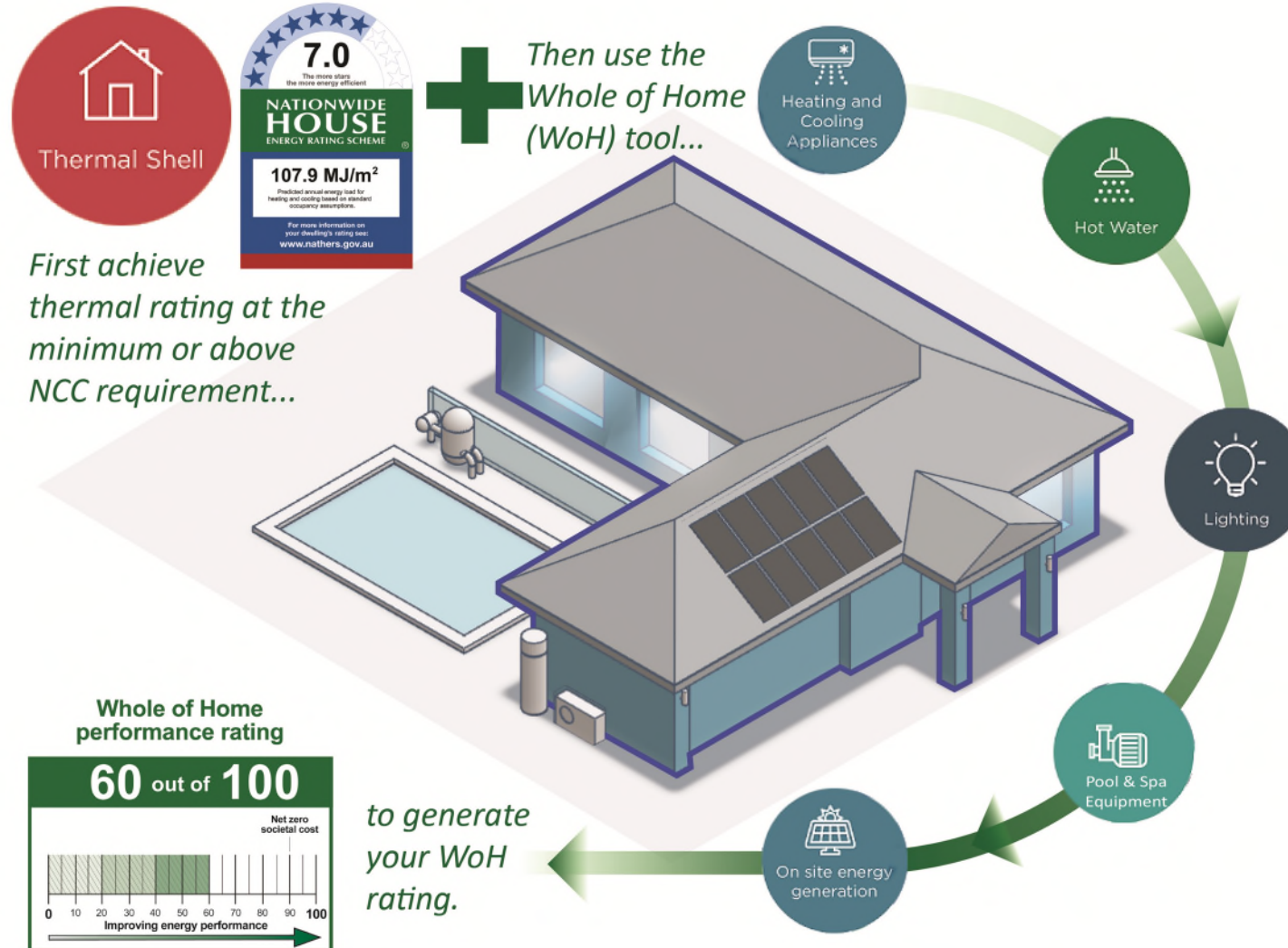


Introduction to Whole of Home assessments

The changes to NatHERS

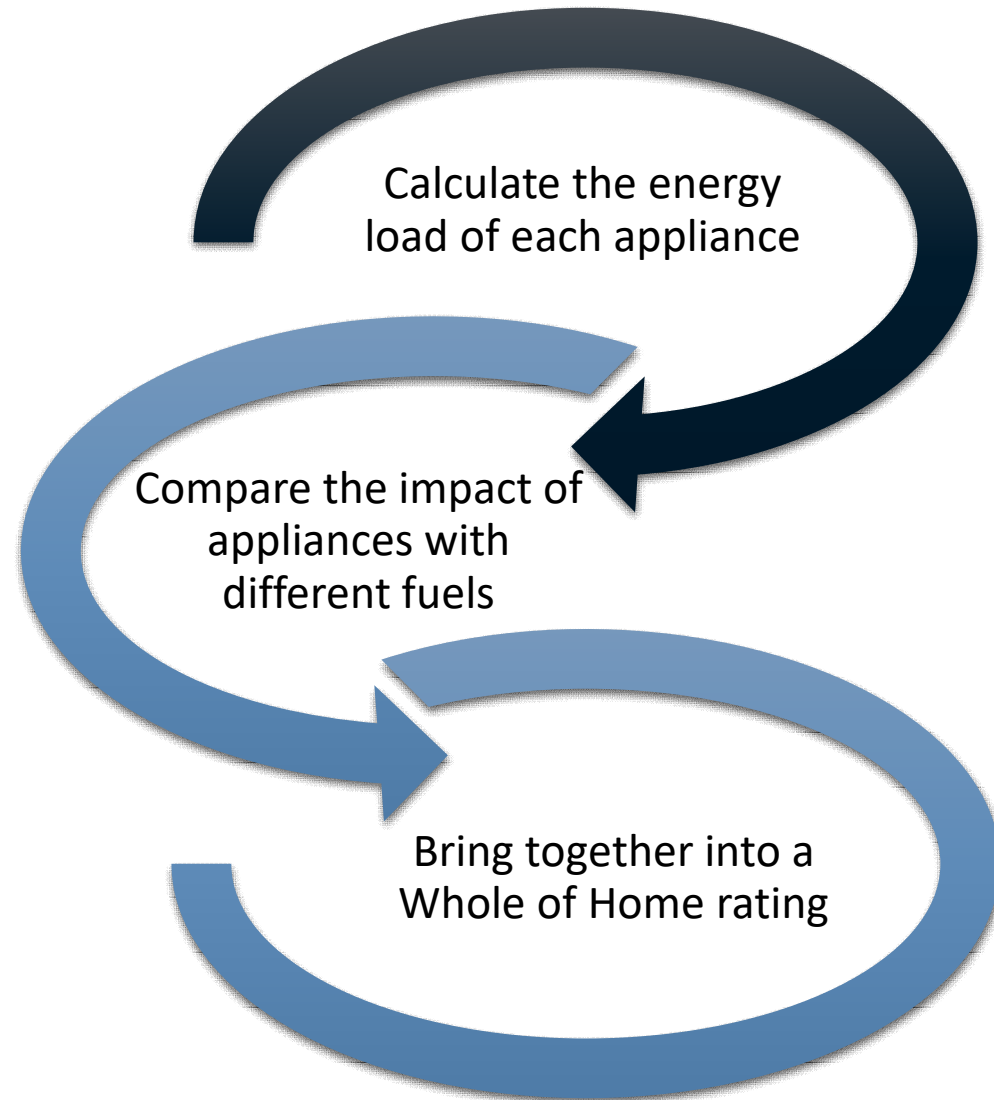
NatHERS expansion to Whole of Home

Using NatHERS to pass energy efficiency requirements in the NCC
(H6P1 building fabric and H6P2 energy usage)



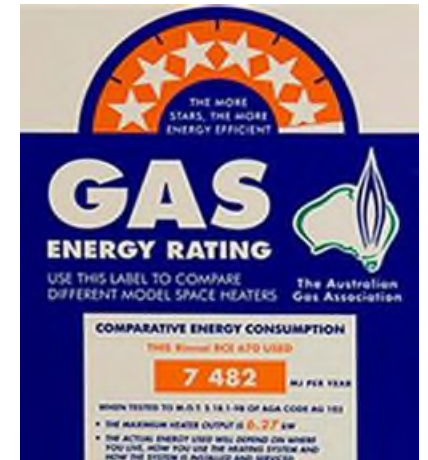
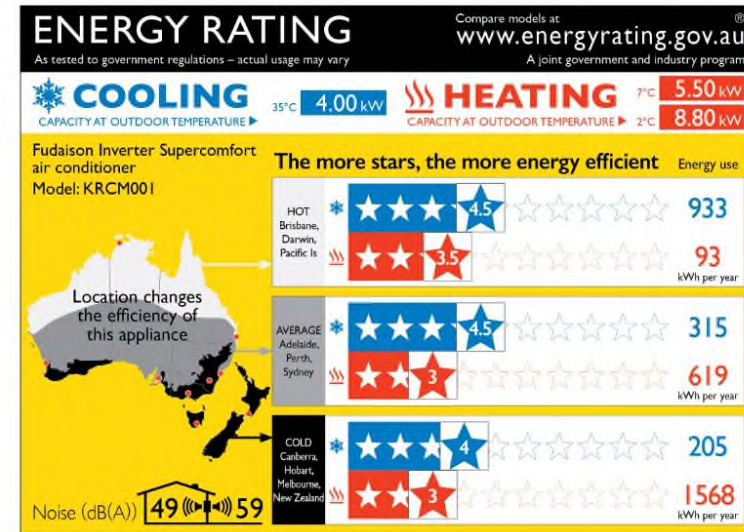
NatHERS expansion to Whole of Home cont.

- NatHERS is being expanded to support energy performance assessments and ratings of all major energy uses in the home.
 - Heating and cooling
 - Water heating
 - Pool and spa equipment
 - Lighting; and
 - On-site energy generation and storage.



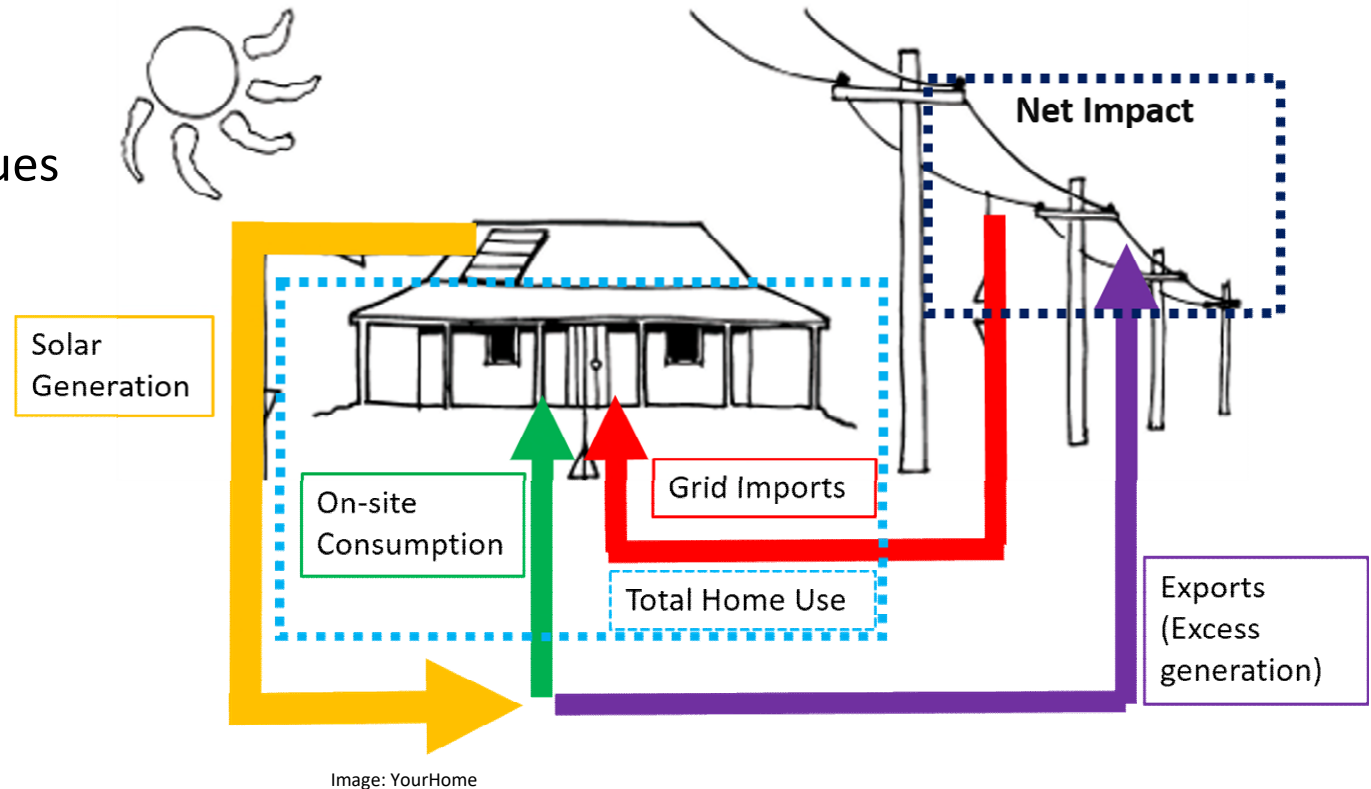
Whole of Home Assessment

- Whole of home assessments build on NatHERS thermal shell assessments, using as much pre-existing information as possible
- Data entry is intended to be flexible, but aligned to current labelling and other efficiency information for each appliance
- Where information is unavailable, guidance for default values is provided via tech notes and the assessor handbook



Whole of home energy calculation

- Calculates the home 'energy balance' for every hour
- How much energy is used
- When energy is used
- Accounts for different energy values across the country



Whole of home rating

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #000000000-00
 Generated on [date] using [software and version]
 [other boilerplate text other boilerplate text other boilerplate text other boilerplate text other boilerplate text other boilerplate text]

Property
 Address [00 Street, Suburb, State/Territory, Postcode]
 Lot/DP [number]
 NCC Class* [number]
 Type [new/renovation/existing]

Plans
 Main plan [plan number, version & date]
 Prepared by [name of preparer of plans]

Construction and environment
 Assessed floor area (m²)*
 Conditioned* 000.0
 Unconditioned* 0.0
 Total 0.0
 Garage 0.0
 Exposure type [exposure]
 NatHERS climate zone [number, town/suburb]

NCC Requirements
 BCA provisions [Volume 1/Volume 2]
 State/Territory variation [Yes/No]

Accredited assessor
 Name [assessor name]
 Business name [business name]
 Email [email address]
 Phone [00 0000 0000]
 Accreditation No. [0000 000 000]
 Assessor Accrediting Organisation [name of Assessor Accrediting Organisation]
 Declaration of interest [declaration]

National Construction Code (NCC) requirements
 [This section is to be updated with NCC code requirement wording when confirmed]

Thermal performance star rating
 X.X
 The more stars the more energy efficient
NATIONWIDE HOUSE ENERGY RATING SCHEME
 YYYY.Y MJ/m²
 Predicted annual energy load for heating and cooling based on standard occupancy assumptions
 For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance (MJ/m²)
 Limits taken from ABCB Standard 2019.1

	Heating	Cooling
Modelled	0000.0	0000.0
Load limits	0000.0	0000.0

Load limit settings
 Floor Type (lowest living area) [Type]
 NCC Climate Zone 1 or 2 [Y/N/NA]
 Outdoor Living Area [Y/N/NA]
 Outdoor Living Area Ceiling Fan [Y/N/NA]

Whole of Home performance rating
 00 out of 100
 Net zero societal cost
 Improving energy performance

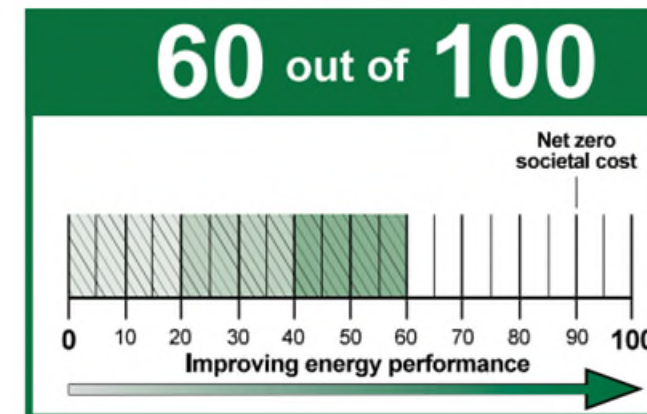
Verification
 To verify this certificate, scan the QR code or visit [http://star-dev.azurewebsites.net/QR/Generate?p=MialcPjql]
 When using either link, ensure you are visiting star-dev.azurewebsites.net

* Refer to glossary.
 Generated on [date] using [software] for [address]

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- Based on the NCC societal cost metric
- Higher societal cost = lower Whole of Home rating
- Lower societal cost = higher Whole of Home rating

Whole of Home performance rating



New certificate features



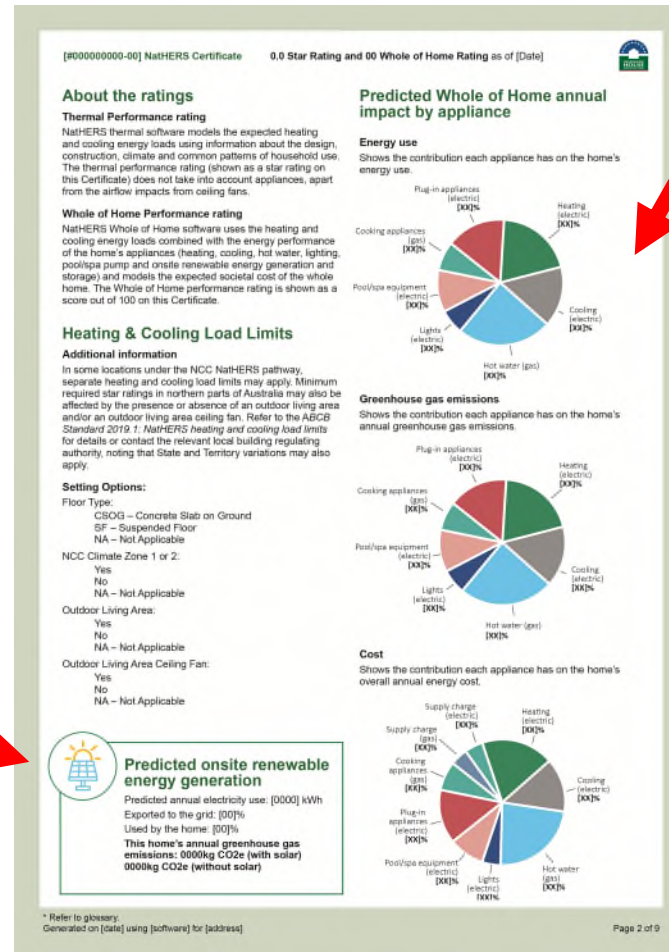
Predicted onsite renewable energy generation

Predicted annual electricity use: [0000] kWh

Exported to the grid: [00]%

Used by the home: [00]%

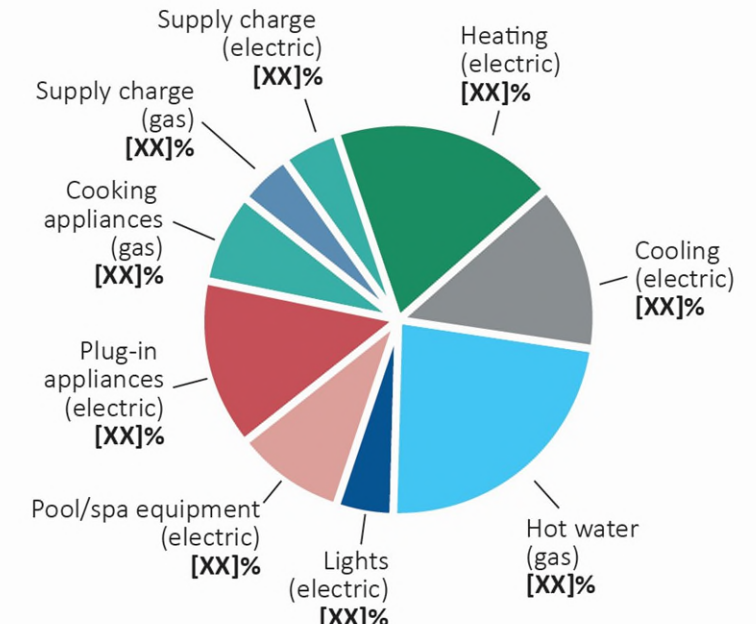
**This home's annual greenhouse gas emissions: 0000kg CO₂e (with solar)
0000kg CO₂e (without solar)**



Greenhouse gas emissions, cost and energy consumption breakdown for the energy uses in the home

Cost

Shows the contribution each appliance has on the home's overall annual energy cost.



Whole of Home tools

Endorsed tools available:

AccuRate - nathers.gov.au/resources/whole-of-home-overview

- Demo video available for non-AccuRate users

FirstRate5 - sustainability.vic.gov.au/whole-of-home

- Note mandatory, but free, training required before access to FR5 will be given

AccuRate Benchmark: C:\AccuRate WoH 2020 v7\projects\SBH19_SLA_07_24_WOH.PRO - [Databook (Single glazing)]

File Actions Configure Window Help

Project Constructions Zones Shading Elements Ventilation Lighting Hotwater Cooling Heating Swimming Pool Solar PV Summary

Annual Summary

	Lighting	Hotwater	Cooling	Heating	Swimming Pool	Total Demand	Imported Energy
Electricity	223.75	0.0	396.22	232.88	2554.6	3407.45	1015.58
Gas		13133.63		7686.07		20819.71	
Others		0.0		0.00		0.00	

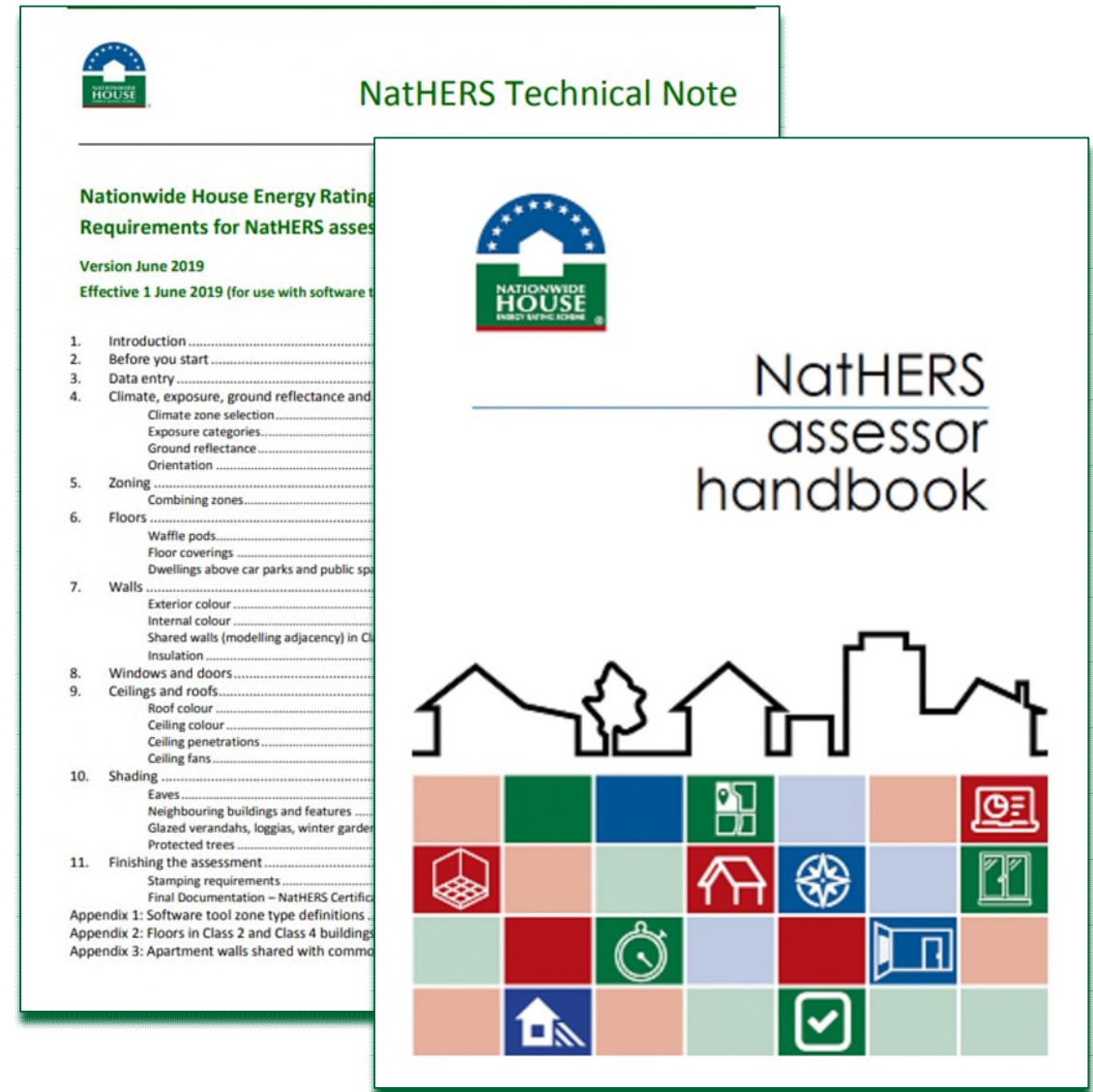
Solar PV

Electricity Generation	7874.7	kWh/yr
Export to Grid	5483.65	kWh/yr



Technical Note and Assessor Handbook

- Currently being updated to include technical information and guidance on Whole of Home
- The '*Technical Note and Assessor Handbook Analysis for Whole of Home*' document is available as part of the consultation
- It outlines the proposed changes to the current Technical Note and Assessor Handbook



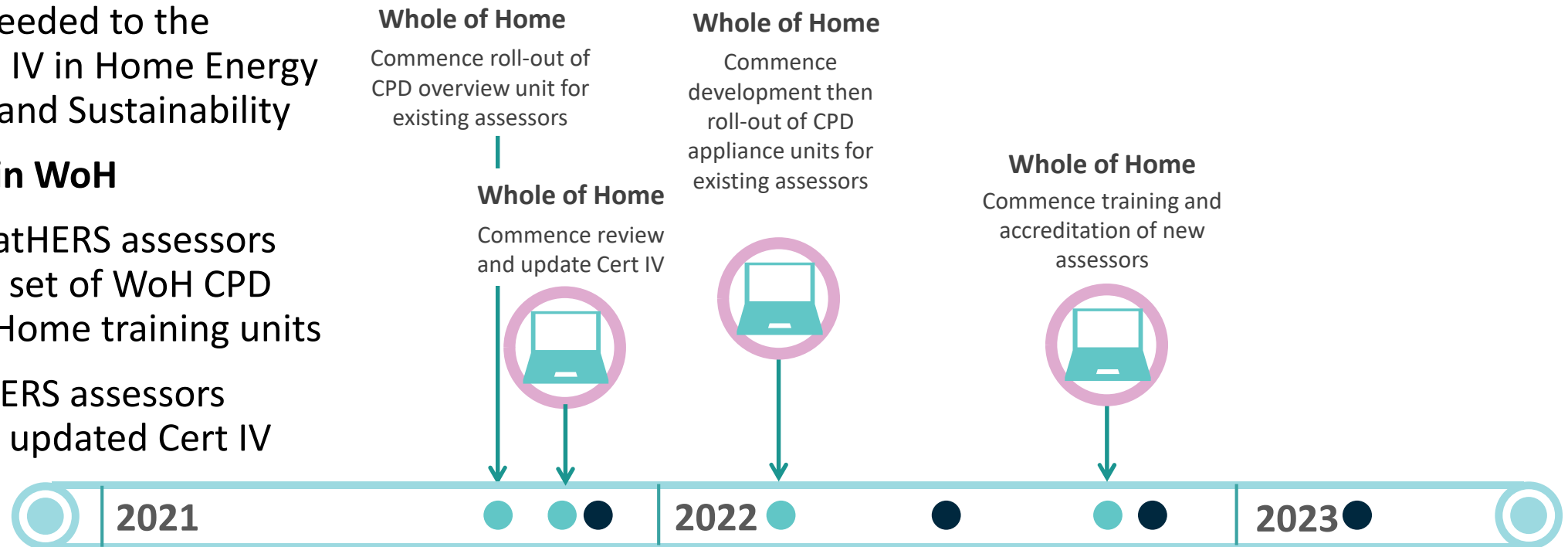
Whole of Home Assessor Training & Accreditation

Training in WoH

- Roll-out of WoH Continuing Professional Development (CPD) training units
- Review and update any changes needed to the Certificate IV in Home Energy Efficiency and Sustainability

Accreditation in WoH

- Existing NatHERS assessors undertake set of WoH CPD Whole of Home training units
- New NatHERS assessors undertake updated Cert IV



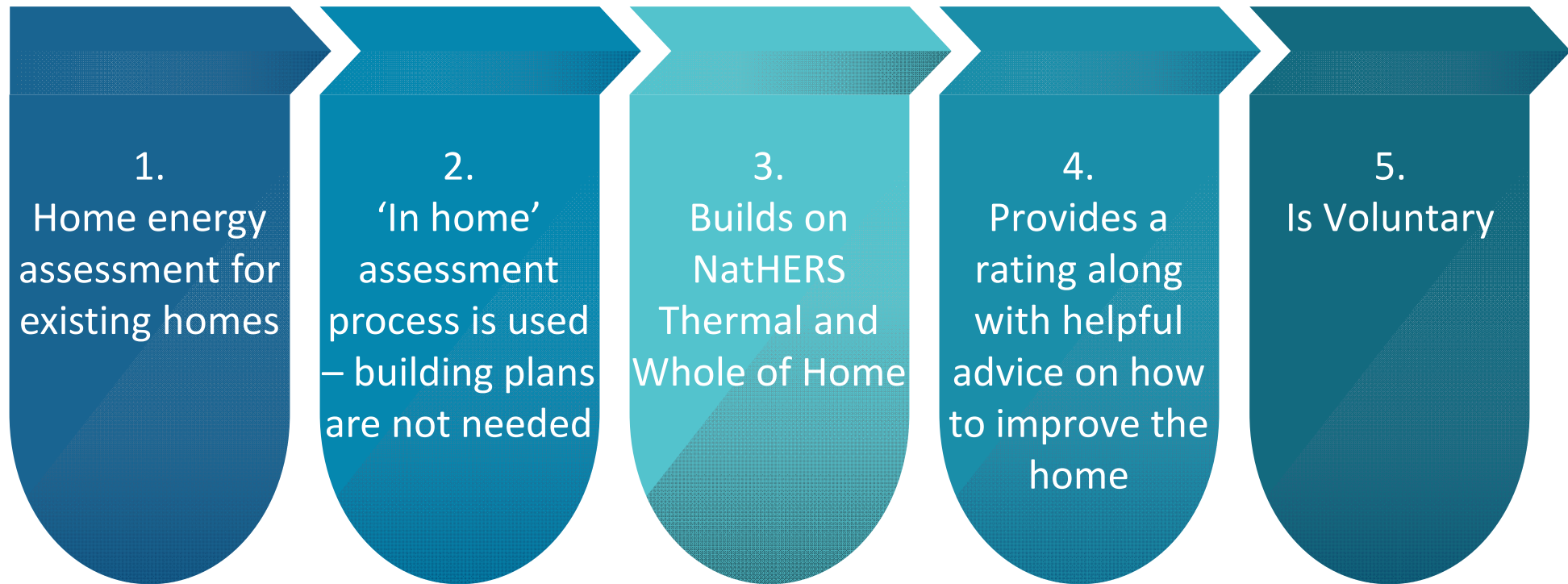


Extension of In Home assessments

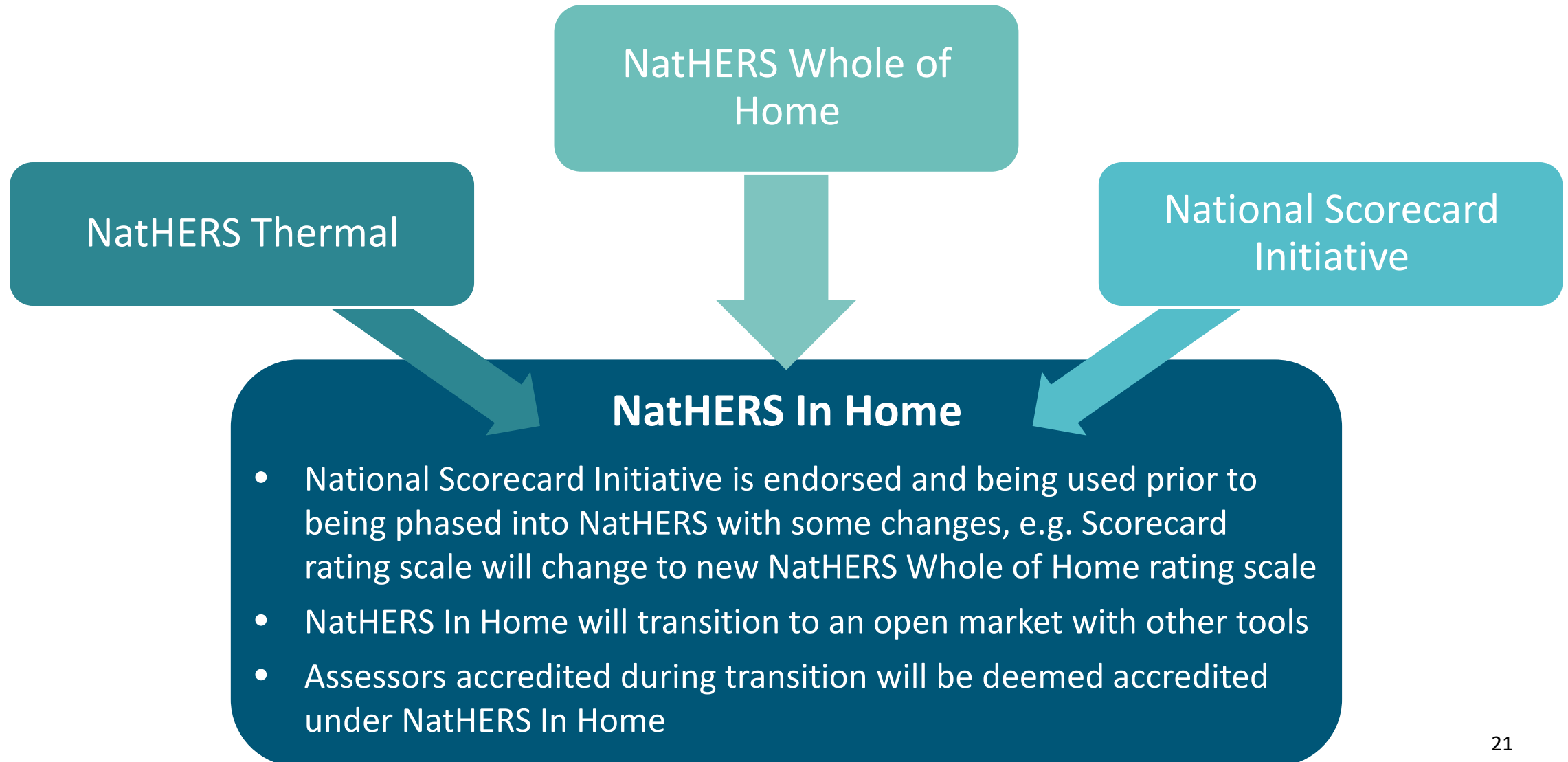
What is NatHERS In Home

Differences of NatHERS In Home

What is NatHERS In Home



How NatHERS In Home is being established



Differences of NatHERS In Home

Data collection

'In Home' data collection process as opposed to a desktop data collection using plans and specifications

Assumptions

Technical assumptions to support an assessment based on more limited data and a wide range of ages, styles and designs of older homes i.e. simplified zoning, insulation, windows

Safety

Risk and safety due to assessor entering the home

Economical and Timely

Tools and level of detail collected by assessors need to be fit for, and tailored to, existing homes to ensure time and costs are kept as low as possible

Differences of NatHERS In Home Certificate

Colour and layout

Different Certificate colour and layout to allow it to be differentiated from a 'design' assessment

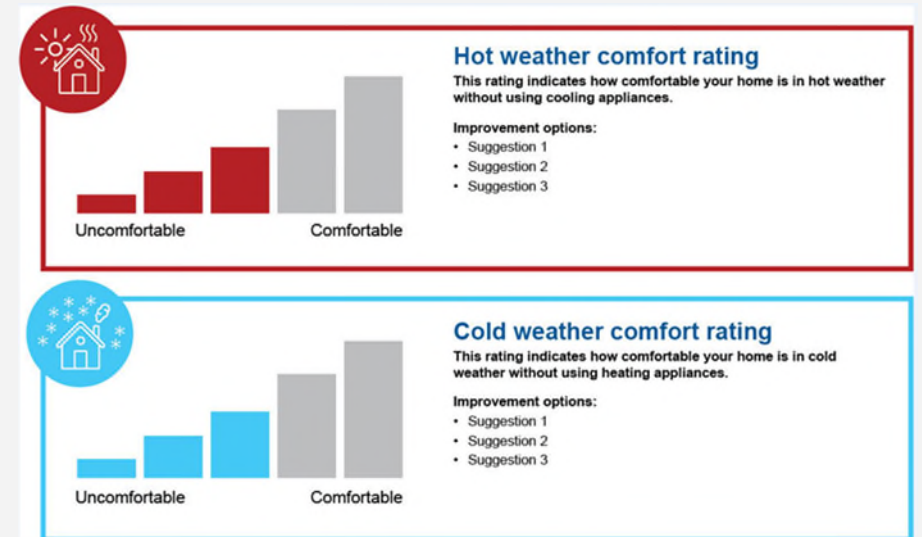


Information

Additional information about how the home can be improved

Comfort rating

Additional rating for 'thermal comfort' during hot and cold weather extremes



NatHERS In Home Assessors

Training and Accreditation

Will build upon the National Scorecard Initiative processes, align with NatHERS Thermal and Whole of Home where appropriate, and be phased into NatHERS

National Scorecard Initiative will continue tool training and accrediting of NatHERS In Home assessors until final phase of transfer, when it is proposed RTOs take on responsibility for training, and AAOs take on accreditation

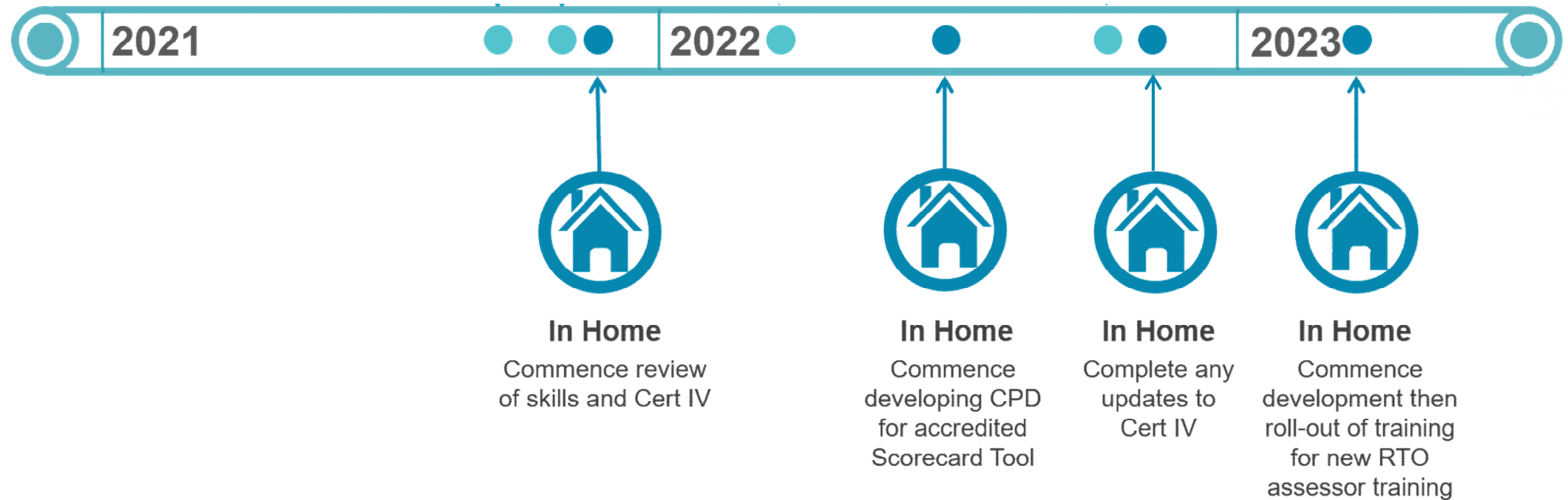
Technical Note

Will build off the NatHERS Thermal and Whole of Home Technical Note, but will include information about risk/safety, conflict of interest, techniques for collecting data, evidence requirements i.e. photographs, guidance regarding data points that may be assumed, simplified approach to zoning, etc.

Assessor Handbook

Will be developed in consultation with In Home assessors, and based on the NatHERS Assessor Handbook and National Scorecard Tool Assessor Manual

NatHERS In Home Indicative Assessor Training Timeline



Refer to: *'Pathway for the training and accreditation of NatHERS In Home assessors'* for more details

Have your say and stay updated

Survey: consult.industry.gov.au/improving-nathers

Newsletter: www.nathers.gov.au/news

Email: admin@nathers.gov.au