



Nationwide House Energy Rating Scheme (NatHERS)

Governance and Administrative Arrangements

Version 2: 1 September 2022

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PURPOSE

This document outlines the administrative and governance arrangements in place for the Nationwide House Energy Rating Scheme (NatHERS) as at 1 September 2022.

ABOUT NATHERS

NatHERS supports efforts of all Australian governments to reduce the energy and greenhouse gas impacts of residential buildings.

NatHERS encourages energy efficient building design and construction by providing a reliable way to estimate and rank the potential energy performance of residential buildings in Australia.

NatHERS tools provide one method of demonstrating compliance with the minimum energy efficiency standards for new residential buildings outlined in the [National Construction Code](#) (NCC). Additionally, NatHERS software is a powerful tool for optimising energy efficient house designs for Australian climates.

NatHERS provides a standardised approach to rating the energy performance of houses throughout Australia. NatHERS-accredited software has been developed to calculate the theoretical annual heating and cooling energy load on a house. It does this by modelling the effects of heat flow through the building fabric, taking into account factors such as the building's location, orientation, glazing, construction details and the impact of air movement on internal comfort conditions. The software attributes a star rating between zero and 10 to the house based on the estimated total annual energy load and the climate zone where the house is located.

In addition NatHERS offers Whole of Home Performance Ratings. The new assessment builds on the thermal performance assessment by providing information about the energy use of heating and cooling appliances, hot water systems, lighting, pool/spa pumps, cooking and plug-in appliances and on-site energy generation and storage.

Soon NatHERS will offer also offer In Home energy assessments which will provide information and ratings about a home without requiring house plans and building specifications.

Refer to Appendix 1: Process of NatHERS Assessments for an outline of how NatHERS is used.

BACKGROUND

NatHERS was initiated in 1993 by the Australian and New Zealand Minerals and Energy Council (later the Ministerial Council on Energy) to provide a standardised approach to rating the thermal performance of Australian homes. Since then NatHERS has been overseen by a number of different ministerial groups (see Appendix 2: History of NatHERS for more detail).

Currently the [Energy Ministers' Meeting](#) (EMM) is responsible for NatHERS and delegates its responsibility to the NatHERS Steering Committee. NatHERS was first included in the NCC as a pathway for showing compliance with the energy efficiency provisions in 2003.

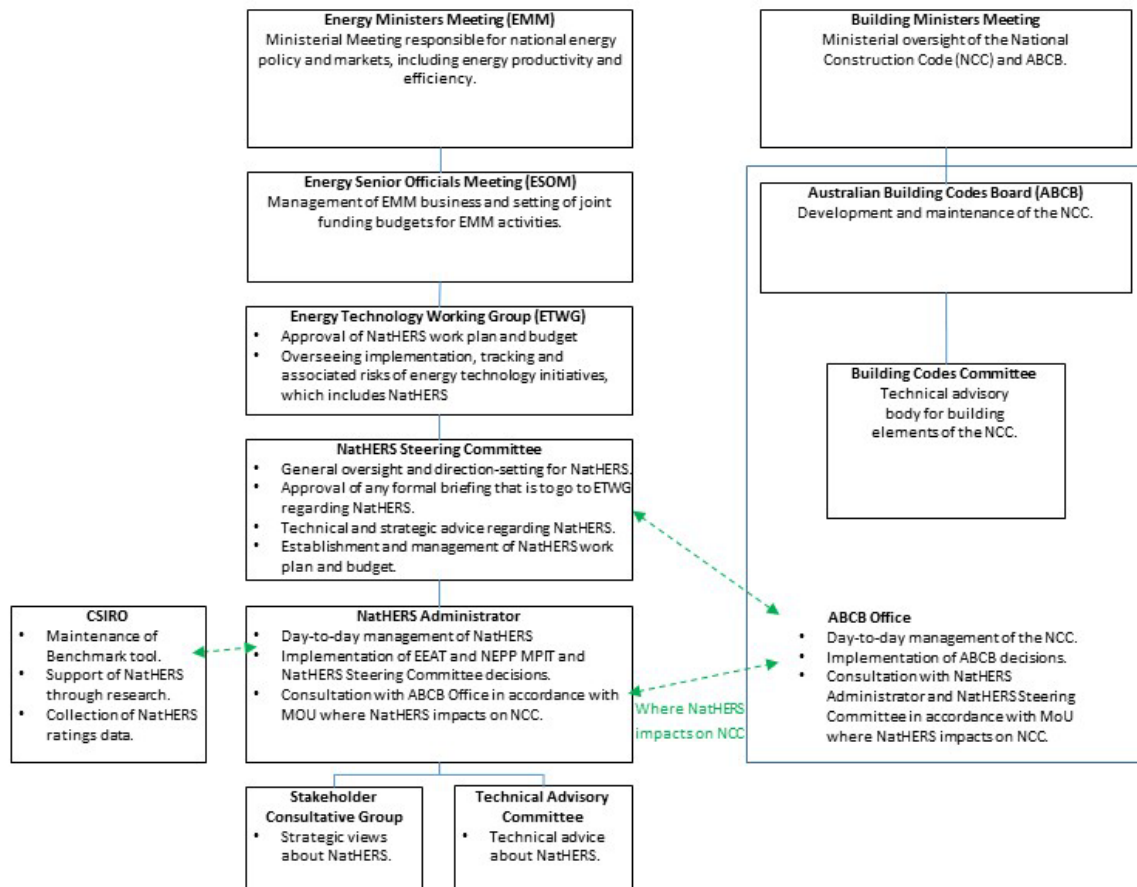
GOVERNANCE

NatHERS is overseen by the NatHERS Steering Committee which reports through to the EMM.

Governance Structure

NatHERS is administered by the Australian Government on behalf of state and territory governments and works closely with the Australian Building Codes Board (ABCB).

Figure 1 NatHERS governance diagram



Energy Ministers' Meeting

The [EMM](#) is a Ministerial forum for the Australian Government, state and territory governments, and New Zealand Government ministers, to work together in the pursuit of national energy reforms.

The EMM priorities are determined by Energy Ministers. The EMM priorities are time limited, tied to discrete, tangible deliverables and reviewed every 12 months. The EMM has final decision-making power over NatHERS, however this power may be delegated to groups including, but not limited to:

- Energy Senior Officials Meeting (ESOM)
- Energy Technology Working Group (ETWG)
- NatHERS Steering Committee.

Energy Senior Officials Meeting

The EMM is supported in delivering national energy market policy by the ESOM, which is comprised of senior officials from the Australian, state and territory governments, and is chaired by the Australian Government.

The ESOM reports to EMM.

Energy Technology Working Group

The ETWG is responsible for providing strategic advice and making decisions in relation to improving energy efficient technologies, and implementing the Equipment Energy Efficiency (E3) program, the NatHERS, the Trajectory for Low Energy Buildings and its Addendum, and the National Energy Productivity Plan (NEPP). The ETWG has 3 sub-groups who focus on specific work programs:

- E3
- NEPP and Trajectory
- NatHERS Steering Committee.

The ETWG reports to ESOM.

NatHERS Steering Committee

The NatHERS Steering Committee oversees NatHERS. The NatHERS Steering Committee provides strategic advice about NatHERS activities and makes decisions in relation to NatHERS operational activities.

The NatHERS Steering Committee consists of representatives from the Australian Government and all state and territory governments.

In 2021 the ETWG, and its sub-groups, replaced the Energy Efficiency Advisory Team (EEAT). EEAT was previously responsible for providing oversight to NatHERS and acted as the NatHERS Steering Committee.

The NatHERS Steering Committee Reports to ETWG.

NatHERS Administrator

The NatHERS Administrator acts on behalf of the NatHERS Steering Committee. The role of NatHERS Administrator currently sits with the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW).

The primary responsibilities of the National Administrator are:

- Scheme management, including managing updates to the NatHERS Benchmark Tool
- Software accreditation
- Assessor accreditation
- Scheme communications.

The NatHERS Administrator reports to the NatHERS Steering Committee.

Advisory Groups

The NatHERS Administrator established 2 advisory groups with representation from government, industry and consumer stakeholders. These groups provide feedback and advice to the NatHERS Steering Committee via the NatHERS Administrator. As these groups are advisory only, their advice and recommendations are not binding.

- [Technical Advisory Committee](#) (TAC) - provides expert advice about NatHERS software and modelling issues.
- [Stakeholder Consultative Group](#) (SCG) - provides feedback and advice about the development, implementation and continuous improvement of NatHERS.

Building Ministers' Meeting

The [Building Ministers' Meeting](#) (BMM) oversees policy and regulatory issues affecting Australia's building and construction industries.

The BMM brings together the Australian, state and territory government ministers with responsibility for building and construction. The Australian Government Minister responsible for the building industry chairs the BMM.

The BMM was previously the Building Ministers' Forum (BMF), a change that came out of the Conran review of ministerial forums.

Australian Building Codes Board

The [ABCB](#) is a standards writing body responsible for the NCC.

The ABCB is a joint initiative of the Australian, State and Territory Governments in Australia, together with the building and plumbing industries, which aims to improve productivity through the consolidation of all on-site construction requirements into a single code.

The ABCB consists of 18 members, including; an independent Chair, representatives from the Australian, state and territory agencies responsible for building matters, up to 7 industry representatives, and a representative of the Australian Local Government Association.

The ABCB reports to BMM. The work of the ABCB is delivered by the ABCB Office.

Building Codes Committee

The ABCB has 2 primary technical advisory committees, the [Building Codes Committee](#) (BCC) and the [Plumbing Code Committee](#), both provide advice to the ABCB to deliver its work program.

The BCC is a national forum for regulatory authorities and industry to consider technical building regulation reform matters. Membership of the BCC includes government and industry members.

ABCB Office

The [ABCB Office](#) resides within the Australian Government Department of Industry, Science and Resources (DISR). The ABCB Office is a professional, technical and administrative team that provides support to the ABCB and its ongoing work program.

The ABCB is responsible for:

- Updating and maintaining the NCC
- Working with the NatHERS Administrator on NatHERS related developments to the NCC
- Undertaking research projects and regulatory impact analysis
- Consultation and liaison
- Management and co-ordination of committee activities
- Advice on policy development
- Information dissemination and awareness raising
- Support for practitioners through educational and professional development resources.

CSIRO

The [Commonwealth Scientific and Industrial Research Organisation](#) (CSIRO) is an Australian Government agency responsible for scientific research. CSIRO works with leading organisations around the world. In terms of NatHERS, the CSIRO is responsible for maintaining and improving the NatHERS Benchmark Tool(s), [AccuRate](#) and the associated calculation engine, Chenath.

The NatHERS Administrator works closely with CSIRO on ensuring the NatHERS Benchmark Tool(s) meets the requirements of NatHERS and any changes are considered for their possible impact on the NCC.

Funding Arrangements

Funding for the ongoing support and maintenance of both NatHERS and the NatHERS Benchmark Tool(s), is currently obtained from the following sources:

- Australian, state and territory governments. Funds are jointly contributed on an annual basis for specific projects identified in a work plan agreed by ESOM.
- Departmental funding from DCCEEW. Allocation of resources for NatHERS is subject to annual appropriation and budget priorities agreed by DCCEEW.
- Software tool licensing and NatHERS Certificate fees. Royalties from licencing of the Chenath engine to other tool providers are returned to CSIRO for re-investment in NatHERS related work. A percentage of the fee charged for the production of every NatHERS Certificate is also provided to CSIRO by software tool providers for the operation and development of the Chenath engine and NatHERS Benchmark Tool.

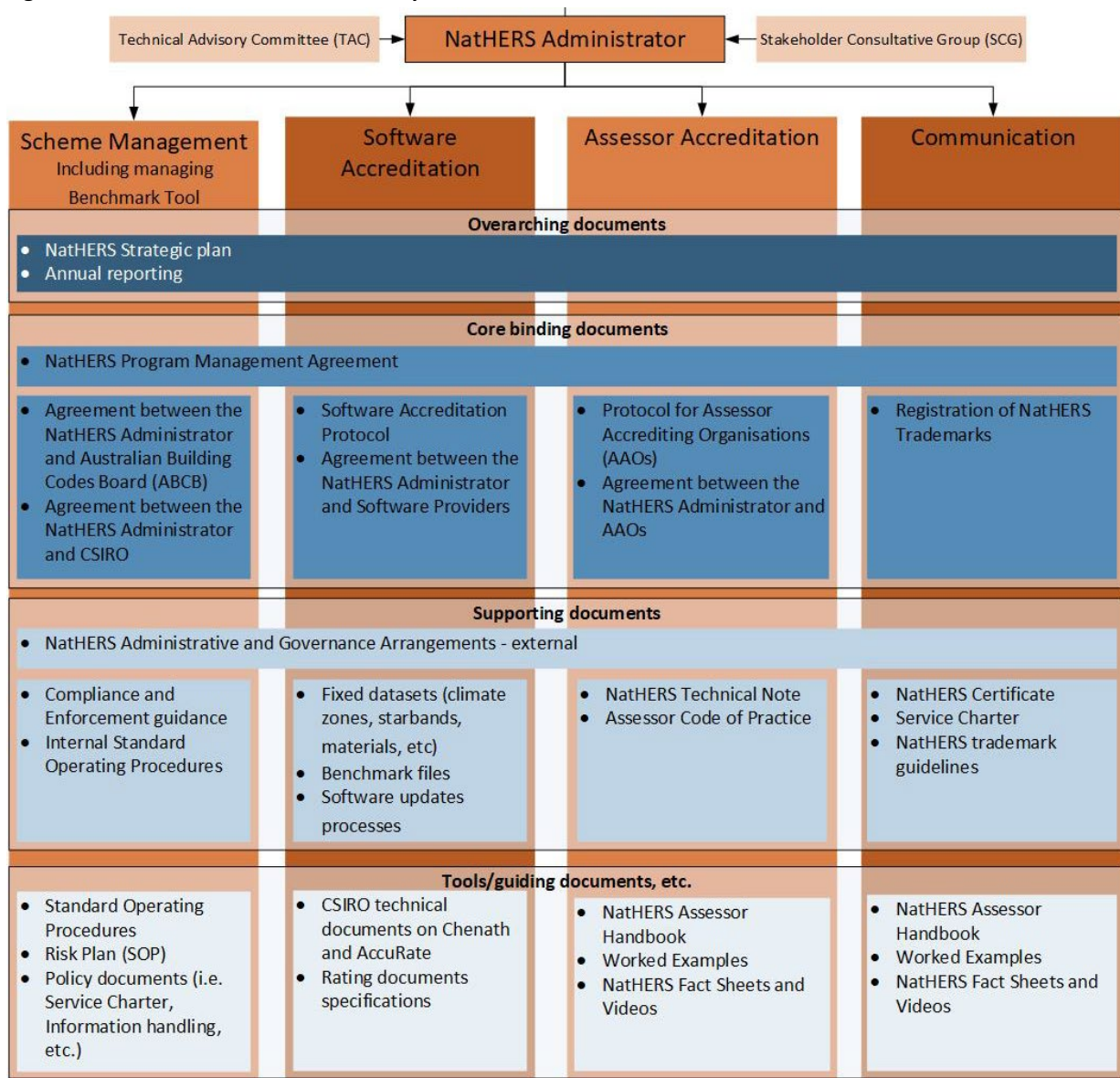
Direct industry investment is not currently permitted for the NatHERS Benchmark Tool or the Scheme. This ensures the software tools and Scheme are developed and maintained free from commercial influence.

ADMINISTRATION

The NatHERS Administrator is responsible for the day-to-day operations of NatHERS, with oversight from the NatHERS Steering Committee. The primary functions of the NatHERS are:

- Scheme management, including managing updates to the NatHERS Benchmark Tool
- Software accreditation
- Assessor accreditation
- Scheme communications.

Figure 2 NatHERS Administrator role map



Scheme Management

The NatHERS Administrator is responsible for the overarching management of NatHERS as a scheme.

NatHERS Strategic Planning

The NatHERS Administrator develops the NatHERS Strategic Plan every 3 years (in line with the NCC cycle). The current [NatHERS Strategic Plan 2018-2022](#) covers a 4 year period to align with the NCC cycle. The NatHERS Strategic Plan is developed in consultation with stakeholders through the NatHERS SCG and approved by the NatHERS Steering Committee. The NatHERS Strategic Plan outlines the goals and priorities for the NatHERS Administrator for that 3 year period.

Working with the ABCB Office

The NatHERS Administrator works closely with the ABCB Office on any matters that may impact the NCC. This includes software updates, as these could impact ratings of homes being assessed, making them either compliant or non-compliant with the minimum requirements outlined in the NCC. The relationship between the NatHERS Administrator and the ABCB Office has historically been managed with a Memorandum of Understanding (MOU). At the time of publication the MOU is being revisited.

Maintaining NatHERS Trademarks

The NatHERS Administrator has 4 trademarks (trademark numbers 1486221, 1647772, 1646673 and 1646674) covering the NatHERS name, acronym, logo and rating image. Requirements for the use of these trademarks are outlined in the [NatHERS Trademark Guidelines](#). Incorrect or misleading use of these trademarks are managed by the NatHERS Administrator, with legal action taken if required.

Ensuring Compliance

The NCC, and its provisions regarding NatHERS, is given legal effect by relevant legislation in each state and territory (for more information see [Regulatory Framework](#) on page 12). State and territory governments are responsible for the compliance and enforcement of the local building code. State and territory governments set their own requirements for assessor qualifications, which may include specific training, accreditation by a NatHERS Assessor Accrediting Organisation (AAO) or licencing by a government authority.

NatHERS supports state and territory building legislation through the operation of the scheme, including by accrediting NatHERS Software Tools and AAOs. The accreditation of tools is important, as the NCC specifies that a NatHERS assessment must be completed using an accredited tool. The accreditation of AAOs against the NatHERS Protocol for Assessor Accrediting Organisations (AAO Protocol) sets minimum requirements, not only for the behaviour of accredited assessors, but also the oversight of assessors. It sets minimum requirements for quality assurance reviews of the work of accredited assessors. Through these reviews the AAOs are able to provide guidance to assessors and in the case of wrongdoing, AAOs are able to report the outcomes of a review to the relevant building regulator for that body to take corrective action if required.

NatHERS Benchmark tool

The NatHERS Benchmark Tool is the tool used to assess all other NatHERS tools against. The NatHERS Benchmark Tool was developed by the CSIRO and funded by Australian governments. It is managed by the CSIRO and is comprised of the Chenath calculation engine and AccuRate user interface. The

Chenath engine is also used to underpin most other NatHERS tools. CSIRO own the intellectual property to both the Chenath engine and the AccuRate interface.

The NatHERS Administrator is responsible for overseeing any updates to the NatHERS Benchmark Tool and identifying possible areas for improvement (working with the TAC). The current version of the NatHERS Benchmark Tool is specified in the NatHERS Software Accreditation Protocol (SAP).

The annual energy loads and associated starbands contained within the NatHERS Benchmark Tool were approved by the NatHERS Steering Committee. Unique [starbands](#) from zero to 10 stars are set for each climate zone to allow comparison of the typical heating and cooling energy demand of buildings within Australia's diverse climatic regions. The energy load is the combined heating and cooling energy demand expressed as the maximum energy load per unit of floor area per annum (MJ/m².annum). These starband settings apply to all software tools approved under the Scheme.

Chenath Engine

Chenath is the endorsed calculation engine used by the NatHERS Benchmark Tool to model thermal flows within residential buildings. This engine is the culmination of decades of research by the CSIRO and the Australian Government on the way buildings operate in Australian conditions. It uses climate data and average user behaviour, among other factors, to predict annual totals of hourly heating and cooling energy requirements for residential dwellings. More information on the Chenath engine calculations and assumptions can be found in the [Chenath repository](#). CSIRO owns the intellectual property to Chenath, but was required to provide a royalty free licence to all Australian governments and licences on commercial terms to third party software developers for their use. The Chenath engine underpins most NatHERS tools.

The Chenath engine was validated in 2004 against the international standard ANSI/ASHRAE 140-2001. Results produced by the Chenath engine were compared against the results from a set of international 'reference' programs and were found to meet the standard.

Software Accreditation

All energy rating software tools used to produce NatHERS energy ratings must be accredited in accordance with the relevant [NatHERS SAP](#). The SAP outlines the requirements and processes for the accreditation of new software tools and for updates to new versions of previously accredited tools. This ensures that software tools meet standard requirements and produce consistent results when assessing and rating dwellings. Refer to Appendix 3 for an outline of the process for software accreditation.

Further information about NatHERS software tools can be found on the [NatHERS Software webpage](#).

At the time of publication there were 4 software tools accredited with NatHERS: AccuRate; FirstRate5; BERS Pro; and HERO. These tools provide different user interfaces for input of building design data.

Including new materials and modelling rules in NatHERS

The TAC periodically meets to consider whether any new materials and products should be included in the extensive product and material information databases built into each of the NatHERS accredited software tools. The TAC also considers amendments to existing or new modelling rules to be applied by assessors. As with software updates, the TAC's recommendations are provided to the NatHERS

Steering Committee for approval before the new materials can be included. A process to [request additional materials](#) in NatHERS tools is available on the NatHERS website. Refer to Appendix 4 for an outline of the process for including new materials in NatHERS software.

Assessor Accreditation

The success of NatHERS is contingent upon accurate, consistent and reliable ratings being achieved through the correct use of NatHERS software tools. Given the level of complexity of NatHERS software tools, it is important that those who use the software tools to assess the thermal performance of buildings are adequately trained in their use and have a minimum level of understanding of building construction, building thermal performance and the applicable building regulations. Assessors also need to work within a quality assurance framework that encourages and maintains a high standard of ratings.

The [AAO Protocol](#) outlines the requirements for the approval and operation of AAOs. AAOs are the organisations that accredit users of NatHERS software tools for regulatory purposes. The AAO Protocol enables there to be a number of AAOs operating across state and territory jurisdictions. Refer to Appendix 5 for an outline of the process for AAO accreditation.

Accreditation

Accreditation of assessors is managed by AAOs which are themselves accredited by the NatHERS Administrator. To practice as a NatHERS Accredited Assessor, an assessor must be accredited with an AAO. State and territory governments are responsible for setting their own requirements for assessor qualifications which may include specific training, accreditation by a NatHERS AAO or licencing by a government authority. At the time of publication government requirements for assessors were as outlined in Appendix 6, Table 1 and there were approximately 850 accredited assessors.

AAOs operate in accordance with the AAO Protocol. Formal roles and responsibilities of AAOs under the Scheme are also detailed in the AAO Protocol.

Organisations may apply to become an AAO in accordance with the AAO Protocol. At the time of publication there were 3 accredited NatHERS AAOs: Australian Building Sustainability Association (ABSA); Design Matters National (DMN); and House Energy Raters Association (HERA).

Qualifications

NatHERS assessors need to have sufficient knowledge and expertise of residential buildings and materials that make up the building shell, to be able to provide analysis and options for improving building thermal performance to householders, designers, architects and builders. To reflect this required knowledge, the Certificate IV in NatHERS Assessment (CPP41212) became mandatory for all NatHERS Accredited Assessors on 1 July 2015. This course was reviewed by ARTIBUS Innovation in 2018 and subsequently replaced with the Certificate IV in Home Energy Efficiency and Sustainability (CPP41119). To be accredited an assessor must provide evidence to demonstrate they have completed the relevant Certificate IV. In the future, the Certificate IV will also include training in Whole of Home assessments.

NatHERS Technical Note and NatHERS Assessor Handbook

To ensure ratings are conducted consistently, any assessors using NatHERS accredited software tools must follow the [NatHERS Technical Note](#) when undertaking thermal performance assessments. This is supported by the Code of Practice for Assessors in the AAO Protocol. In addition to the requirements of the Technical Note, ratings undertaken for regulatory purposes must also satisfy relevant state and territory legislation. In the case of an inconsistency, state and territory legislation overrides the NatHERS Technical Note.

The [NatHERS Assessor Handbook](#) provides additional guidance to support the NatHERS Technical Note. The NatHERS Assessor Handbook was developed by the NatHERS Administrator in conjunction with industry experts. It presents information that can assist assessors, regardless of which NatHERS accredited software tool is used. A Guidance Note for assessors undertaking Whole of Home assessments is also available. For guidance on undertaking activities in a specific software tool, assessors should contact their software tool provider or consult their relevant software tool manual.

Communications

The NatHERS Administrator regularly communicates with a vast and diverse range of industry stakeholders. Key communication channels include the NatHERS website, e-newsletters and news updates. Information about the Scheme is also communicated through social media, fact sheets, and the NatHERS handbooks, email responses to public requests, research papers, conferences, presentations and journal articles. NatHERS is also a key focus of the annual and popular 'Sustainable House Day' event series.

Time sensitive information is communicated via the NatHERS website (www.nathers.gov.au) which hosts an array of resources for industry and government stakeholders, builders, assessors and home owners.

The NatHERS Newsletter is biannual (June and December editions) and is supplemented with additional news updates as required during the year.

High level stakeholder engagement is via regular [TAC](#) and [SCG](#) meetings. NatHERS updates are also communicated on a regular basis to accredited assessors through AAOs. Additional meetings, as and when required, are undertaken with software tool providers, and delivery partners including the ABCB and CSIRO.

The [NatHERS Service Charter](#) outlines in detail how NatHERS works with its key stakeholders.

NatHERS Certificates

[NatHERS Certificates](#) provide a comprehensive and uniform approach to displaying important home energy rating assessment information. Official documentation for a NatHERS Certificate includes a report and stamp for a single dwelling as well as a summary report and stamp for a multi-dwelling development. The Certificates come in 2 formats:

- Accredited certificate. This Certificate (and stamp) is produced by NatHERS accredited assessors and displays the NatHERS logo. They can be printed in colour.
- Non-accredited report. This report is produced by non-accredited assessors and does not display the NatHERS logo. They are only available in black and white.

REGULATORY FRAMEWORK

The first minimum energy efficiency standards for residential dwellings were incorporated into the Building Code of Australia (BCA) in 2003 and underpinned by NatHERS. The BCA has since been replaced by the NCC. Subsequent updates of the NCC have increased the stringency of residential energy efficiency measures using the NatHERS thermal calculation verification method.

In 2006 the stringency was increased to a NatHERS 5 star rating and then to 6 stars in 2010 for Class 1 buildings (detached and attached houses). Energy efficiency standards for Class 2 buildings (apartments) were introduced in 2005 and were increased in 2010 to an average of 6 stars for all units in an apartment block, and a minimum of 5 stars for each unit. In 2022, the NCC increased the thermal performance requirements and introduced a new energy use budget or Whole of Home rating for residential buildings. For Class 1 buildings the thermal performance was increased to 7 stars and a minimum Whole of Home rating of 60 was introduced. For Class 2 apartments the thermal performance was increased to an average of 7 stars for all units in an apartment block, a minimum of 6 stars for each unit, and a minimum Whole of Home rating of 50 was introduced.

The NCC performance requirements for energy efficiency can be achieved through several building solutions, one of which is the use of NatHERS software tools. For regulatory purposes under the NCC, the software tool used must have current accreditation under the NatHERS SAP.

The NCC is given legal effect by relevant legislation in each state and territory. This legislation prescribes or “calls up” the NCC to fulfil any technical requirements which have to be satisfied when undertaking new building work. This means state and territory governments are able to vary the technical provisions of the NCC to suit their own circumstances. Appendix 6 describes the legislative and regulatory energy efficiency requirements for new buildings in each jurisdiction, current at the time of publication. These do not include updates based on the 2022 NCC.

POLICY FRAMEWORK

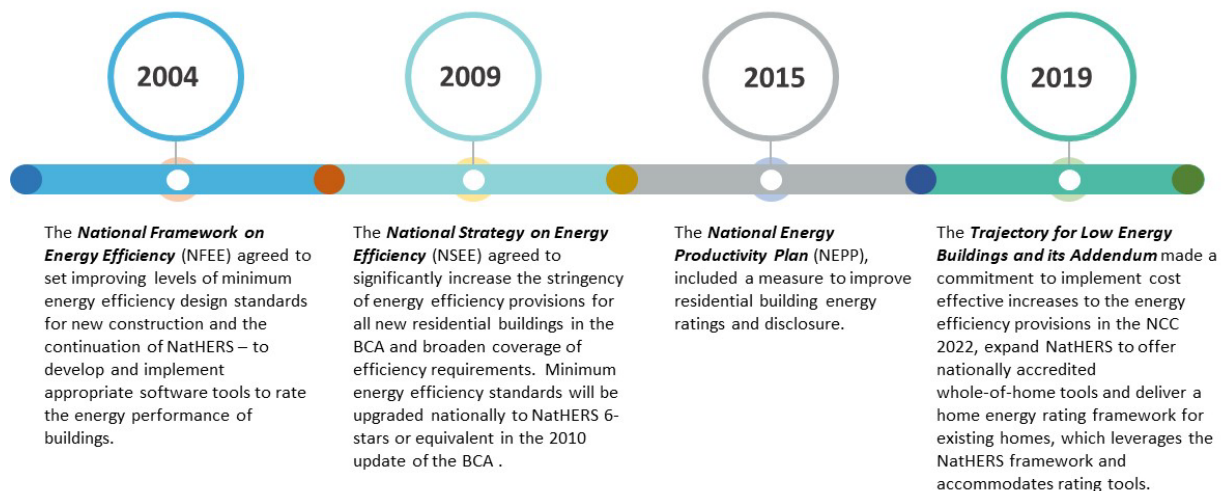
NatHERS has been encompassed within 3 whole of government policy frameworks.

The first was the National Framework for Energy Efficiency (NFEE). The NFEE was a comprehensive package of measures covering the residential, commercial and industrial sectors, designed to overcome the barriers and challenges that prevent the market delivering the actual economic potential of energy efficiency. The NFEE was endorsed by the former Ministerial Council on Energy (MCE) in 1993.

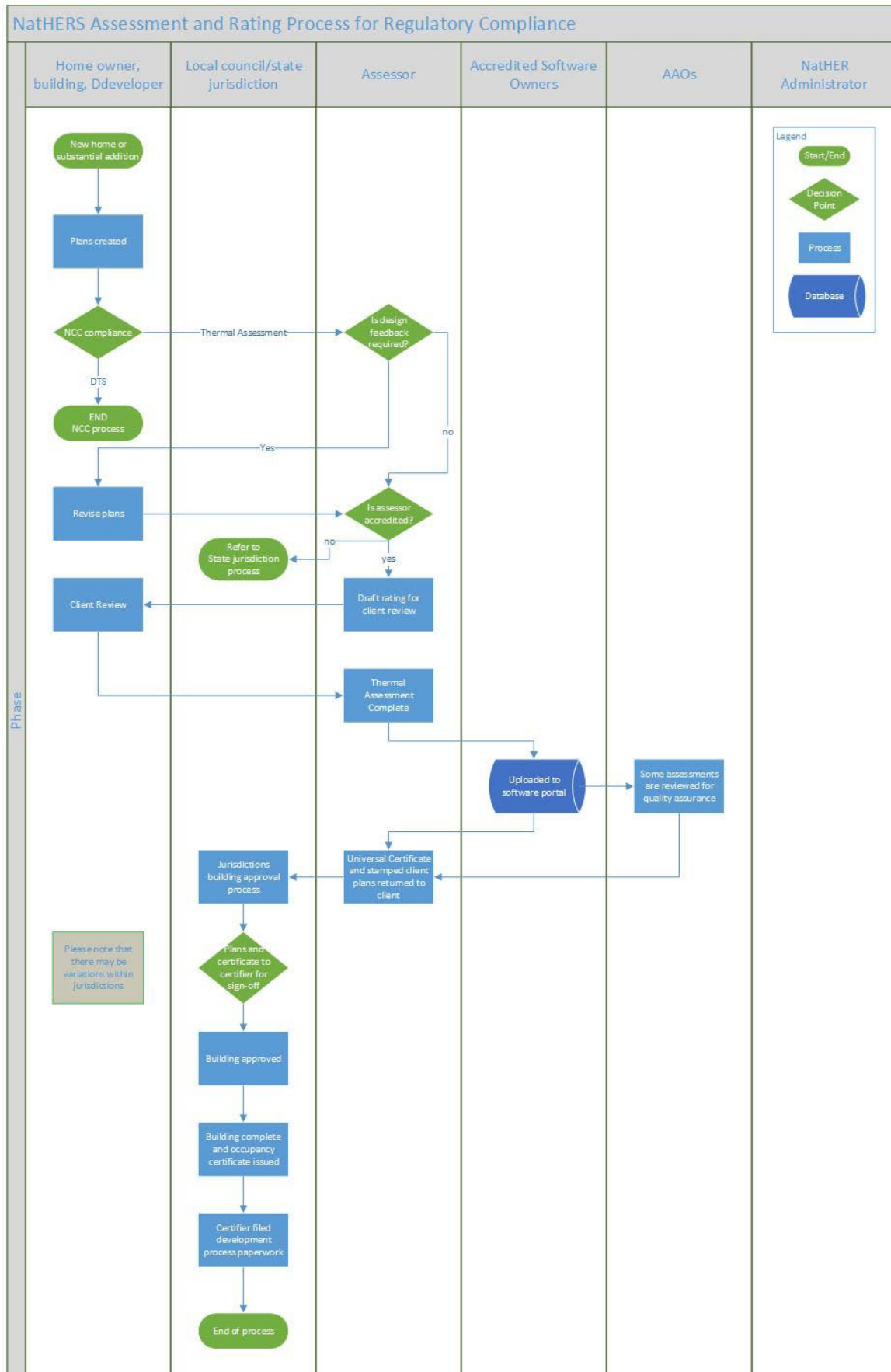
The second was the National Strategy on Energy Efficiency (NSEE), which incorporated and built on measures in the NFEE. The NSEE aimed to substantially improve standards for energy efficiency and accelerate the introduction of new technologies through improving regulatory processes and addressing the barriers to the uptake of new energy efficient products and technologies. The NSEE was endorsed by the former Council of Australian Governments (COAG) Energy Council in 2009.

The third policy framework is the [NEPP](#). The NEPP was agreed by the former COAG Energy Council in 2015 and superseded the NSEE in 2015. Its subsidiary document, the [Trajectory for Low Energy Buildings](#), outlined a trajectory to zero energy (and zero carbon) buildings in Australia and proposed increases to the NCC energy efficiency standards.

Agreements by all Australian Government Ministers in relation to NatHERS



APPENDIX 1: PROCESS OF NATHERS ASSESSMENTS



APPENDIX 2: HISTORY OF NATHERS

History of the Scheme

NatHERS was initiated in 1993 by the Australian and New Zealand Minerals and Energy Council (later the Ministerial Council on Energy), to provide a standardised approach to rating the thermal performance of Australian homes. Identified at the time as the House Energy Rating Scheme (HERS), the intent of the Scheme was to:

...assist the public and the building industry in identifying the extent to which any house (new or existing) has the potential, through its design and construction, to be of high efficiency in its use of energy for heating and cooling purposes.¹

The Scheme was developed by the state and territory energy agencies and the Australian Government, in conjunction with the CSIRO.

Originally used by industry to market energy efficient homes, NatHERS was gradually adopted to support regulation of new building standards by some state and territory governments, beginning with the introduction of a minimum 4 star requirement for new home designs in the ACT in 1995. The NSW Government's Energy Smart Homes Program, implemented from 1997-1999, also used the HERS star ratings.

The National Greenhouse Strategy was agreed by the Australian Government and all state and territory governments in 1998 as a comprehensive approach to tackling greenhouse gas issues. The strategy noted that improvements to the design of commercial and residential buildings have the potential to make an important contribution to limiting Australia's greenhouse gas emissions and committed governments to 'develop a minimum energy performance requirement for new houses and major extensions taking into account, as appropriate, opportunities offered by existing performance measures, or ratings, such as the NatHERS².

The Australian Greenhouse Office (AGO) was formed in 1998 and established a partnership with the ABCB to produce a flexible approach to mandatory energy efficiency standards for new housing that could be incorporated into the BCA.

Stage 1 (2004) and Stage 2 (2007) of the NFEE reiterated a national role for NatHERS by calling on agreed method(s) for rating building energy performance on a like-with-like basis to enable 'improving levels of minimum energy efficiency design standards'³ for new residential construction.

On 2 July 2009, the COAG adopted a comprehensive 10-year strategy, the NSEE, to accelerate energy efficiency improvements as a key component of the overall approach to combat climate change, including specific measures relating to the role of rating tools in improving the energy efficiency of Australia's buildings.

¹Source: Delsante, A. *The Development of an Hourly Thermal Simulation Program for Use in the Australian Nationwide House Energy Rating Scheme*, CSIRO Division of Building, Construction and Engineering.

² Source: Commonwealth of Australia (1998) *National Greenhouse Strategy*.

³ Source: Ministerial Council on Energy, (2004), *Statement on National Framework for Energy Efficiency Overview Plan of Stage One Measures 2005 – 2007*.

Although not specifically referenced in the NSEE, NatHERS underpinned measures 1.2.2 (to improve Australia’s capacity to assess building energy) and 3.3.1 (to increase the stringency of residential building energy efficiency standards through the BCA).

National Energy Productivity Plan 2015-2030

At its December 2015 meeting, the former COAG Energy Council agreed it had a significant contribution to make in a national, cooperative effort to better integrate energy and climate policy. A key part of this effort is the NEPP. The NEPP provides a framework and an initial economy-wide work plan designed to accelerate action to deliver a 40 per cent improvement in Australia’s energy productivity by 2030. In better coordinating energy efficiency, energy market reform and climate policy, it brings together new and existing measures from across the former Council’s work program, as well as from Australian governments and industry.

Although not specifically referenced in the NEPP, NatHERS is relevant to implementing Measures 5 (Empowering consumers by improving residential building energy ratings and disclosure); 31 (Consumer protection by advancing the National Construction Code); and 32 (Consumer protection by improving compliance).

Trajectory for low energy buildings

The former COAG Energy Council developed and endorsed the Trajectory for Low Energy Buildings (Trajectory) and the Addendum to the Trajectory for Low Energy Buildings—Existing Buildings (Trajectory Addendum). This is a national plan that aims to achieve zero energy and carbon-ready commercial and residential buildings in Australia. It is a key initiative to address Australia’s 40 per cent energy productivity improvement target by 2030 under the NEPP.

Consultation for the Trajectory work for both Residential and Commercial buildings began in December 2017 with the inaugural stakeholder reference group (SRG) workshop. In February 2019, the Trajectory for new buildings was agreed and in November 2019, the Trajectory Addendum for existing buildings was agreed.

The Trajectory and the Trajectory Addendum were developed in close consultation with stakeholders to outline policies that deliver cost effective energy efficiency improvements to homes and businesses. The aim of the policies are to lower energy bills, contribute to energy security and affordability, and reduce carbon emissions. It will also improve people’s comfort and health, save energy, reduce wastage for the wider economy, and assist in lowering peak demand.

The initial Trajectory report identified opportunities to improve energy efficiency at various stages of an existing home’s life, such as when it is being bought, sold, leased or renovated. A suite of potential policies that could capture these benefits was identified. These consist of:

- Enabling mechanisms (such as consumer guidance)
- Targeted residential building policies (such as energy efficiency disclosure and minimum rental requirements)
- Supporting measures (such as financial incentives and supporting vulnerable households)

To progress the Trajectory commitment to deliver a home energy rating framework for existing homes, which leverages NatHERS and accommodates rating tools, a [Scoping Report](#) was developed.

This report found the option to extend NatHERS to existing homes, while continuing to test and learn from the Victorian Residential Efficiency Scorecard, is the most efficient and effective use of resources. A transition to an open market is expected to follow, where other energy rating tools for existing homes can seek NatHERS accreditation. This approach ensures an early delivery of ratings and tools to support market-driven initiatives that encourage improved energy efficiency in existing homes, while also not locking in a single approach.

History of NatHERS Tools

First Generation NatHERS software

The development of the first generation of NatHERS software by CSIRO began in the early 1990s, based on years of previous research in simulating heat flows in residential buildings. The original software tool (which was also known as NatHERS) formed the basis of the national rating scheme and was adopted in 2003 as the benchmark simulation tool for compliance to newly established BCA energy efficiency standards.

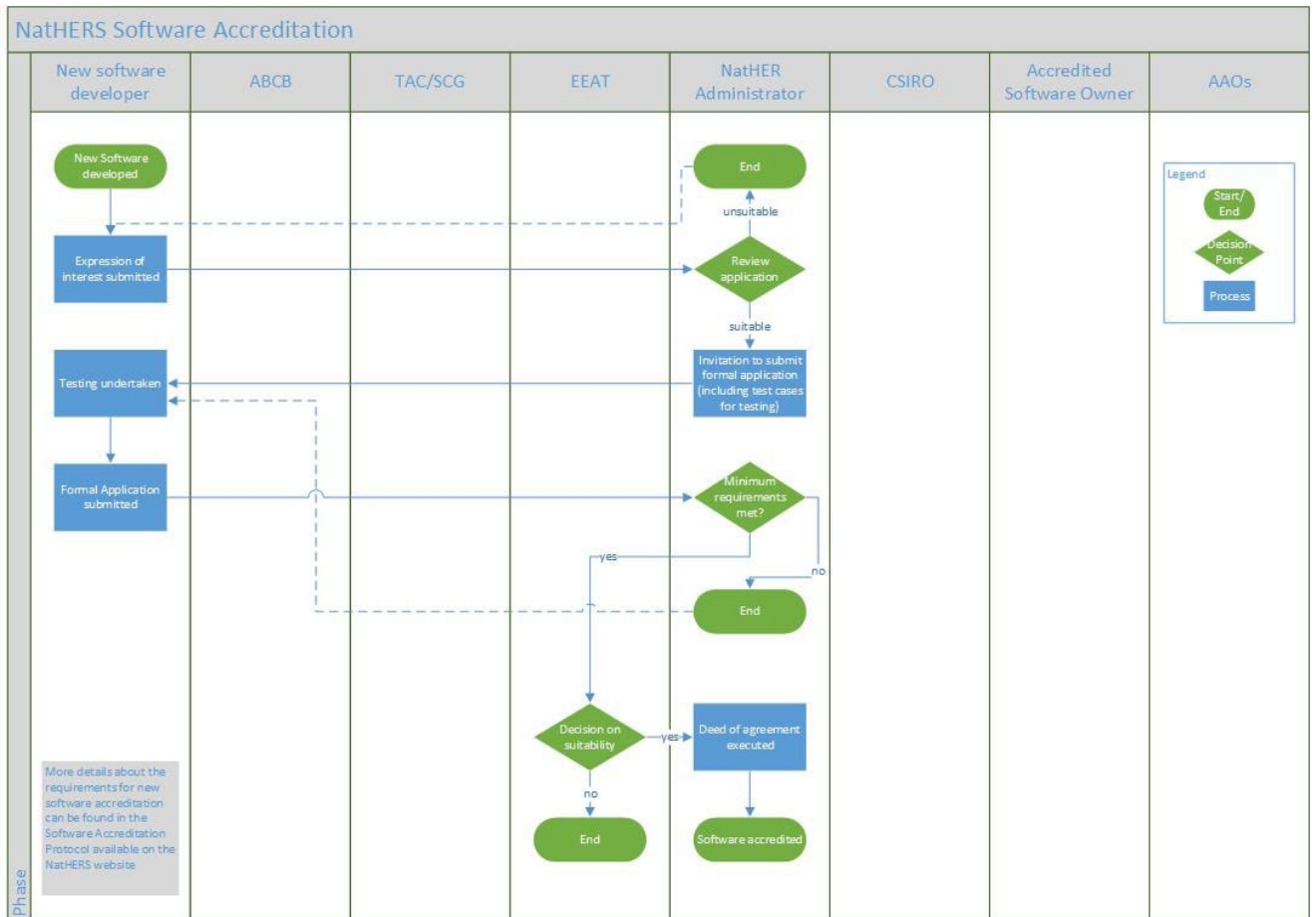
Sustainability Victoria (then known as Energy Victoria) developed and released the initial version of FirstRate in 1993, based on the CHEETAH thermal calculation engine, CSIRO's precursor to the Chenath engine. In 1999, FirstRate was modified to use the settings and assumptions in NatHERS.

A private business, Solar Logic, developed the BERS tool in the early 1990s, initially based on the CHEETAH and then the Chenath engine.

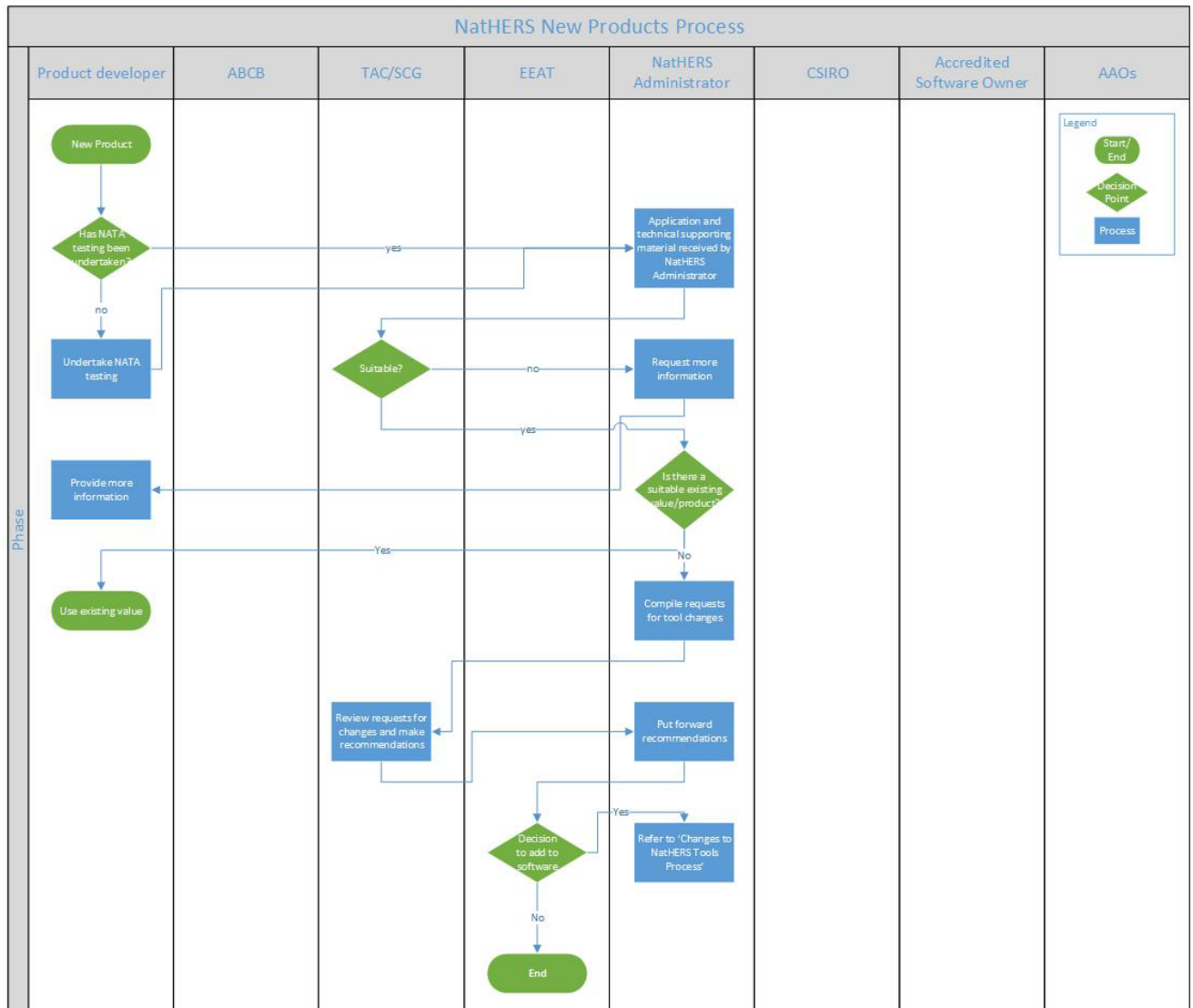
Second Generation NatHERS software

In 2006, NatHERS was improved by adopting a more powerful second generation of software tools to enable better modelling of thermal comfort across all Australian climates. Improvements to the software included more realistic modelling of the benefits of natural ventilation and the cooling effects of ceiling fans, heat flows in underfloor and roof spaces and between attached dwellings, and the inclusion of a greatly expanded base of climate data. The older and more limited software tools were phased out from 2007, and were superseded by second generation software in the 2009 BCA.

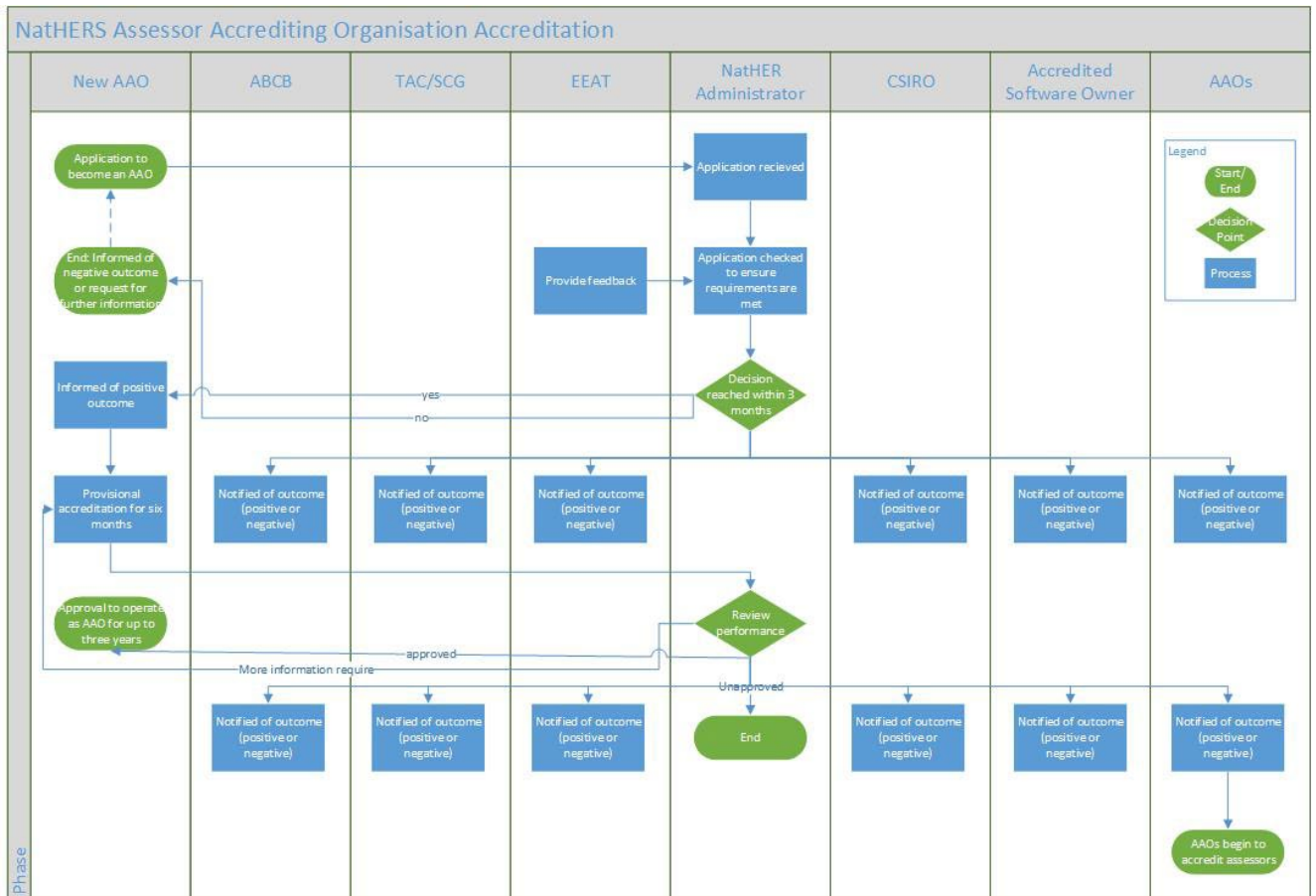
APPENDIX 3: PROCESS FOR SOFTWARE ACCREDITATION



APPENDIX 4: PROCESS FOR INCLUDING NEW PRODUCTS



APPENDIX 5: PROCESS FOR NEW AAO ACCREDITATION



APPENDIX 6: JURISDICTION REGULATORY REQUIREMENTS

Table 1: Regulatory requirements applying to building energy efficiency in each jurisdiction

Jurisdiction	Regulator	Act	Regulation	Codes
ACT	Environment, Planning and Sustainable Development Directorate	Building Act 2004	Building (General) Regulation 2008	BCA
NSW	Department of Planning, Industry and Environment	Environmental Planning and Assessment Act 1979	Environmental Planning and Assessment Regulation 2000 State Environmental Planning Policy (Building Sustainability Index - BASIX) 2004	BASIX
NT	Department of Infrastructure, Planning and Logistics	NT Building Act 2014	NT Building Regulations 2014	BCA
Qld	Queensland Building and Construction Commission	Building Act 1975	Building Regulation 2006	BCA, Queensland Development Code (QDC)
SA	Department for Infrastructure and Transport	Development Act 1993 Repealed by Sch 6 cl 2 of Planning, Development and Infrastructure Act 2016 on 19.3.2021	Development Regulations 2008 Impliedly revoked These regulations became obsolete on the repeal of the Development Act 1993 on 19.3.2021	BCA
Tas	Department of Justice	Building Act 2016	Building Regulations 2016	BCA
Vic	Victorian Building Authority	Building Act 1993	Building Regulations 2018	BCA
WA	Department of Mines, Industry Regulation and Safety	Building Act 2011	Building Regulations 2012	BCA

Table 2: Snapshot of Legislative Framework related to NatHERS

Note: the table below references the 2019 version of NCC and has not been updated for the 2022 version. At the time of publishing state and territory government variations to the 2022 NCC were not available.

Jurisdiction	NCC/BCA requirement	State/Territory requirement	Are there systems other than NatHERS which demonstrate compliance?	Who can make use of NatHERS and conduct assessments?
Commonwealth	<p>J0.2 Sole-occupancy units of a Class 2 building or Class 4 part of a building must meet certain star-ratings calculated using NatHERS accredited software. This is a “deemed to satisfy” way of meeting Performance Requirement JP1.</p> <p>3.12.0.1 One method of partially meeting Performance Requirement P2.6.1 is complying with section 3.12.0.1 of the BCA (i.e. it is necessary but not sufficient). To comply with section 3.12.0.1, a building must achieve a certain star-rating calculated using NatHERS accredited software. The ratings depend on the type of building and the climate it is situated in.</p>			
Australian Capital Territory	Minor changes to the types of buildings which must comply with Part 3.12.	As per the BCA (and specifically prescribed in ACT regulations).	<p>Potentially. The ACT Construction Occupations Registrar has power under the <i>Building (General) Regulation 2008</i> to prescribe software (other than NatHERS accredited software) which can be used to demonstrate compliance with the BCA.</p> <p>To date, only the following software was been prescribed – AccuRate, Building Energy Rating Scheme Professional (BERS Pro), First Rate 4 and First Rate 5.</p>	Licensed “building assessors”, which must be assessors separately licensed under ACT legislation.

Jurisdiction	NCC/BCA requirement	State/Territory requirement	Are there systems other than NatHERS which demonstrate compliance?	Who can make use of NatHERS and conduct assessments?
Queensland	For Class 2 buildings, Section J of BCA 2009 applies instead. Class 1 buildings are also subject to the <i>Building Act 1975</i> and the Queensland Development Code MP 4.1.	As per the BCA and the Queensland Development Code – Class 1 buildings must achieve a 6 star efficiency rating.	There are a range of compliance methods, but most of the guidance published by the Queensland Government suggests either NatHERS or the ‘deemed to satisfy’ provisions under the BCA are utilised.	A ‘house energy assessor’ can use NatHERS under the Queensland Development Code – they do not have to be accredited assessors but if not, then a building certifier needs to undertake a competence assessment before signing off.
Northern Territory	Section J is replaced in its entirety with BCA 2009 Section J. Part 3.12 is replaced in its entirety with BCA 2009 Part 3.12.	As per the BCA.	No specific systems, noting that NatHERS is just one method of complying with certain aspects of the BCA.	Nothing specific – building certifiers are responsible for final sign-off and can be “assisted” by any person the certifier assesses as having appropriate experience, qualifications or skills to be able to do so.
New South Wales	Section J is completely replaced with an NSW-specific section which applies BASIX – deleting J0.1. Part 2.6 (to which the NatHERS reference in 3.12.0.1 relates) and Part 3.12 (which contains that reference) do not apply in NSW. Both are replaced with NSW-specific provisions which apply BASIX.	All “BASIX affected developments” (as defined in the Act) require BASIX certificates issued by the Planning Secretary. These are applied for on the BASIX portal.	Yes – for single new dwelling certificates a “DIY” online assessment can be used. There are a number of specific limitations (e.g. glazing area, skylight size) that limit its use further. Otherwise (and for all other building types), the “simulation” method can be used – this requires NatHERS.	Anyone can use the DIY method. Only an accredited assessor using NatHERS accredited software can perform an assessment for the “simulation” method. Certificates (e.g. building, occupation) are ultimately signed off by a ‘certifier’.

Jurisdiction	NCC/BCA requirement	State/Territory requirement	Are there systems other than NatHERS which demonstrate compliance?	Who can make use of NatHERS and conduct assessments?
South Australia	Some additional details regarding climate zones and star-rating requirements, but no change to NatHERS.	As per the BCA.	No specific systems, noting that NatHERS is just one method of complying with certain aspects of the BCA.	No specific requirements, but there are instances where the regulator <i>must</i> accept a certificate from an 'independent technical expert' that building work complies with the requirements of the BCA. See for example regulation 61 of the <i>Planning, Development and Infrastructure (General) Regulations 2017</i>

Jurisdiction	NCC/BCA requirement	State/Territory requirement	Are there systems other than NatHERS which demonstrate compliance?	Who can make use of NatHERS and conduct assessments?
Tasmania	Some minor amendments, but no change to NatHERS.	As per the BCA.	No specific systems, noting that NatHERS is just one method of complying with certain aspects of the BCA.	<p>An energy assessment can be completed by the responsible building designer, architect or an independent accredited assessor.</p> <p>If an independent assessor conducts the assessment, they must be NatHERS accredited and must use the NatHERS accredited software to undertake the assessment. They in turn provide a report to the building surveyor who has ultimate sign-off before issuing a "Certificate of Likely Compliance" (i.e. whether or not the building work is likely to comply with the NCC).</p> <p>If a building designer or architect conducts the assessment, they do not need to use NatHERS software or be a NatHERS accredited assessor.</p> <p>In addition to building surveyors being required to sign off on various certificates, Tasmanian legislation expressly imposes obligations on various people in the building process to ensure compliance with the BCA:</p> <ul style="list-style-type: none"> (a) a person performing building work, plumbing work or demolition work; (b) the owner of a building where that work is being performed; (c) a person named on a permit; and (d) a building surveyor (as far as reasonably practical).

Jurisdiction	NCC/BCA requirement	State/Territory requirement	Are there systems other than NatHERS which demonstrate compliance?	Who can make use of NatHERS and conduct assessments?
Victoria	Some minor amendments, but no change to NatHERS.	As per the BCA.	No specific systems, noting that NatHERS is just one method of complying with certain aspects of the BCA.	No specific requirements, but various certificates must be signed off by a 'relevant building surveyor' or a 'registered building practitioner'.
Western Australia	Some minor amendments, but no change to NatHERS.	As per the BCA.	No specific systems, noting that NatHERS is just one method of complying with certain aspects of the BCA.	No specific requirements, but various certificates must be signed off by a 'building surveyor'.