

Guideline to Homestar® version 5 Transition Standard – Targeted Points and Evidence Required

CA-GDL-014

(Commonly referred to as Practice Note PN-003)

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Purpose

To inform Kāinga Ora stakeholders of the expectation with regard to designing and specifying projects to comply with the Kāinga Ora Homestar® version 5 Transition Standard. This document (commonly referred to as **Practice Note PN-003**) describes the process, the criteria for achieving the Transition Standard and evidence needed for Design and Construction approval.

Disclaimer

Any reference in this disclaimer to Homestar® includes a reference to 6 Homestar® version 4.1, the Kāinga Ora Homestar® version 5 transitional standard and the 6 Homestar® version 5 standard.

All the information in this paper is true and accurate to the best of the author's knowledge. However, information in this paper should only be used as a guide. Kāinga Ora is not an expert on any matter related to design, Homestar and/or the New Zealand Green Building Council.

No liability is assumed by Kāinga Ora, or any entity related to Kāinga Ora, for losses suffered by any person or organisation relying directly or indirectly on the information published in this paper. For the avoidance of doubt, this includes any and all liability arising out of, or related to, compliance with, and/or implementation of, the requirements of Homestar and/or the New Zealand Green Building Council.

Kāinga Ora does not assess or approve compliance with any Homestar standard. Reference should always be made to the New Zealand Green Building Council's Homestar® version 5 Technical Manual in the first instance. It is assumed that any or all inconsistencies, errors or omissions in the information provided in this guideline will be superseded by the correct information set out in the New Zealand Green Building Council's Homestar® version 5 Technical Manual.

Scope

This guideline applies to all new public housing projects commenced by the Construction and Innovation Group from 1 January – 30 June 2023.

Intended Audience

- Design Consultants
- Build Partners
- Delivery Teams
- Design Quality Team
- Quality Assurance Construction Team (QA Construction)

Process

Design

Homestar® v5 is a performance based tool. As such it is important the Energy and Carbon Calculator for Homes (ECCHO) tool is completed alongside the design development and detail. The Homestar® Assessor will be embedded into the Design Team and it is recommend this is the architect/ designer or other suitable consultant. The Design Team Homestar® Assessor will be responsible for completing all the Homestar® tools, meeting the criteria and compiling the evidence listed below.

Please refer to documents [Carry out design stages for Kāinga Ora Homestar® version 5 Transition Standard – Bespoke process \(CA-PRO-251\)](#) and [Carry out design stages for Kāinga Ora Homestar® version 5 Transition Standard – Volume Assessed Process \(CA-PRO-252\)](#) for details on the design process.

Construction

QA Construction and the Build Partner should work together to ensure all necessary built evidence is collected at the required milestones. Identification of who is responsible for each criteria and where to upload the evidence should be clarified at the pre-start meeting. For more information on the process, please refer to [Carry out construction stages for Kāinga Ora Homestar® version 5 Transition Standard \(CA-PRO-253\)](#).

Kāinga Ora Homestar® version 5 Transition Standard Targeted Points and Criteria

Category & Credit	Total Homestar® Points Available (v5)	Kāinga Ora Homestar® v5 Transition Standard Targeted Points	Kāinga Ora Homestar® v5 Transition Standard Criteria	Evidence Required - Design	Evidence Required - Construction
Efficient					Points Available - 39
EF1 Resource Efficiency	4	2	Dwelling's conditioned floor area is relative to the number of bedrooms as per the Homestar® v5 Technical Manual	<ul style="list-style-type: none"> Dimensioned Floor Plan Gross Floor Area, Building Footprint and Conditioned Floor Area mark-up 	N/A
EF2 Urban Density	3	0	Not currently a Kāinga Ora Targeted Point		
EF3 Water Use	12	5	Estimated daily indoor water consumption ≤ 138 litres per person per day, which may be achieved through the use of flow rates aligning with Kāinga Ora requirements (5 pts)	<ul style="list-style-type: none"> Water calculator Specification extract of plumbing product selections WELS rating certificate for fixtures 	<ul style="list-style-type: none"> Clear photo of WELS label on cistern Ensure flow rates of the following align with Kāinga Ora requirements and provide confirmation from Homestar® Assessor <ul style="list-style-type: none"> Bathroom tap Kitchen tap Laundry tap Shower
EF4 Energy Use	20	Prescriptive requirements as per v4.1 - no set score to achieve under v5	N/A (Kāinga Ora current buildable standards do not cross reference to Energy Use)	<ul style="list-style-type: none"> ECCHO model Dynamic thermal model (3LWU and apartments) Lighting Plan Specification extract confirming lighting fixtures Specification extract confirming hot water heating type, model and efficiency 	<ul style="list-style-type: none"> Photos or invoices of interior lights and packaging Photos or invoices of correctly installed exterior lights and packaging Photo of installed cylinder with the model number and capacity (litres) visible

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Healthy and Comfortable					Points Available - 47.5 (standalones), 49 (other)
HC1 Winter Comfort	22	Prescriptive requirements as per v4.1 - no set score to achieve under v5	Thermal performance is in accordance with H1 Fifth Edition Schedule Method or equivalent (i.e. Calculation or Modelling Methods achieve the same performance outcome as the Schedule Method) Fixed heating to main living area that must align with Healthy Homes Heating Standard requirements	<ul style="list-style-type: none"> • ECCHO model • Dynamic thermal model (3LWU and apartments) • R-value calculations for all construction types of roofs, walls, floors and windows • Marked up drawings showing all construction types of roofs, walls, windows and floors • Window Schedule & marked up drawings showing all window shadings • Specifications of fixed space heating source • Calculations confirming heating demand of living areas 	<ul style="list-style-type: none"> • Floors – Slab: Wide-angle photo of PODs • Clear photo/s showing slab edge insulation installed • Floor – Suspended: Photo showing specified underfloor insulation installed between joists • Photo of R-Value label/s of insulation installed between joists • Walls: Provide photo evidence of installed insulation and R-Value label/s in external walls • Ceilings: Provide photo of how insulation has been installed in roof space • Provide photo of R-Value label/s of installed ceiling insulation • Windows: Upload PDF of Window Schedule displaying supplied window specification and site address
HC2 Summer Comfort	6		<ul style="list-style-type: none"> • Openable area of windows in dwelling at least 5% of conditioned space • At least 30% of openable windows must be on adjacent/ opposite facades or different floors • 100mm restrictor stays installed on all openable windows accessible to intruders 	<ul style="list-style-type: none"> • ECCHO model • Natural ventilation calculations • Window Schedule 	<ul style="list-style-type: none"> • Photos of security stay on a window in a ground floor room
HC3 Ventilation	5		<ul style="list-style-type: none"> • Dedicated range hood for the cooking hob vented to outside • Dedicated bathroom extract system vented to outside, including delayed timer to ensure effective moisture removal • Net opening windows 5% of floor area 	<ul style="list-style-type: none"> • Cooling and ventilation compliance tool • Window Schedule • Habitable areas marked on Floor Plan • Specifications and Plans confirming selection and location of range hood and bathroom extract • Calculations confirming bathroom extract achieves successful 1 air exchange with delay timer 	<ul style="list-style-type: none"> • Photos of bathroom extract/s, both internal and external • Homestar® Assessor confirms at Practical Completion that bathroom extract overrun is ≥ than calculations required to achieve 1 air exchange • Photos of installed range hood showing extracts, both internal and external
HC4 Moisture Control	6		<ul style="list-style-type: none"> • Minimise thermal bridges – walls and ceilings (excluding window frames). Timber frame building with no concrete or steel penetration through insulation layer, OR outside face of thermal bridge is insulated with EPS/ XPS as 	<ul style="list-style-type: none"> • Details of concrete/steel penetrations and subfloor/foundation • Window Schedule confirming thermally broken windows 	<ul style="list-style-type: none"> • Floors – Slab: Wide-angle photo of PODs and polythene sheeting in place • Floor – Suspended: Wide angle photo of correctly installed polythene sheeting to provide ground vapour barrier

			<p>per the NZGBC Homestar® v4.1 Technical Manual pg. 59</p> <ul style="list-style-type: none"> Minimise condensation within building envelope. Ground cover for suspended floor or DPC in slab 		<ul style="list-style-type: none"> Windows: Upload PDF of Window Schedule
HC5 Natural Lighting	3		<p>Window areas in external walls are no less than:</p> <ul style="list-style-type: none"> 15% of the floor areas for living areas and bedrooms where the windows are not significantly shaded 20% of the floor areas for living areas and bedrooms where the windows are significantly shaded, e.g. by eaves, balconies, purpose designed shading, etc. 	<ul style="list-style-type: none"> Marked up drawings and completed daylight calculator confirming sum of window areas in each bedroom and/or living area meet the window to floor area ratio 	N/A
HC6 Acoustic Performance	1.5 (standalone) 3 (other)	0	Not currently a Kāinga Ora Targeted Point		
HC7 Healthy Materials	4	2	<p>80% of the material used in each of the following groups meet VOC limits as specified by a NZGBC recognised IAQ scheme or eco-label:</p> <ul style="list-style-type: none"> Applied coatings by volume (l) within the interior of the dwelling (1 pt) Floor coverings by area covered (m²) within the interior of the dwelling (1 pt) 	<ul style="list-style-type: none"> Specifications confirming product selections Eco-label or other equivalent IAQ certificate 	<ul style="list-style-type: none"> Upload invoices of installed materials, including site specific address Valid Eco-label Certificate

Category & Credit	Total Homestar® Points Available (v5)	Kāinga Ora Homestar® v5 Transition Standard Targeted Points	Kāinga Ora Homestar® v5 Transition Standard Criteria	Evidence Required - Design	Evidence Required - Construction
Liveable					Points Available - 11
LV1 Inclusive Design	3	3 (when designed to FUD)	Fully comply with the Kāinga Ora FUD requirements (3 pts)	<ul style="list-style-type: none"> Completed FUD Design Checklist 	<ul style="list-style-type: none"> Practical Completion FUD Built Checklist
LV2 Occupant Amenities	2	1	Template for Home User Guide (HUG) provided to all new occupants, explaining the energy, water and waste strategies for the properties and providing information to ensure continuous maintenance and performance of those features (1 pt)	<ul style="list-style-type: none"> TQ128- confirmation of HUG for Kāinga Ora projects HUG template 	<ul style="list-style-type: none"> Completed Kāinga Ora HUG
LV3 Eco-Friendly Living	2	1.5	Can be made up of the following: <ul style="list-style-type: none"> Main Entrance - Well-defined and well-labelled main entrance with the house number clearly visible from the road entrance (0.5 pts) Street surveillance - One living room or kitchen window or glass door is clearly visible from the road (0.5 pts) Defensible Boundary - The dwelling and property boundary is clearly defined between public and private areas to create a defensible space for the home owner (0.5 pts) Security Lighting - All exterior lights are LED lamp type with motion sensors and daylight cut off (0.5 pts) For all apartments CPTED report from a professional is required (2 pts) 	<ul style="list-style-type: none"> Site Plan showing: <ul style="list-style-type: none"> Main entrance Street surveillance Defensible boundary Lighting Plan showing: <ul style="list-style-type: none"> Security Lighting CPTED report for apartments confirming compliance 	<ul style="list-style-type: none"> Photo and/or invoices of correctly installed exterior lights and packaging Wide angle photo/s showing well labelled and well defined front entrance with house number clearly visible from the road
LV4 Sustainable Transport	4	0	Not currently a Kāinga Ora Targeted Point		

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Environmentally Responsible					Points Available - 31
EN1 Renewable Energy	4	0	Not currently a Kāinga Ora Targeted Point		
EN2 Embodied Carbon	6	0	Not currently a Kāinga Ora Targeted Point <i>Note: Expected to be targeted from mid-2023</i>		
EN3 Sustainable Materials	10	7.5	At least 50% of the following material groups is reused, eco-preferred or responsibly sourced <ul style="list-style-type: none"> Interior plasterboard and fibre cement lining (wall and ceiling) (1.5 pts) Insulation (soft insulation including thermal and acoustic and rigid insulation such as XPS and EPS) (1.5 pts) Floor covering (e.g. carpet, linoleum, floor tiles) (1.5 pts) Applied coatings (internal and external applications, whether exposed or concealed, but only that which is applied within the site boundary or in a prefabrication yard) (1.5 pts) Roof cladding (e.g. long run steel roofing, shingle roofing, etc.) (1.5 pts) 	<ul style="list-style-type: none"> Specifications confirming product selections Eco-label or other equivalent IAQ certificate 	<ul style="list-style-type: none"> Upload invoices of installed materials (including quantity of paint used), including site specific address Valid Eco-label Certificate
EN4 Construction Waste Minimisation	6	1.5	<ul style="list-style-type: none"> Complete and implement a Site Waste Minimisation Plan (SWMP) as per REBRI guidelines. (required) A minimum of three waste streams on site (0.5 pts) Generate less than 20kg/m² (GFA) of waste during the construction phase of the project (1 pt) OR <ul style="list-style-type: none"> 50-69% of the total waste generated is reused and/or recycled and/or recovered for the whole construction/ refurbishment project (off-site waste sorting is accepted) (1 pt) 	<ul style="list-style-type: none"> TQ120 confirming SWMP for all KO projects SWMP Template Specification extract confirming the percentage of waste diversion or kg/m² of landfill 	<ul style="list-style-type: none"> Upload Kāinga Ora acceptance at start of project of SWMP and targets Wide-angle photo showing minimum of three clearly labelled on-site sorting stations Upload PDF of final version of SWMP including final waste reports
EN5 Water Sensitive Design & Ecology	4	0	Not currently a Kāinga Ora Targeted Point		
EN6	1	0.75	<ul style="list-style-type: none"> A contractor on site holds an accreditation recognised by the NZGBC (0.25 pts) 	<ul style="list-style-type: none"> TQ123 confirming QA Construction Assessor is Homestar® Built Assessor 	<ul style="list-style-type: none"> Upload PDF of final version of site specific EMP

Responsible Contracting			<ul style="list-style-type: none"> An Environmental Management Plan (EMP) is in place for the construction works in accordance with the Homestar® template (0.5 pts) 	<ul style="list-style-type: none"> TQ120 confirming EMP EMP template 	
Category & Credit	Total Homestar® Points Available (v5)	Kāinga Ora Homestar® v5 Transition Standard Targeted Points	Kāinga Ora Homestar® v5 Transition Standard Criteria	Evidence Required - Design	Evidence Required - Construction
Innovation					Points Available - 10
IN1 Innovation	1	1	<ul style="list-style-type: none"> 100% of the development is social housing units <p>Note - can't be claimed if project is mixed-use or mixed tenure.</p>	<ul style="list-style-type: none"> Confirmation from DM the purpose of the project is for social housing 	N/A

Tools to be used

Credit	Tool
EF3 Water Use	v5 Water Calculator
EF4 Energy Use HC1 Winter Comfort HC2 Summer Comfort	1. All: ECCHO 2. 3LWU & Apartments: Dynamic thermal modelling in accordance with TM59
HC1 Winter Comfort	Kāinga Ora Whole-of-House Heating Calculator
HC3 Ventilation	Kāinga Ora Cooling & Ventilation Calculator
HC5 Natural Lighting	v5 Daylight Calculator
LV1 Inclusive Design	iAuditor Full Universal Design Report

Technical Resource Available

Refer to the New Zealand Green Building Council's Homestar® v5 Technical Manual.

Questions?

If you have any further queries about the information supplied in this document, please contact the Kāinga Ora Homestar® Team at: homestardesign@kaingaora.govt.nz

Document control

Version release

Current and previous versions of this document are stored in our document management system, and are managed by the Technical Writing team. For any queries contact busdoc@kaingaora.govt.nz.

Version	Reason for change
v01	First version

SME review

Name	Designation	Date
Nikki Bucket	Principal Advisor – Healthy Homes and Sustainability	29/11/2022
Lauren Denny	Manager - Homestar®	29/11/2022

Endorsers

Legal		Date
Jack Barclay	General Counsel - Construction	21/12/2022
Business Owner		Date
Marko den Breems	Director - Architecture	22/12/2022